

# Response to submissions on the release of the 3.6 GHz band for wireless access services (WAS)

## Spectrum Planning Paper 6/09

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**Canberra**

Purple Building  
Benjamin Offices  
Chan Street  
Belconnen ACT

PO Box 78  
Belconnen ACT 2616

T +61 2 6219 5555  
F +61 2 6219 5353

**Melbourne**

Level 44  
Melbourne Central Tower  
360 Elizabeth Street  
Melbourne VIC

PO Box 13112  
Law Courts  
Melbourne VIC 8010

T +61 3 9963 6800  
F +61 3 9963 6899

**Sydney**

Level 15 Tower 1  
Darling Park  
201 Sussex Street  
Sydney NSW

PO Box Q500  
Queen Victoria Building  
NSW 1230

T +61 2 9334 7700  
1800 226 667  
F +61 2 9334 7799

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# 1. Introduction

The ACMA released a public discussion paper titled Release of the 3.6 GHz band for wireless access services (WAS) (the discussion paper) on 1 April 2009.<sup>1</sup> The discussion paper sought comment from industry and interested parties on the proposed licensing and allocation processes, the assignment model and the regulatory framework that would apply to the release of the 3575-3700 MHz frequency range (the 3.6 GHz band). The purpose of this paper is to:

- > provide a summary of the information and issues raised in submissions to the discussion paper;
- > provide the ACMA's response to these issues; and
- > indicate the ACMA's preferred policy direction and regulatory arrangements for the release of the 3.6 GHz band.

The policy direction outlined in this paper is informed by analysis of the Principles for Spectrum Management (the Principles)<sup>2</sup> and Government policy objectives to provide broadband in regional and remote areas of Australia.<sup>3</sup>

## Background

The release of the discussion paper in April signified an end point in the extensive consultation process that the ACMA has undertaken in relation to WAS. The paper focused on the release of the 3.6 GHz band to meet the demand for access to spectrum for WAS in regional and remote areas of Australia in the short to medium term.

The discussion paper was intended to provide industry and interested parties with opportunity to comment on the policy and implementation arrangements, including assignment and licensing methods, proposed by the ACMA. The release of the 3.6 GHz band was a presentation topic at the annual RadComms09 conference in Sydney in late April and provided a further opportunity for stakeholders to provide comment and feedback to the ACMA.<sup>4</sup> The comment period officially closed on 15 May 2009 with 21 submissions received from WAS operators, equipment manufacturers and suppliers, WAS interest groups and forums, and incumbent licensees.<sup>5</sup>

The following companies, agencies and Government organisations made submissions in response to the Discussion Paper:

- > Aussie Broadband
- > CASBAA
- > Department of Defence
- > EM Solutions

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<sup>1</sup> The discussion paper can be accessed at

[http://www.acma.gov.au/webwr/assets/main/lib310829/spp2009-02\\_release\\_of\\_3.6ghz\\_band\\_for\\_was-disc\\_paper.pdf](http://www.acma.gov.au/webwr/assets/main/lib310829/spp2009-02_release_of_3.6ghz_band_for_was-disc_paper.pdf)

<sup>2</sup> Further information on the Principles for Spectrum Management can be accessed at

[http://www.acma.gov.au/webwr/assets/main/lib310828/principles\\_for\\_spectrum\\_management.pdf](http://www.acma.gov.au/webwr/assets/main/lib310828/principles_for_spectrum_management.pdf)

<sup>3</sup> Examples of the Government's broadband policy objectives are evident in initiatives such as the National Broadband Network (NBN); and the Clever Networks, Broadband Connect and Australian Broadband Guarantee (ABG) programs. Further information on these programs is available at [www.dbcde.gov.au](http://www.dbcde.gov.au)

<sup>4</sup> A copy of the presentation *Release of the 3.6 GHz band for wireless access services (WAS)* from Radcomms09 can be accessed at [http://www.acma.gov.au/WEB/STANDARD/1001/pc=PC\\_311650](http://www.acma.gov.au/WEB/STANDARD/1001/pc=PC_311650)

<sup>5</sup> Copies of the submissions are provided at [http://www.acma.gov.au/WEB/STANDARD/pc=PC\\_311751](http://www.acma.gov.au/WEB/STANDARD/pc=PC_311751)

- > Ericsson
- > FOXTEL
- > Global VSAT Forum (GVF)
- > HaleNET
- > Inmarsat and Stratos
- > Intelsat
- > John Murton
- > NSW Regional Communities Consultative Committee (RCCC)
- > REACH
- > SelecTV
- > Shoalhaven Internet
- > Optus
- > Telstra
- > Towong Shire Council
- > Wireless Institute of Australia (WIA)
- > Yless4u

The ACMA also received one confidential submission.

## Response to submissions

While most submissions indicated overall support for the policy and technical coordination guidelines set out in the discussion paper, some submissions expressed concern about issues such as the application of maximum available bandwidths and the potential for existing facilities to relocate to satellite parks. It is hoped that this Response to submissions on the release of the 3.6 GHz band for wireless access services (WAS) will:

- > provide further explanation on the regulatory and technical policies that will be implemented in order to make suitable spectrum available for WAS;
- > address concerns of incumbent licensees regarding protection for existing infrastructure; and
- > provide sufficient information to address other questions and concerns raised by respondents.

This document first addresses the general issues raised in submissions, and then responds to the specific comments relating to the questions from the discussion paper.

## Summary of policy outcomes

The ACMA has considered the information and suggestions provided in the submissions received in relation to the release of the 3.6 GHz band. The submissions provided the ACMA with further insight into industry's views regarding allocation processes, as well as highlighting the concerns of stakeholders in relation to the proposed development of satellite parks and Earth station siting issues, more generally. The satellite and Earth station issues are outside the scope of the 3.6 GHz project, and a general overview of the responses submitted to the ACMA in relation to these issues is provided in this paper.

It is the ACMA's view that the arrangements proposed for the 3.6 GHz band in regional and remote areas of Australia will allow the spectrum to move to its highest value use. Given that the highest value use of the band may change over time, this paper includes consideration of flexible regulatory arrangements that will accommodate the changing use of the band in the future, if necessary.

The ACMA's Principles recognise that a band's highest value use is not determined solely by market forces, but also by consideration of the broader public good or social benefit achieved by that use. In the case of the 3.6 GHz band, the highest value use

may be either the continued use of the band by fixed satellite services (FSS) to provide services to remote communities; or attributed to the introduction of WAS that enables regional and remote communities to have greater access to ICT infrastructure and its associated benefits for business, agriculture, health and education, for example. The ACMA's understanding of what the highest value use of the 3.6 GHz band is will develop over time after evaluating the level of demand for services in the band.

The issues regarding the planned implementation for the release of the 3.6 GHz band, such as the relevant allocation mechanisms, were only discussed at a high conceptual level in the discussion paper. This paper sets out:

- > the resulting policy outcomes and direction related to the release of the 3.6 GHz band, with particular focus on the policy outcomes such as the development of appropriate allocation arrangements and their implementation;
- > the assignment model used to coordinate WAS in the 3.6 GHz band;
- > the regulatory framework that supports the licensing of WAS in the band; and
- > the involvement of Accredited Persons in the coordination process.

### **Policy Outcome 1: Allocation Process**

After careful consideration of all submissions received in relation to the allocation options proposed in the Discussion Paper, the ACMA has decided to implement a strategy based on the use of two stand alone processes; an administrative allocation process and a price-based allocation (PBA) process to be implemented in separately defined geographic areas (see Figure 1). This is effectively Option 2 from the Discussion Paper.

The ACMA will apply the following staged, sequential approach to the release of the 3.6 GHz band:

- > An administrative allocation process, where applications are received “over the counter” (OTC), will occur in pre-defined geographic areas where the ACMA believes there is sufficient spectrum available (in some cases the full 125 MHz) to meet levels of anticipated demand. The ACMA intends to release these areas first.
- > A PBA process to determine the order of applicants with the “right to apply” will occur in pre-defined geographic areas where limited spectrum is available as a result of incumbent services in the band, and/or where higher levels of demand are anticipated as a result of higher population densities.

The ACMA will begin the PBA processes for pre-defined geographic areas as soon as practicable after the applicable regulatory arrangements and supporting documentation have been developed.<sup>6</sup> This means that some PBA processes may be conducted in parallel to the administrative allocation of apparatus licences in some geographic areas.

The ACMA refers to the staged release of the geographic areas as Phase 1 and Phase 2, with Phase 1 being the administrative allocation process and Phase 2 referring to the PBA process respectively. Phases 1 and 2 are referred to as the “initial allocation” of the 3.6 GHz band in this document. This is because once all of the allocation processes from Phases 1 and 2 are complete and the outcomes certain, the ACMA will accept applications for apparatus licences for WAS on a general basis. That is, applications will be accepted for any location in Australia (except those listed

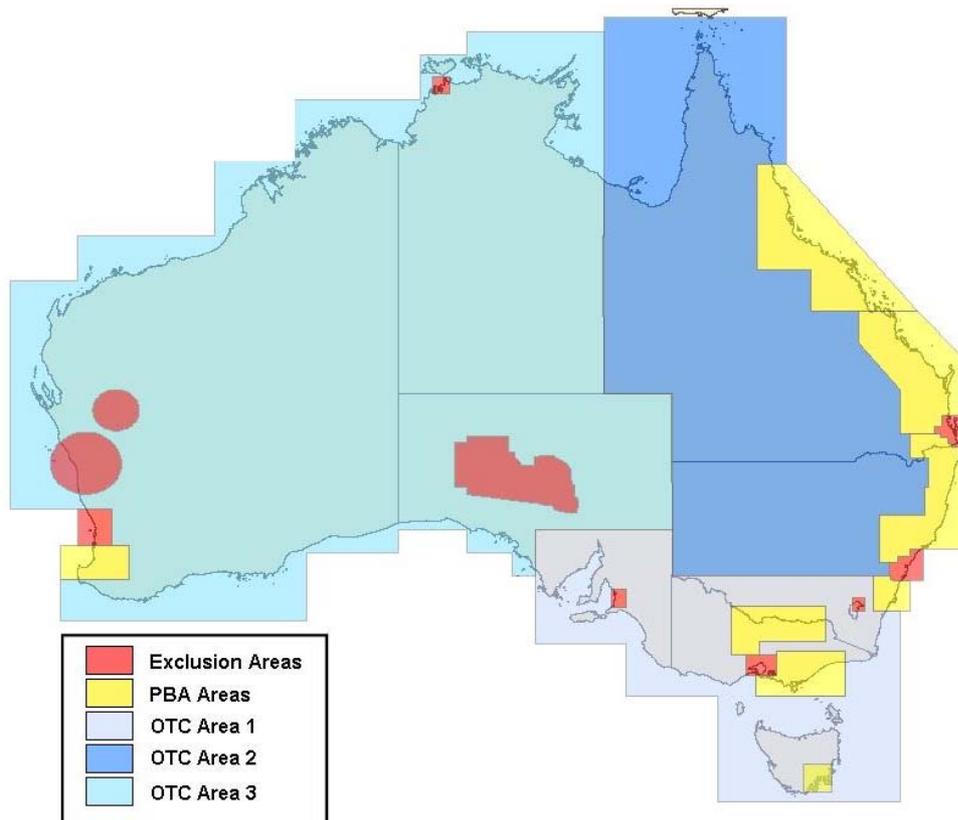
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<sup>6</sup> The ACMA may enter into further consultation in relation to the price-based mechanism that is developed in accordance with section 106 of the *Radiocommunications Act 1992*.

in RALI MS03) and an administrative allocation process will be applied. This general release is referred to as Phase 3 by the ACMA.

The map provided in Figure 1 below indicates which geographic areas will be subject to the allocation processes in Phases 1 and 2 respectively.

**Figure 1 Pre-defined geographic areas for administrative (OTC) & PBA allocation**



Further details, including coordinates, of the geographic areas described above will be provided on the ACMA's website and in the relevant Information Paper<sup>7</sup> for the administrative process in Phase 1; or the Applicant Information Package for the PBA processes undertaken in Phase 2.<sup>8</sup>

Further information on the administrative allocation and PBA processes is provided in Chapter 3.

### **Policy Outcome 2: Assignment Model**

After considering the submissions received from a number of respondents, the ACMA has amended the information contained in Radiocommunications Assignment and Licensing Instruction FX19 (RALI FX19) in the following ways:

<sup>7</sup> Information on how to submit an application for the administrative allocation process is provided in the Information Paper and can be accessed at <http://www.acma.gov.au/3600MHz>

<sup>8</sup> The Applicant Information Package sets out information for prospective applicants including how to participate in a PBA process. This document is currently being developed by the ACMA and will be available on the ACMA's website when it is complete.

- > The maximum bandwidth available for allocation in the initial allocation process has been increased to 30 MHz per licensee in a given area.
- > The channel plan has been amended to reflect channels of 30 MHz, 15 MHz and 10 MHz to enable the maximum bandwidth to be allocated in the initial allocation period.
- > Issues associated with the operation of Radiolocation services operated by the Department of Defence (Defence) have also been addressed. The results of ongoing consultation with Defence indicate that the potential for interference is low and largely manageable; and no specific coordination criteria have been developed as a result. The ACMA intends to apply an Advisory Note to all apparatus licences issued in the 3.6 GHz band for WAS of the risk of receiving interference from Defence radiolocation services
- > The ACMA has included a provision that limits the amount of spectrum available for allocation in the Woomera Prohibited Area (the WPA) to a total of 25 MHz. The ACMA intends to apply an Advisory Note to all apparatus licences issued within 100 km of the WPA in the 3.6 GHz band for WAS of the risk of receiving interference as a result of ongoing Defence activities in the WPA.

Further information on other issues mentioned by stakeholders in their submissions regarding the coordination method and protection for incumbent services, such as the Fixed Satellite Service (FSS), is provided in Chapter 4.

The issue of apparatus licences using the coordination criteria set out in RALI FX19 will provide the ACMA with the desired level of flexibility to review applications for services in the band on a case by case basis. The assignment model adopted by the ACMA will provide certainty to incumbent licensees by ensuring their ongoing protection in the band; and ensure that limited costs are passed on to incumbent point-to-point operators in the 3.6 GHz band as they will not be required to relocate to other frequency bands in the short term. However, relocation of point-to-point services may be considered by the ACMA at a later stage once the level of demand for access to WAS is able to be determined.

### **Policy Outcome 3: Regulatory Framework**

After considering the comments received in relation to the proposed package of legislative amendments that will enable the release of the 3.6 GHz band for WAS, the ACMA has decided to proceed with the amendments to the following instruments as set out in the Discussion Paper.

- > *The Radiocommunications Licence Conditions (Fixed Licence) Amendment Determination 2009 (No. 1)*
- > *The Radiocommunications Advisory Guideline (Managing Interference to Apparatus Licensed Receivers – 3.4 GHz Band) Amendment Determination 2009 (No. 1)*

Although the *Radiocommunications (Transmitter Licences – Auction) Determination 2006* also set out in the Discussion Paper will require amendment to reflect the desired allocation arrangements for the 3.6 GHz band, is underway within the ACMA in relation to this particular amendment. Further explanation of the proposed amendments is provided in Chapter 5.

### **Policy Outcome 4: Accredited Persons**

The coordination criteria in RALI FX19 that would assist in the assignment of point-to-multipoint apparatus licences in the 3.6 GHz band were released for comment, along with discussion questions focused on the role of Accredited Persons (APs), in the Discussion Paper.

Although the ACMA did not receive any submissions from APs themselves, the ACMA has designed arrangements for the administrative allocation process to ensure that the services of APs are able to be used by applicants for the coordination of services in the 3.6 GHz band.

The ACMA is currently exploring further options that may increase the involvement of APs in the coordination process for services in the 3.6 GHz band after the outcome of the PBA processes are determined. Further information on these issues is provided in Chapter 6.

## 2. General Issues

This section discusses the general issues that were raised in the submissions to the discussion paper – that is, it discusses issues that either did not directly relate to the topics that the ACMA sought comment on in the discussion paper; are related to more than one issue; or concern the implementation of the licensing, allocation or technical arrangements for the 3.6 GHz band.

A brief description of each issue is provided, followed by a summary of the comments received on each topic. The ACMA response to each issue follows the summary.

### 2.1 Reserving spectrum for community benefit

In the discussion paper, the ACMA proposed the release of 125 MHz of spectrum in the 3575-3700 MHz frequency range (the 3.6 GHz band). The ACMA proposed that this spectrum could be made available to prospective applicants in bandwidths of 10 MHz, 15 MHz, 20 MHz or 25 MHz, depending on the capacity required for the intended service. The ACMA received a submission from the NSW Regional Communities Consultative Council (the RCCC) suggesting that some spectrum be reserved for community or public benefit use. A summary of the points made in the submission are provided below.

#### Submissions

The RCCC indicated that significant regional community benefit could be achieved if the ACMA adopted a less traditional approach in the allocation of spectrum. For example, the ACMA may consider reserving one block of spectrum of 20 MHz or 25 MHz for public benefit use in regional areas of Australia. According to the RCCC, this proposed approach would not cause any significant technical or engineering issues for the ACMA, and is based on precedent set in New Zealand.

According to the RCCC, the ACMA could implement a similar regulatory arrangement where technical conditions may be applied to the reserved spectrum such as adherence to standards and equipment that would enable seamless integration of regional WAS with the proposed NBN. Essentially, this view proposes that proponents accessing the reserved spectrum in regional areas would need to adhere to the same regime as the NBN; that is, being a wholesale wireless network that achieves a minimum speed of 12 Mbps.

The submission stated that the need to reserve spectrum for community benefit is due to the rationalisation of the wireless broadband provider industry as a result of some of the following factors:

- > The delay in access to global standard spectrum;
- > The economic downturn caused by the recent global financial crisis;
- > Uncertainties in Government subsidy programs (such as the Australian Broadband Guarantee);
- > The need for further detail on the NBN deployment and how WAS integrates, and the standards required to do so;
- > The need to develop new business models for rural and remote areas combined with time to bring communities up to speed; and
- > The need to safeguard against squatting and speculators which locks community benefit out.

The RCCC summarised their submission stating that even if the ACMA does not reserve spectrum for community benefit, spectrum should still be reserved to allow for

new entrants once the impact of the NBN proposal is resolved and market knowledge matures.

### **The ACMA's Response**

The ACMA has considered the views expressed in the submission regarding the reservation of spectrum for public and community use but does not believe that doing so would facilitate the deployment of WAS in the 3.6 GHz band. The ACMA also notes that it would be difficult to implement arrangements of this kind in the desired time frame of release of the 3.6 GHz band.

In addition, the amount of spectrum available in the 3.6 GHz band varies across Australia depending on its current allocations for incumbent services such as point-to-point links. Therefore, if the ACMA were to consider reserving any spectrum for community benefit, the same segment of spectrum should be reserved across the whole of Australia in order to achieve spectral and allocative efficiency. If this approach were to be implemented, there is a chance that prime spectrum would be reserved for "public benefit" users without any certainty that it would be put to use. This may have the potential to deny access to a commercial operator with plans of immediate deployment which may have subsequent community use and benefit.

The New Zealand precedent referred to in the submission was a decision made by the Ministry for Economic Development (MED) to reserve a nationwide lot of 25 MHz of spectrum in the 2.5 GHz band for Maori use in a Managed Spectrum Park (MSP) arrangement.<sup>9</sup> The spectrum reserved for Maori use was subject to the same terms and conditions related to the management rights applied to the MSP including acquisition limits, association rules and service implementation rules. The ACMA is not considering the development of management rights or provision of service obligations in relation to the release of the 3.6 GHz band.

## **2.2 Licensing arrangements**

The ACMA listed each licensing option considered in its development of licensing policy and arrangements for the release of the 3.6 GHz band and provided a brief, high level summary in Chapter 3 of the discussion paper. The discussion focused on the advantages of issuing apparatus licences in the band, and did not provide detailed analysis on why other licensing options were not considered. A number of respondents discussed their respective views on the proposed licensing arrangement in their overall discussion on the allocation arrangements in the 3.6 GHz band.

### **Submissions**

Eight respondents indicated overall support for the issue of apparatus licences in the release of the 3.6 GHz band. Four respondents indicated a preference for spectrum licensing arrangements to be implemented; two of these respondents suggested modifications to the proposed allocation processes to include a hybrid licensing arrangement.

Some of the comments include:

- > The issue of apparatus licences for WAS, coordinated on a case by case basis, will best ensure the protection of FSS stations operating in the band.

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<sup>9</sup> Managed spectrum parks (MSPs) are intended to allow access to a number of users in a common band of spectrum on a shared and, as far as possible, self-managed basis. Ideally, they encourage efficient use of spectrum, innovation and flexibility and provide for low-cost compliance and administration over time. The ACMA flagged this type of regulatory arrangement in a discussion paper released in 2006 and referred to the arrangement as a "private park".

- > Although apparatus licences offer the chance of greater protection against interference for FSS, the ACMA should conduct a sharing study between FSS and WAS in the 3.6 GHz band.
- > Spectrum licensing should be considered as it offers a far better administrative arrangement.
- > Hybrid licensing arrangements could be implemented in parallel with the staged release allocation process. This approach would see a combination of spectrum, apparatus and class licences being applied to the 3.6 GHz band.

Two respondents suggested that a hybrid licensing arrangement could be applied with licensing categories corresponding to a potential stage in the allocation process. That is, apparatus licences could be issued in the initial release with 40 MHz of the available spectrum being allocated; spectrum licences could be issued in the second stage of release with a further 40 MHz of available spectrum being allocated; and the remainder of the spectrum could be licensed under a class licence arrangement.

### **The ACMA's Response**

The ACMA considered all available licensing options, including innovative licensing models such as the development of private parks, before deciding on the final licensing arrangement. It is the ACMA's view that the apparatus licensing arrangement best achieves the ACMA's objective to efficiently release spectrum to meet the increasing demand for WAS in regional and remote areas. The ACMA's decision on the proposed licensing arrangement was also informed by analysis against the Principles and based on evidence obtained from industry deployment and business models.

The ACMA considered spectrum licensing arrangements for the 3.6 GHz band, however, since the development of such arrangements is a resource and time intensive process it was not considered to be the most appropriate option at this time. This is because development of spectrum licensing arrangements would require the formation of a technical liaison working group in order to develop a flexible technical framework. Consideration would also be required for the regulatory issues and licence conditions to be applied to licences issued in the band. For example, different statutory time frames would be applied to the relevant spectrum licensing framework depending on whether the band was designated or re-allocated for spectrum licensing in accordance with sections 36 or 153B of the Act respectively.

The ACMA also considered implementing class licensing arrangements in the 3.6 GHz band, however this is not considered to be the most appropriate licensing option considering:

- > The difficulty in managing interference into other licensed services such as the FSS and Fixed Point-to-Point Service, as well as other WAS;
- > The difficulty for operators to guarantee an adequate quality of service now and into the future under class licensing arrangements.

The apparatus licensing option provides the following benefits:

- > new and incumbent licensees are provided with certainty regarding issues such as interference management since licences are issued on a coordinated basis;
- > the coordination criteria and method outlined in RALI FX19 better enables the re-use of spectrum in an efficient and flexible manner for various services with different characteristics and protection requirements;
- > apparatus licensing provides the ACMA with the ability to release the spectrum more quickly than the other licensing options;

- > the issue of apparatus licences for WAS in the 3.6 GHz band can be achieved under an existing licensing arrangement for fixed services. In the case of WAS, the ACMA will issue fixed point-to-multipoint apparatus licences.

The ACMA's decision to implement the apparatus licensing arrangement meets a number of the Principles such as encouraging spectrum to move to its highest value use and the promotion of certainty and flexibility. The ability of licensees to trade or transfer their apparatus licence, as well as the ability to authorise use of the licence by third parties, is intended to encourage licensees to provide a service in the geographic area authorised in the licence.<sup>10</sup> In the case of a point-to-multipoint apparatus licence issued in the 3.6 GHz band, the provision of a service to a local community would demonstrate the spectrum being used for its highest value use.

## 2.3 Satellite issues

The discussion paper provided an indication of future policy issues that were under consideration by the ACMA. These included the potential for development of an Earth station siting policy as foreshadowed in the *Five Year Spectrum Outlook 2009-2013* (including the potential identification of geographic areas that could be made into satellite parks); and the development of an Earth station RALI intended to facilitate coordination with Earth stations in numerous bands, including the 3600-4200 MHz band. The discussion paper indicated that the ACMA would explore the development of the Earth station siting policy and RALI with industry in parallel with the issues highlighted in the discussion paper. As a result, the ACMA explicitly stated that these issues were subsequently outside the scope of the discussion paper.

### Submissions

Eight respondents commented on the Earth station siting issue, with particular focus on the concept of a satellite park. All respondents were either opposed to the idea of satellite parks or concerned by the lack of definition and wanting further clarification. Some respondents did not oppose the concept of a satellite park, but did oppose the forced relocation of Earth stations to these proposed parks. One respondent also claimed that the concept had already been decided by the ACMA without consultation. Some of the comments included:

- > Concern over the lack of definition of the "satellite parks" concept.
- > Limited understanding of how WAS spectrum could be allocated in a manageable fashion before a satellite park location is decided.
- > Opposition to any suggestion that existing and planned satellite Earth stations (both transmit and receive) in Australia should be restricted to only being located in "satellite parks".
- > Satellite parks in remote locations will increase the cost of providing FSS services and, in turn, the prices for those services.

Most respondents have also indicated a desire to be involved in any discussions or consultations with regard to the development of an Earth station siting policy, satellite park concept and RALI.

### The ACMA's Response

The ACMA has identified a need to review the spectrum management issues associated with the siting of some satellite Earth stations operating in certain bands that are shared with terrestrial services, particularly in areas of high spectrum demand. The ACMA will undertake work to develop the Earth station siting policy and RALI in

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<sup>10</sup> The ACMA acknowledges that the ability of a licensee to trade, or authorise a third party to operate a transmitter under the apparatus licence, is subject to approval from the ACMA and may be limited by the conditions of the apparatus licence such as frequency, bandwidth and site, for example.

parallel with the allocation process for WAS. The two projects are mutually exclusive, with no contingencies on each other.

The ACMA acknowledges that this issue is of concern to some existing satellite Earth station operators. However, it is not the case that the ACMA has made any decisions with regard to Earth station siting or the “satellite parks concept. On the contrary, the ACMA believes this is an issue that needs to be explored further and intends to consult with industry and interested parties on the relevant policies and other associated documents in the near future.

## 2.4 FSS Spectrum Holdings

The discussion paper indicated the ACMA’s intention to maintain the current Australia-wide embargo in the 3.6 GHz band for the FSS for a one year period after the band is opened to WAS as well as review demand for WAS and the FSS in the band for city/metropolitan areas in the long term. The ACMA did not propose to review bands or frequencies not encompassed by the 3.6 GHz band.

### Submissions

The ACMA received seven responses in relation to specific issues dealing with FSS spectrum in the 3400-4200 MHz band.

- > Embargo 42 prevents any assignment from being made Australia-wide in the frequency 3575 - 3710 MHz. This continues an intrusion of 10 MHz into the FSS standard C-band for no discernible reason.
- > The one year extension of Embargo 42 impedes possible FSS development in areas where there may be low demand for access to spectrum for WAS.
- > When the ACMA re-opens the 3.6 GHz band for Earth station licences in regional and remote areas, it should also consider allowing additional licences to be issued at existing earth station sites.
- > One applicant expressed an interest in being able to operate earth station services in the 3550 - 3600 MHz band.
- > There is concern with the use of the word “initial” when describing the release of the 3.6 GHz band.
- > There is concern that the release of the frequency range 3575-3700 MHz for WAS is a precursor to the adjacent frequency range 3700-4200 MHz also being released for WAS in the future.
- > The ACMA should recommend the use of the 5-6 GHz band for WAS instead of the 3.6 GHz band, as the 3.4-4.2 GHz band is internationally recognised and used for the reception of satellite signals.

### The ACMA’s Response

#### ***Embargo 42 & metropolitan areas***

Spectrum embargoes are an administrative tool used by the ACMA to facilitate spectrum planning and protect incumbent services and potential licensees from investing in infrastructure that may be short lived. Embargoes provide notice to industry of the ACMA’s intention to restrict the allocation of new licences in a band pending its replanning. The ACMA has decided to leave spectrum embargo 42 in place until the demand for WAS in regional and remote areas is determined and the technical and policy issues associated with the proposed earth station siting policy are sufficiently explored.

The ACMA has developed exclusion zones around metropolitan areas where WAS are unable to be deployed. These areas ensure that existing services located within these zones, such as the FSS, are sufficiently protected from potential interference from WAS. The ACMA also intends to review the demand for WAS and the FSS in the

3.6 GHz band after two years of opening the band for WAS. For this reason, embargo 42 will continue to be in effect in defined city areas, for all services, until the review of demand is complete. Consequently, no new licences will be considered for sites within these areas.

The ACMA will consult with industry on this issue, taking into account all relevant concerns and issues.

The ACMA may consider permitting exemptions to embargo 42 at existing FSS facilities on a case-by-case basis. If the ACMA agrees to the issue of an apparatus licence in an area subject to embargo 42, special condition “BL” will be applied to the licence.<sup>11</sup> Other special conditions may also be applied as required.

### ***Standard C-Band***

The ACMA expects that the FSS and point-to-point links will continue to operate in the 3700-4200 MHz band in the foreseeable future. It will continue to monitor international developments and industry requirements for this band and cannot rule out the sharing of bands where international studies demonstrate that co-existence of services is feasible.

### ***Use of the 3550-3600 MHz band by FSS***

The Australian Radiofrequency Spectrum Plan allocates the 3400-3600 MHz band to the FSS on a secondary basis Australia-wide. This allows the Earth stations to be licensed in this band on a no interference no protection basis with primary services. However, the 3425-3442.5 / 3475-3492.5 MHz and 3442.5-3475 / 3542.5-3575 MHz bands are spectrum licensed in all capital cities and large portions of regional and remote areas of Australia. A licensee would therefore require third party authorisation to use the 3550-3575 MHz band in these areas. The ACMA also notes that embargo 42 currently prohibits any new FSS licences being issued in the 3575-3600 MHz band Australia-wide.

At present, Yarragadee in WA, the site defined in embargo 49, is one location that would be considered by the ACMA for licensing services in the 3550-3600 MHz band. This site is located outside all 3.4 GHz spectrum licence areas and embargo 49 offers a 150 km protection zone around the area.

### ***Class licensing arrangements for WAS***

As indicated in responses, there are existing arrangements allowing WAS to operate under a class licence in various sections of the 5-6 GHz band. However, under these arrangements, WAS are required to operate within certain technical constraints such as EIRP limitations and under a no interference no protection basis with numerous other users and services. Although these bands play an important role in the delivery of affordable WAS in regional and remote areas, quality of service is often difficult to guarantee which means the band is not always an appropriate option for commercial services. In such cases, the licensed use of spectrum, such as the 3.6 GHz band, is considered a viable alternative.

The demand for more licensed use of spectrum in regional and remote areas of Australia is evident through responses to the ACMA’s previous WAS consultation processes and through direct contact with industry.

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<sup>11</sup> Special condition “BL” provides licensees with advice that the frequency band is under review to accommodate changes in technology. The outcome of the review may require the licensee to change frequency or cease transmission altogether.

# 3. Allocation Arrangements

The ACMA sought comment from industry and interested parties in a number of areas related to the allocation arrangements that could be applied to the release of the 3.6 GHz band for WAS. The types of issues that the ACMA sought comment on included:

- > The identification of a preferred allocation outcome from the three suggested allocation arrangements discussed at a high level in the discussion paper;
- > The factors that the ACMA should take into account when assessing which state, territory or regional area should be released first, should a staged release be adopted by the ACMA;
- > The suitability of the proposed price-based allocation (PBA) process;
- > The suitability of the pre-defined geographic areas for the PBA process;
- > Whether any other geographic areas should be included for consideration in the PBA process; and
- > Whether there were any particular areas that may be subject to significant levels of demand.

The ACMA did not receive any comments from industry or interested parties in relation to the identification of geographic areas that may be subject to significant levels of demand. As a result, this issue is not explored further in this paper. However, it is important to note that sections 2.1 and 2.4 of this Chapter include discussion on the identification of further geographic areas to be included in the pre-defined areas for allocation via price-based allocation (PBA). A summary of the submissions received in relation to each of the discussion points and the ACMA's response is provided below.

## 3.1 Allocation options

In the discussion paper, the ACMA provided three allocation options for consideration by industry and interested parties. The ACMA framed discussion of each of the options by providing the following context.

**Option 1** – The 3.6 GHz band may be included in the *Radiocommunications (Transmitter Licences – Auction) Determination 2006* (the Auction Determination). The inclusion of the frequency band in the Determination means that apparatus licences would only be available to successful applicants after participating in a PBA process. The ACMA may call for applications within a specified period of time for particular geographic areas, such as a state, territory or regional area, for example, and use the PBA process to determine the order in which applications will be considered and assessed by the ACMA. Although this option provides certainty to applicants, it reduces the overall flexibility of the licensing and allocation arrangement.

**Option 2** – Under this option, the ACMA would apply a staged approach to the release of the spectrum in particular geographic areas. Geographic areas, such as at the state or territory level, would be released at certain times for applications subject to an administrative allocation process, that is, issued “over the counter” (OTC). The PBA process would be applied to pre-defined geographic areas. These areas were identified in the Discussion Paper. The PBA process that would apply would be similar to that mentioned in Option 1.

**Option 3** – This option provides for the consideration of Expressions of Interest (EOI) from interested parties within a specified time frame and in accordance with a defined triage process. Depending on the complexity of coordination of the EOI with existing and proposed services in the 3.6 GHz band, the ACMA would determine whether an

apparatus licence may be issued via either the administrative or PBA processes mentioned in Options 1 and 2 above.

### **Submissions**

The ACMA received eight responses in relation to the identification of a preferred allocation option for the release of the 3.6 GHz band. Some of the comments received include:

- > Two respondents indicated support for the application of a price-based allocation (PBA) process to allocate apparatus licences.
- > Three respondents supported the option of combining the administrative allocation of apparatus licences and referring other applications for PBA where there was demonstrated demand. However two of these respondents suggested a variation to the approach.
- > One respondent supported the Expression of Interest (EOI) option.

#### ***The price-based allocation (PBA) option***

In the discussion paper, the ACMA suggested that the 3.6 GHz band could be allocated via a PBA process. One respondent supported this option. A second respondent commented that although a PBA may be the preferred allocation mechanism, a national PBA approach should not be the preferred allocation process for the release of the 3.6 GHz band. According to the respondent, this is because the purpose of the release should be to relieve demand for access to spectrum by regional operators providing a local service. This objective may not be achieved if PBA processes were implemented on a national basis. It appears that the respondent may support the implementation of a PBA process directed at the regional, rather than national, level.

This view is consistent with the proposed PBA areas canvassed in the Discussion paper.

#### ***Combined administrative and PBA process***

In the discussion paper, the ACMA suggested the implementation of a combined allocation process based on the administrative allocation, or “over the counter”, process with PBA processes applied only in areas where there is demonstrated demand, or competition, for access to the spectrum. One respondent supported this approach, and two other respondents, while supportive, suggested similar variations to the process. The variation included the staged release of spectrum in the 3.6 GHz band in the following way:

- > The allocation of apparatus licences with up to 40 MHz of the available bandwidth in the initial allocation;
- > The allocation of spectrum licences with up to 40 MHz of the available bandwidth in a subsequent round of allocation; and
- > The remainder of the spectrum in a geographic area authorised for operation under a class licence arrangement.

This approach is substantially more complex than that proposed by the ACMA as it would require the development of a technical framework and other licence conditions for the different licensing arrangements and technical coordination layers that would need to be applied.

### **The ACMA's Response**

The ACMA will implement an allocation process that uses a combined approach to the allocation of apparatus licences in the 3.6 GHz band. Apparatus licences will be allocated via one of two methods, an administrative, or over the counter, process and a PBA process. This is essentially Option 2 from the Discussion Paper.

The implementation of Option 2 will allow the ACMA to best manage its resources while ensuring the 3.6 GHz band is released in a timely manner. The ACMA will implement Option 2 in accordance with a staged release process that is discussed further in section 3.2 below. The following section provides an overview of the allocation process and associated policies. Further detail on the ACMA's administrative allocation process for the release of the 3.6 GHz band is set out in the Information Paper.<sup>12</sup>

### ***Initial allocation process for the release of the 3.6 GHz band***

The allocation process can be understood to have three distinct phases that relate to the type of allocation process that will be undertaken by the ACMA. Phase 1 will involve the coordination and issue of apparatus licences via an administrative allocation process in accordance with section 100 of the Act; whereas Phase 2 will allocate apparatus licences in a geographic area via a PBA system established in accordance with section 106 of the Act.<sup>13</sup> Phase 3 will revert to administrative allocation process in all areas.

The geographic areas described for release in Phase 1 cover most of the Australian continent; however the population density of these areas is low. Consequently, the ACMA expects the amount of spectrum available, which may be the full 125 MHz in some cases, is able to meet the anticipated level of demand in these areas. As the development of regulatory and administrative arrangements to support the PBA process described in Phase 2 will take some time to prepare, the ACMA will begin releasing the 3.6 GHz band for allocation in some geographic areas via the administrative process while the PBA arrangements are being developed. The ACMA will begin the PBA processes for pre-defined geographic areas as soon as practicable after the applicable regulatory arrangements and supporting documentation have been developed. This means that some PBA processes may be conducted in parallel to the administrative allocation of apparatus licences in some geographic areas.

A map detailing the geographic areas subject to either the administrative or PBA process is provided in section 3.2 below.

### ***Phase 1: Administrative Allocation Process***

Phase 1 will begin after the ACMA publishes a media release and updates information on its website in relation to the particular geographic areas that it will accept applications for the issue of point-to-multipoint apparatus licences in the 3.6 GHz band. The ACMA will release different geographic areas in a "staged release" to ensure that appropriate resources are available to meet the potential demand.<sup>14</sup>

In this Phase, the ACMA will accept applications in an advertised application window period. Submitting an application enables an applicant to gain a place in the "queue" allowing the ACMA to determine the "first-in-time" order in which applications will be assessed. Once the ACMA closes the application window period, each application will be assessed against the coordination criteria set out in RALI FX19 in the order in which they are received. An application may be assessed by either the ACMA or an AP, depending on the applicant's preference as indicated in their application.<sup>15</sup>

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<sup>12</sup> The Information Paper can be accessed at <http://www.acma.gov.au/3600MHz>

<sup>13</sup> Further information on the PBA process is provided in section 3.3 below.

<sup>14</sup> Further information on the policy rationale for the staged release of geographic areas is provided in section 3.2 of this paper.

<sup>15</sup> Further information on the role of Accredited Persons (APs) can be found in Chapter 6. The application and subsequent assessment process are outlined in further detail in the Information Paper at <http://www.acma.gov.au/3600MHz>

Where the assignment meets the coordination criteria, apparatus licences will be issued in accordance with section 100 (1) of the Act. If an application fails coordination with an existing earth station, point to point link or registered spectrum licensed device, the application will be refused in accordance with section 100 (7) of the Act.

### ***Phase 2: PBA Process***

In this Phase, the ACMA intends to undertake a PBA process in each of the pre-defined areas described in Figure 1 in section 3.2 below in accordance with a price-based system established under section 106 of the Act.

Under the proposed PBA process, the ACMA would not be allocating spectrum or the right to the geographic area itself. The allocation process would determine the order that applications will be accepted and coordinated by the ACMA or an Accredited Person. Essentially, the bidding process will provide an open and transparent way for the ACMA to determine which applications should receive priority in areas where demand is expected to be high.

Although specific details of the proposed PBA system are still being developed, it is important to note that the objective is to provide a mechanism that is low key and proportionate. In developing the PBA system, the ACMA will consider factors such as the uncertainty surrounding the level of demand; the number of interested parties; and the amount of spectrum available in these areas as a result of incumbent services. Further information and detail on the allocation process is provided in the Information Paper.<sup>16</sup>

### ***Phase 3: Administrative Allocation Process All Areas***

Once all the initial allocation processes from Phases 1 and 2 are complete and the outcomes certain, the ACMA will accept applications for apparatus licences for WAS on a general basis. That is, applications will be accepted for any location in Australia (except those listed in RALI MS03) and an administrative allocation process will be applied.

## **3.2 Staged release of the 3.6 GHz band**

In the discussion paper, the ACMA suggested that the 3.6 GHz band may be released in a staged approach in particular states or territories at certain times. The ACMA provided some dot points regarding proposed criteria for identifying the order that spectrum could be released to states or territories with the intention of provoking comment and discussion from industry and interested parties. The proposed criteria included:

- > The level of interest, as indicated by responses to the discussion paper, in obtaining apparatus licences for the deployment of WAS in the 3.6 GHz band; or
- > The presence of a business case with some reliance on government funding via an established Government program (e.g. Clever Networks); or
- > Proof of an established project delivery deadline connected to the receipt of funding, public or otherwise.

The ACMA highlighted the fact that the above list was not exhaustive. The issue was open for discussion as part of the consultation process.

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<sup>16</sup> Chapter 5 of the Information Paper discusses the administrative and PBA policies in greater detail and can be accessed at <http://www.acma.gov.au/3600MHz>

## Submissions

The ACMA received two responses in relation to the proposed development of criteria to determine which order of states or territories the 3.6 GHz band would be released in. Comments provided by respondents include:

- > Where states or territories have clear programs for immediate investment and/or deployment of networks, then these areas should be considered first by the ACMA.
- > The ACMA should not develop factors or criteria that are based on the provision of Government funding, however should also take into account private funding and/or investment.
- > The provision of Government funds to assist the financial viability of the WAS operator is in conflict with Principle 1.

## The ACMA's Response

The ACMA has determined that a staged release may be the most appropriate and accountable way for the ACMA to release spectrum in regional and remote areas of Australia. As discussed in Section 3.1, the ACMA has decided to initially release the 3.6 GHz band in two Phases. The release of geographic areas within the Phases will be staggered in order to ensure that the ACMA and APs are able to meet any peaks of demand in the coordination of network deployments in a particular geographic area. The order of release for the OTC areas is discussed below while the order for PBA areas will be decided once the PBA process is finalised.

There is significant interest in obtaining access to spectrum in regional areas of South Australia, Victoria and southern New South Wales. Industry and state government representatives in these areas have indicated, by submissions to the discussion paper and from direct representation to the ACMA, that access to spectrum is needed within specific time frames in order to receive funding from Government programs such as Clever Networks and the Australian Broadband Guarantee respectively.

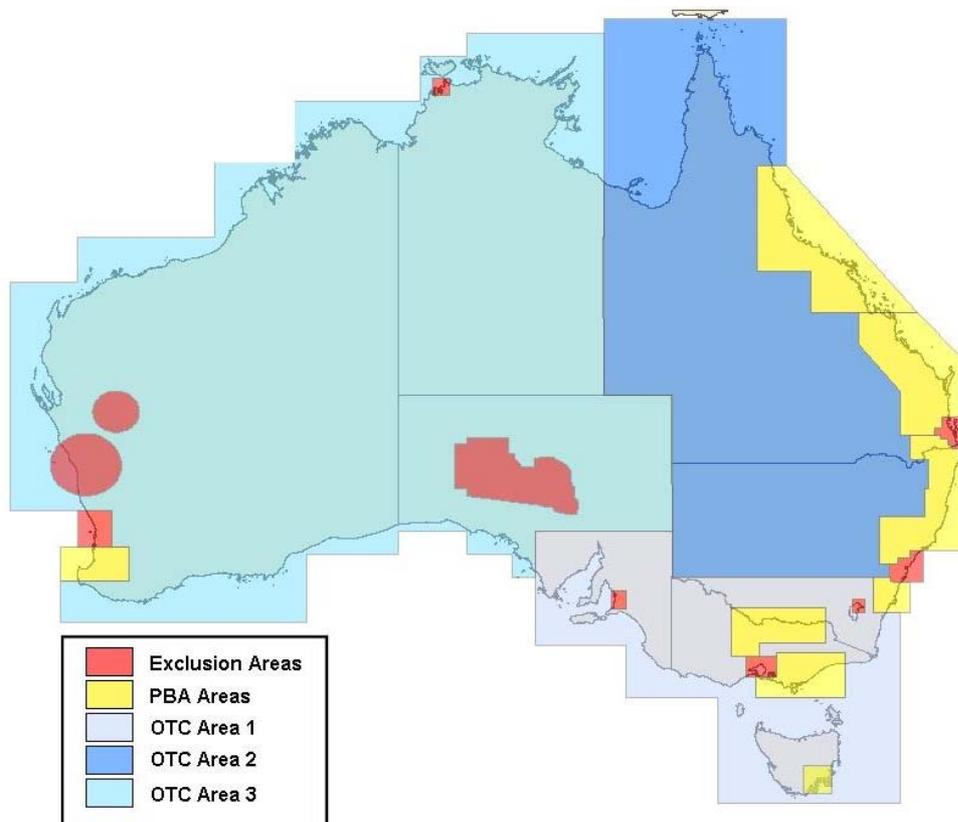
The ACMA acknowledges Government policy objectives for regional internet service providers (ISPs) to provide local broadband services and is focused on making suitable spectrum available to support the deployment of WAS in regional and remote areas of Australia accordingly. In light of this, the ACMA has varied the allocation areas from those outlined in the Discussion Paper to the three areas detailed in Figure 1 below.

The figure outlined below is the same as that reproduced in Chapter 1. The red areas of the map outline the exclusion areas where applications will not be accepted for the issue of point-to-multipoint apparatus licences in the 3.6 GHz band. The yellow areas indicate the pre-defined geographic areas that will be subject to allocation via the price-based allocation (PBA) mechanism discussed in section 3.1 above. The geographic areas in various shades of blue indicate the pre-defined geographic areas that will be subject to allocation via the administrative, or "over the counter" (OTC), allocation mechanism.

The geographic areas subject to the administrative allocation process will be released in sequential stages. Accordingly, the ACMA intends to release the allocation areas in the following order:

- > **OTC Area 1** – Southern South Australia; Victoria; Tasmania; and Southern New South Wales
- > **OTC Area 2** – Queensland; and Northern New South Wales
- > **OTC Area 3** – Western Australia; Northern Territory; and Northern South Australia

Figure 1 Pre-defined geographic areas for administrative (OTC) & PBA allocation



### 3.3 Suitability of including a “right to apply” in the PBA process

In the Discussion Paper, the ACMA proposed the use of a PBA process that would include determining the “right to apply” of successful applicants. The discussion assumed that the allocation would occur in a predefined area or at a state or territory level. Interested parties would register to participate in the PBA process and the successful bidder, that is, the applicant who submitted the highest bid, would be given the first right to apply for apparatus licences in the area subject to PBA. For example, if the PBA occurred at the state or territory level, the successful applicant would be able to submit an application for a licence or a number of licences anywhere within the area subject to the PBA process. The remaining applicants would be placed on a list in order of the value of their bids at the end of the PBA process. That is, the second highest bid would receive the second right to apply, and so on.

#### Submissions

The ACMA received three responses in relation to the suitability of including the “right to apply” in the PBA process. However, these responses were focused at the general level regarding the application of PBA processes more generally. The responses included the following comments:

- > PBA processes are not suitable for regional and remote areas;
- > The starting price, or reserve price, should be set at the Remote Density licensing fee; and

- > The ACMA should develop a more suitable alternative than applying PBA processes in regional, rural or remote areas of Australia.

### **The ACMA's Response**

The price-based allocation of spectrum is an open and transparent method for the allocation of resources in situations where demand for spectrum is expected to be high; or in situations where demand for spectrum is uncertain. Under a PBA framework, allocation is typically on the basis of a pre-determined price set by the ACMA in situations where supply exceeds demand. The pre-determined price is generally based on the ACMA's assessment of the market value of the spectrum.

As discussed previously, significant demand is anticipated in the geographic areas that have been identified for allocation via the PBA mechanism. This is due to factors including population density and limited spectrum available due to the number of incumbent services in the band. The ACMA has determined that a PBA process in the pre-defined geographic areas detailed in Figure 1 above will enable the ACMA to meet its objective to release spectrum in these areas using an open and transparent allocation process.

Because of the incumbent services in the 3.6 GHz band, the complexity of deploying and coordinating WAS systems in the band is increased. As a result, the ACMA will not be allocating spectrum or the right to exclusive access to the geographic area itself; however will use the PBA allocation process to determine the order that applications will be accepted and assessed by the ACMA or an Accredited Person. The PBA process will be undertaken in accordance with a framework made under section 106 of the Act.<sup>17</sup> A summary of the PBA process was also provided in section 3.1 above.

## **3.4 Suitability of the pre-defined PBA areas**

In the Discussion Paper, the ACMA provided a map that indicated a number of pre-defined geographic areas that could be made available for apparatus licensing via a PBA process. The development of these areas was predicated on analysis indicating the potential for competition for access to spectrum in the 3.6 GHz band.

### **Submissions**

The ACMA received six responses in relation to the development of pre-defined PBA areas with a number of other comments raised in relation to the identification of geographic areas in regional and remote areas more generally. These comments included:

- > The ACMA should consider applications for small towns on a "case by case" basis, and not as connected to or as part of a larger town.
- > The ACMA's current approach of using large regional areas may have a negative impact on regional areas where some of the defined areas encompass closely settled rural populations.
- > Further sub-division of licence areas may be appropriate. For example, definitive licence areas could be applied enabling operators to provide services to populated regional areas.
- > The ACMA should release all allocation areas simultaneously to encourage local area wireless ISPs to participate in the PBA process and to release spectrum to the market quickly.

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<sup>17</sup> Further information regarding the amendments to the Auction Determination to enable the "right to apply" PBA process to be used for the allocation of the 3.6 GHz band are included in Section 4.1 of Chapter 4

Two respondents recommended that the ACMA should consider population density variances in regional areas when designing allocation areas.

Four respondents recommended that the ACMA apply actual population data obtained by the Australian Bureau of Statistics (ABS), such as the Statistical Local Area data.

### **The ACMA's Response**

The ACMA considered the following factors in the development of pre-defined PBA areas:

- > Limitations on available spectrum due to incumbent services in the 3.6 GHz band;
- > Evidence of past demand in some identified geographic areas for spectrum for WAS; and
- > The boundaries of significant population centres based on ABS data.

The ACMA has conducted further analysis on population data and trends in light of the allocation methodology being applied, resulting in further areas along the Eastern coastline and Tasmania being included for allocation by PBA. These areas include North Queensland and the Western corridor from Brisbane to Toowoomba as well as Hobart. The ACMA understands that there is some reservation about the size of the PBA areas defined in the discussion paper.

The boundaries for the pre-defined PBA areas are defined large enough in order to ensure that factors such as population density, incumbent services and potential for demand, for example, were taken into account and, by necessity, are inclusive of small towns that may surround the larger regional centres with higher distributions of population. Further subdivision would only create multiple adjacent areas and increase the time and complexity of performing a PBA allocation. Consequently the ACMA believes that further subdivision of the defined PBA areas is not required or advisable.

The larger PBA areas also provide incentive for some operators seeking to deploy large networks to obtain the right to apply in these areas. The ACMA understands that this approach may provide a higher degree of certainty for some operators in being able to access spectrum to provide services in areas where there is a higher population density, than some localised ISPs seeking to provide a service to their own regional, rural or remote community.

# 4. Technical Parameters for WAS in the 3.6 GHz band

The discussion paper detailed technical parameters and coordination criteria that were proposed by the ACMA as a means of assigning spectrum in the release of the 3.6 GHz band for WAS. These proposals were contained in the draft update to RALI FX19 which formed part of the consultation package. Specific issues on the assignment model that the ACMA sought comment on included:

- > The implementation of a maximum available bandwidth to be allocated to a single licensee in a nominated geographical area;
- > The suitability of the proposed channel plan;
- > The suitability of the coordination criteria developed and set out in RALI FX19.

Respondents commented on these issues as well as numerous other issues such as channel polarisation, adjacent channel coordination, the use of mobile devices and the ability to deploy new technologies in the band in the future. Some of these responses have resulted in further editorial and technical amendments to the draft update of RALI FX19. A summary of these comments follows.

## 4.1 Maximum available bandwidth

In the discussion paper, the ACMA detailed a proposal to restrict WAS licensees to a maximum available bandwidth in a nominated geographic area. The ACMA suggested a proposed maximum bandwidth of 20 MHz, or 25 MHz for licensees who hold the 15 MHz channel in the proposed channel plan.

The ACMA provided the following options for consideration regarding the implementation of maximum available bandwidths:

- > Applied only to geographic areas subject to allocation via an administrative process; geographic areas subject to PBA would be exempt.
- > Applied to all geographic areas available for allocation for a specified period of time. For example, maximum available bandwidths would only be applied to licence applications until the ACMA has established the level of demand for access to the 3.6 GHz band.
- > Not applying maximum available bandwidths at all and allowing interested parties to obtain the amount of spectrum considered necessary for their operational requirements.

### Submissions

The ACMA received nine responses in relation to the proposal of applying a maximum available bandwidth to apparatus licences issued in the 3.6 GHz band.

- > Six respondents supported the proposal of restricting licensees to a maximum bandwidth. However, five of the respondents suggested a larger bandwidth limit be applied, with values of 30 MHz and 40 MHz nominated for consideration by the ACMA.
- > Four respondents suggested that at least 30 MHz of spectrum (3 x 10MHz sectors of 120°) would be required to deliver a carrier class service.
- > Three respondents suggested that 40 MHz of spectrum should be made available as this would allow for enough spectrum to meet the forecast demand for increased capacity over time.
- > Three respondents suggested that bandwidth limits should only be enforced for a limited period of time.

- > Two respondents suggested that maximum available bandwidths should not be implemented citing that spectrum should be abundant in this band for the targeted geographic areas.

Although there was general support for the application of a maximum available bandwidth, many respondents recommended an increase in bandwidth restriction of at least 30MHz per licensee. It was suggested that this increase in bandwidth was required in order for providers to deliver a carrier class service with speeds at least 12 Mbps to regional users.

### **The ACMA's Response**

Demand for spectrum in the 3.6 GHz band is untested. Therefore, the ACMA believes that maximum bandwidth limitations on individual licensees are desirable in the initial release of the band and is best able to accommodate the current situation where the level of demand is uncertain. However, once the ACMA has a better understanding of the actual level of demand for access to spectrum in the 3.6 GHz band, the ACMA will review the maximum bandwidth limitations and determine whether the limitation should be removed or varied.

The ACMA acknowledges the strong support from industry regarding the potential inadequacy of the 20 MHz proposed maximum bandwidth limit for a single licensee and will instead implement a larger limit of 30 MHz. The ACMA understands that 30 MHz will provide sufficient capacity for a single licensee to initially deploy a carrier class service that is capable of meeting Government objectives to deliver speeds of at least 12 Mbps to regional users.

## **4.2 Channel Plan**

In the discussion paper, the ACMA proposed a channel plan that allowed a number of potential system bandwidths to be implemented. The proposed channel plan in the discussion paper was to provide support for future 20 MHz channels. It was also aligned with the 3.8 GHz fixed link channel plan to maximise spectrum availability where fixed links and Earth stations operate. For these reasons, a 10 MHz and 20 MHz channel raster was proposed, with one 15 MHz channel.

### **Submissions**

The ACMA received nine responses in relation to the proposed channel plan.

- > Eight respondents indicated support for the channel plan; three of these respondents suggested the ACMA consider amendments to allow a 30 MHz block to be made available.
- > Three respondents who agreed with the channel plan suggested amendments to allow for a 40 MHz block in the channel plan. The respondents cited reasons such as the future accommodation of emerging wireless technologies and to meet forecast growth and capacity demand.
- > One respondent commented that in areas where the spectrum is not fully utilised, free blocks should be left in between assignments to different operators in order to allow for future growth using contiguous spectrum lots.
- > One respondent suggested making use of channel polarisation in the channel plan to increase capacity re-use as part of the assignment model.

### **The ACMA's Response**

#### ***Channel Plan***

The ACMA has revised the channel plan to include larger 30 MHz block options as a result of the policy decision to implement a 30 MHz maximum available bandwidth per licensee. This channel plan is intended to be used for the initial allocation period only; once all areas of regional and remote Australia have been released, the ACMA will

implement the channel plan as it was described in the discussion paper. The ACMA believes that amending the channel plan in this way will assist in streamlining the allocation of spectrum during the initial release in specific geographic areas meanwhile addressing the strong response from respondents requesting larger spectrum allocations.

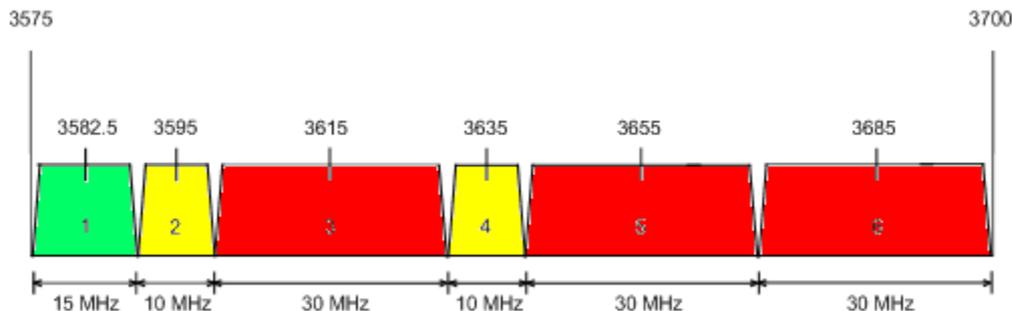
The ACMA will offer three options in the amount of spectrum that can be applied for during the initial allocation period. Applicants will be limited to applying for 30 MHz, 15 MHz or 10 MHz channels in the initial allocation period.

The revised channel plan aligns with the current 3.8 GHz fixed link channel plan. Alignment between the two channel plans will eliminate inter-channel overlap; minimise the impact each deployment will have with existing licences and maximise overall spectrum availability.

The revised channel plan also includes 10 MHz spacing between the larger 15 MHz and 30 MHz blocks. Where demand is low in geographic areas, these 10 MHz blocks may not be allocated. These unallocated blocks will effectively act as a guard band between the larger blocks, providing greater protection for licensees while facilitating future growth of capacity in contiguous spectrum lots. The revised channel plan can be seen in Figure 2 below.

The ACMA has considered making 40 MHz channels available. However, it is believed that these suggestions were based on a perception of maximum bandwidth limits rather than equipment characteristics. In light of this, the ACMA considers the proposed maximum bandwidth limit of 30 MHz will be sufficient for the initial allocation period. As stated previously, the maximum bandwidth limit will be reviewed after the initial allocation period is over and once demand for the band is better understood.

Figure 2 Amended 3.6 GHz channel plan for the initial allocation



### Channel Polarisation

Although the ACMA acknowledges the potential benefits of channel polarisation in affecting coordination between licensees as well as ensuring the efficient use of spectrum, a channel polarisation scheme for WAS will not be mandated in the band for the following reasons:

- > WAS equipment characteristics allow for vertical, horizontal or mixed polarisation schemes to be used; and the ACMA believes operators are best placed to determine which polarisation schemes best suit their requirements.
- > WAS operators are likely to have numerous contiguous channels at numerous sites. The ACMA believes that the most efficient use of spectrum will be realised

by allowing operators to manage their own intra system interference; one method of which may or may not be the use of different polarisation schemes.

- > Licensees are required to manage adjacent channel interference by use of techniques such as synchronisation or other mutually agreed methods; one of which may or may not be the use of different polarisation schemes.
- > Co-channel coordination between operators and other existing licensees, such as, fixed links, may require the use of different polarisation schemes to achieve successful coordination.

### 4.3 Coordination with FSS

The discussion paper outlined the development of coordination criteria in the 3.6 GHz band to support the deployment and operation of WAS technologies using TDD single frequency configurations. This involved considering a number of incumbent services, one of which was the Fixed Satellite Service (FSS).

The discussion paper detailed the information gathering and research tasks conducted by the ACMA in developing the coordination criteria between WAS and the FSS. Information provided by Earth station licensees, and the research and work conducted by the CEPT, APT, ITU and WiMAX Forum were used or referred to in this process. The discussion paper also acknowledged the value of the 3.6 GHz Industry Working Group (the Industry Working Group) which facilitated discussion between key industry representatives and contributed to the development of the coordination criteria.

#### Submissions

The ACMA received nine responses on the development of coordination criteria between WAS and the FSS. There was general support from the FSS community for the coordination criteria developed with assistance from the Industry Working Group; as well as the identified exclusion areas that were developed around major metropolitan areas. However, the following additional issues were raised by respondents:

- > Adjacent channel coordination procedures between WAS and the FSS will need to be developed when embargo 42 is lifted allowing new FSS earth stations to operate in the 3600 - 3700 MHz frequency band;
- > New FSS earth station sites in the 3600 - 3700 MHz frequency band may require larger co-channel cull distances than the distances developed for Sydney and Perth locations;
- > The ACMA should continue to monitor work carried out by the ITU-R and other international fora regarding sharing arrangements between WAS and the FSS. It was also recommended that the ACMA take note of any agreed outcomes in future revisions of RALI FX19; and
- > Polarisation isolation values as stated in Attachment 6 of RALI FX19 should only be used in situations of main beam coupling between interfering WAS and victim Earth station antennas.

Three respondents referred to a report being developed by ITU-R Working Parties 4A and 5A regarding sharing of the 3.4 - 4.2 GHz frequency band between WAS and the FSS. Respondents suggested that the ACMA monitor the development of this work and make appropriate changes to RALI FX19 by reconvening the Industry Working Group, if necessary.

#### The ACMA's Response

##### *International studies and developments*

With the help of stakeholders and the various Australian Radiocommunications Study Groups (ARSGs), the ACMA continually monitors developments in numerous international bodies, including the ITU. The ACMA considers international and local

developments, as well as work or studies conducted by international regulatory bodies, in the development of coordination criteria between services.

The ACMA appreciates that numerous bodies are conducting work on sharing between WAS and the FSS in the 3.4-4.2 GHz band, and will continue to monitor progress and outcomes as appropriate. Further amendments to the coordination criteria contained in RALI FX19 may be undertaken after consideration of the following factors:

- > the demand for WAS and the FSS in regional and remote areas; or
- > a review on the effectiveness of the arrangements; or
- > the outcome of international studies and other developments; in particular, current studies on sharing between WAS and the FSS in Working Parties 4A and 5A of the ITU-R.

Any amendments to the coordination criteria between WAS and the FSS will be performed through consultation with industry and may involve reconvening the Industry Working Group.

#### ***Polarisation discrimination***

In the case of polarisation discrimination, as detailed in Attachment 6 of RALI FX19, the ACMA agrees that it should only be applied in cases where direct main beam coupling is present or in cases where the co-polar and cross polar antenna patterns are known for both systems. This outcome is now reflected in RALI FX19.

#### ***Adjacent channel coordination***

In the case of adjacent channel coordination criteria between WAS and the FSS operating in the 3600-3700 MHz frequency band (extended C-band), the ACMA acknowledges that the coordination criteria developed with the help of the Industry Working Group does not specifically define criteria for this scenario. The ACMA understands that the exclusion areas created around the cities of Sydney and Perth are large enough to protect existing licences from this particular form of interference. However, the ACMA also understands that once embargo 42 is lifted in regional and remote areas of Australia to allow further extended C-band licences to be issued, specific criteria will need to be developed.

Before embargo 42 is lifted for the FSS in regional and remote areas of Australia, the ACMA will consider:

- > reconvening the Industry Working Group to develop appropriate adjacent channel coordination criteria;
- > reviewing the outcomes of international studies analysing sharing arrangements between WAS and the FSS in the 3.6 GHz band; and
- > reviewing the effectiveness of the coordination criteria currently contained in RALI FX19.

Analysis of the information outlined above will enable the ACMA to determine the effectiveness of the current sharing arrangements between WAS and the FSS and consider the incorporation of further refinement or policy developments in future amendments to RALI FX19.

## **4.4 General Comments on Technical Criteria**

The discussion paper sought comment from industry on the suitability of the coordination criteria developed and set out in the draft update to RALI FX19. Coordination requirements for many of the services operating in and around the 3.6 GHz band were previously defined in various other RALIs, Radiocommunications Advisory Guidelines (RAG) made under section 262 of the Act, or within the relevant

spectrum licence technical framework. Services for which coordination criteria had not been previously defined in the 3.6 GHz band included the FSS, Amateur Services and Radiolocation Services.

This section summarises the general comments received from respondents on all technical criteria except those dealing with the FSS, which is discussed in section 3.3 above.

## **Submissions**

The ACMA received eight responses in relation the technical criteria proposed in the draft update to RALI FX19.

- > Two respondents suggested including provisions for 1st and 2nd adjacent channel coordination between WAS sites. According to the respondents, some constraints on base station antenna patterns may also be required if this criteria is considered;
- > One respondent suggested that fixed links should be made as secondary services in the band, particularly for cases where existing licences remain unused.
- > One respondent requested that the ACMA continue to monitor developments of international bodies and standards organisations, particularly in relation to work conducted by the 3GPP forum for IMT technologies in the 3400-3800 MHz band.
- > Three respondents requested the band not be used for mobile WAS communications.

The submission from the Department of Defence (Defence) indicated a willingness to work with the ACMA in the development of appropriate licence conditions designed to enable continued Defence access to the use of frequency bands below 3.6 GHz for the operation of Radiolocation Services. Defence also suggested the implementation of an assignment model that would see WAS assigned from the highest channel down. It is Defence's opinion that this would assist the mitigation of potential interference from radiolocation services operating in lower frequency bands.

The submission from Defence also indicated a concern that the ACMA may allocate spectrum in geographic areas that encompass their training areas, such as the Woomera Prohibited Area (the WPA). The submission recommended that apparatus licences should not be issued in and around areas that may impact on Defence access to spectrum for training, development and exercises in these areas.

A number of other, general comments were received regarding editorial corrections and the clarification of particular requirements such as 'listen before talk' conditions only applying to remote stations (i.e. user terminals), and coordination not being required between the same licensees assignments. These suggestions have been incorporated into RALI FX19.

## **The ACMA's Response**

### ***Defence Radiolocation Services***

The ACMA has continued discussions with Defence regarding the potential for interference between WAS and Radiolocation Services operating in frequency bands below the 3.6 GHz band. Information received indicates that the potential for interference will be low and subsequently manageable for WAS deployments in the 3.6 GHz band. The ACMA intends to apply an Advisory Note to all apparatus licences issued in the 3.6 GHz band that indicates the potential for interference to licensees from Defence operation of radiolocation services. In addition to the Advisory Note, the ACMA will also require Defence to take reasonable measures to limit or avoid interference into existing licences.

The ACMA has also considered the recommendation from Defence for the ACMA to assign WAS licences from the highest channel down. However, information received

suggests that interference from Radiolocation Services will be low and the ACMA will not amend the assignment priority as a result. The current assignment priority allows for greater frequency separation and more efficient spectrum usage by services with fixed locations, such as the FSS operating in the standard C-band.

### ***The Woomera Prohibited Area (WPA)***

The ACMA has consulted with Defence on their spectrum requirements at training areas such as the WPA, and discussed the public benefit that would be achieved in assisting regional and rural areas to gain access to spectrum for WAS. As a result of these discussions, the ACMA has decided to:

- > embargo all but 25 MHz of the 3.6 GHz band in the WPA;
- > require all licence applications inside and within 100 km of the WPA to be sent to the ACMA for further consideration<sup>18</sup>;
- > attach an Advisory Note to all licences inside and within 100 km of the WPA advising them that they may receive interference from Defence operations in the WPA; and
- > require Defence take reasonable measures to limit or avoid causing interference to licensed services.

Once an application is made inside or within 100 km of the WPA, the ACMA will refer the applicant and their application to Defence. It is intended that this will:

- > provide Defence with notification of the intended application;
- > allow Defence to gain more detailed characteristics of the application to better affect coordination for activities within the WPA;
- > open a dialogue between the ACMA and Defence regarding the application and any concerns or advice Defence may have regarding compatibility with their operations.

Defence will be given 10 working days to consider the application and provide advice to the ACMA. This advice will be considered by the ACMA and may result in the application being accepted, rejected or modified.

### ***Adjacent channel coordination between WAS licences***

The ACMA has consulted numerous WAS equipment suppliers and operators regarding the development of 1st and 2nd adjacent channel coordination criteria between WAS licensees in RALI FX19. There was general agreement that such criteria could be applied, but more efficient spectrum utilisation would be realised by requiring affected licensees to consult with each other on a case by case basis in order to achieve a mutually agreeable solution.

For this reason, the ACMA does not intend to include criteria for adjacent channel coordination between WAS licensees. However, as stated in the *Radiocommunications Licence Conditions (Fixed Licence) Determination 1997*, it is a condition for all WAS licensees that they do not cause adjacent channel interference to another WAS licensee. Interference is not deemed to occur when affected licensees develop a mutually agreeable solution to the problem; one such solution recommended by the ACMA is synchronisation of the affected licensees transmission and reception timing.<sup>19</sup>

The ACMA also understands that placing any restrictions on base station antennas would unnecessarily constrain an operator's ability to deploy either an omni or directional antenna. It is believed that operators are best placed to decide what type

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<sup>18</sup> Further information on this requirement is provided in section 3.15 to [RALI FX19](#).

<sup>19</sup> Refer to section 3.1 of [RALI FX19](#) for more details.

of antenna to use in order to provide a service in a particular area. For this reason, the ACMA does not intend implementing constraints on base station antennas.

***Status of point-to-point links in the 3.6 GHz band***

In relation to making fixed links secondary in the 3.6 GHz band, the ACMA intends to review their status approximately two years after opening the band to WAS. This will allow the ACMA to better understand the demand for WAS in the band. If the demand is high, then fixed links may be made secondary in the band; however, if demand is low then fixed links will retain their co-primary status. In the meantime potential licensees may be able to negotiate with existing fixed link licensees in order to effect coordination in areas of concern.

***Flexibility of arrangements to enable new technologies***

In relation to new and emerging technologies in the 3.6 GHz band, such as those developed by 3GPP, the ACMA will continue to introduce new technologies and update channelling arrangements and coordination criteria as standards are developed, and equipment becomes available and after consideration of industry requests.

***Mobile user terminals in the 3.6 GHz band***

The protection criteria developed by the Industry Working Group between WAS and the FSS takes into account potential interference from mobile and nomadic equipment. Taking into account the lower antenna gain, transmit powers and operational height of these systems as well as the small operational range from the base station, it is believed that the criteria developed is conservative enough to protect existing services from interference.

# 5. Other Regulatory Issues

The ACMA sought comment from industry in relation to the suitability of proposed amendments to a number of legislative instruments and the amendment of coordination criteria in a technical document to support the allocation of the 3.6 GHz band for WAS in regional and remote areas of Australia. The ACMA also sought comment from industry on the ACMA's proposal to not apply provision of service obligations, such as "use it or lose it" or roll out conditions. The ACMA's Discussion Paper raised the following issues for comment:

- > The suitability of the proposed amendments to the legislative instruments;
- > The effectiveness of the protection criteria and other amendments set out in RALI FX19;
- > Whether any other changes to relevant legislative instruments and technical documents are required or would be desirable;
- > Whether provision of service obligations should be applied to the issue of apparatus licences for WAS in the 3.6 GHz band; and
- > If provision of service obligations should be applied, how the provisions should be applied.

The ACMA received two responses in relation to whether further legislative amendments were required. These comments have been included in the summary provided at section 5.1 below. Chapter 4 provided a summary of the responses the ACMA received in relation to the proposed amendments for RALI FX19 and as such, these issues will not be revisited here. The ACMA received four responses in relation to the discussion points on whether provision of service obligations should be applied to the 3.6 GHz band and two respondents provided commentary on how the provision of service obligations could be implemented. The summary of submissions to the two discussion points on provision of service obligations is provided at section 5.3 below.

## 5.1 Suitability of proposed amendments to legislative instruments

In the Discussion Paper, the ACMA indicated that the proposed amendments to a number of legislative instruments were required in order to support the deployment of WAS in the 3.6 GHz band. Some of the proposed amendments also related to frequency bands other than the 3.6 GHz band. The ACMA proposed amendments to the following legislative instruments:

- > *The Radiocommunications Licence Conditions (Fixed Licence) Determination 1997* (the Fixed LCD);
- > *The Radiocommunications (Transmitter Licence – Auction) Determination 2006* (the Auction Determination); and
- > *The Radiocommunications Advisory Guidelines (Managing Interference to Apparatus Licensed Receivers – 3.4 GHz Band) 2000* (the Advisory Guideline).

### Submissions

The ACMA received four responses commenting on the suitability of the proposed legislative amendments, with two further comments on whether further legislative amendments were required.

Two respondents indicated overall support for the proposed amendments. One respondent indicated a preference for the ACMA to reconsider the removal of the roll out obligations on the 1.9 GHz band from the Fixed LCD.

Defence provided comments in relation to the Fixed LCD and Auction Determination in particular. These comments included:

- > The ACMA should undertake full consultation with Defence in the event that the ACMA decides to release the 3400-3700 MHz band for fixed services. Consultation would take into account Defence's large capability development and long equipment life cycles.
- > Defence indicated that the ACMA should not allocate areas of significance to Defence via auction.

One response was received indicating to the ACMA that further legislative amendment may be required to the following instrument:

- > *The Radiocommunications Licence Conditions (Amateur Licence) Determination No. 1 of 1997* (the Amateur LCD).

### **The ACMA's Response**

The ACMA intends to proceed with the amendments to the Fixed LCD and the Advisory Guideline as proposed in the Discussion Paper. However, the ACMA is working to identify appropriate amendments for the Auction Determination that will facilitate the proposed allocation arrangements discussed in Chapter 3.

The ACMA has no plans to allocate significant areas of interest to Defence, such as the WPA, via auction. Further discussion on Defence issues is provided in section 3.4 above.

### ***Fixed Services in the 3400-3700 MHz band***

The ACMA will consult with industry on any plans to allow for the introduction of, or change to, arrangements for the use of point-to-multipoint services in the 3400-3700 MHz band. This will allow incumbent operators, prospective licensees as well as other interested parties the opportunity to comment on any proposals being made.

### ***Amateur LCD***

The Australian Radiofrequency Spectrum Plan allocates the 3400-3600 MHz band to the Amateur service on a secondary basis. The Wireless Institute of Australia (the WIA) makes band plans indicating the frequencies and channel arrangements that may be used by its members. The ACMA can also limit the bands and areas that may be used by amateur operators through amendments to the Amateur LCD.

Given the availability of alternative spectrum for amateur services, the predicted low use of the 3575-3600 MHz band by amateur operators and the subsequent low risk for interference to be caused, the ACMA does not intend to amend the Amateur LCD at this point in time. However, the ACMA will continue to monitor use of the band by WAS and amateur services in order to determine if changes are required in the future.

## **5.2 Provision of service obligations in the 3.6 GHz band**

In the discussion paper, the ACMA indicated its intention to remove the roll out obligations that applied to the 1.9 GHz band from the Fixed LCD. The ACMA also indicated that roll out obligations would not be applied to the release of the 3.6 GHz band. The amount of spectrum that may be available in the majority of areas, up to 125 MHz in some cases, and the application of maximum available bandwidths in the initial allocation period means that supply may be able to meet anticipated demand. In geographic areas where the amount of available spectrum is limited, the ACMA intends to apply a PBA approach allowing the market to allocate the spectrum to its highest value use.

## Submissions

The ACMA received four responses discussing the value of provision of service obligations, or use it or lose it conditions, on a general level. Two of the responses provided further information on how provision of service obligations may be applied to the release of the 3.6 GHz band.

There was general consensus from respondents on the value of provision of service obligations in providing an accountability mechanism to ensure that maximum use of spectrum is ensured in the short to medium term. One respondent commented that the ACMA may not have fully considered the potential consequences of non-use of spectrum. Some of the cited consequences of non-use include:

- > The inability of companies to roll out critical infrastructure;
- > The late adoption of innovative technologies in the absence of sufficient spectrum being available; and
- > The costs to a community for spectrum languishing unused while a community is under served.

Two respondents suggested ways in which provision of service obligations may be implemented. One respondent suggested that the ACMA implement a regulatory framework similar to the “show cause” provisions characterised in the Managed Spectrum Park (MSP) arrangement provided by the Ministry for Economic Development (MED) in New Zealand.

Under this type of arrangement, where claims are made that the spectrum is unused, licensees would be required to show cause why they should maintain ownership of a licence compared to the public benefit that would be derived from re-allocating the licence to a third party who is likely to use the spectrum.

According to the respondent, the implementation of show cause provisions would send a strong signal to potential spectrum squatters that that speculative behaviour is high risk, and on the limited occasions that the show cause provisions may be invoked, the removal of a licence from a squatter/speculator would be a worthwhile investment and intervention.

A second respondent made the following suggestions:

- > Determining “use” should be easier for the ACMA than trying to determine a total social welfare standard approach.
- > The roll out obligations that were in place for the 1.9 GHz band should apply to the roll out of services in the 3.6 GHz band.
- > A licence condition could be included for licensees to demonstrate genuine usage of the allocated spectrum when another party presents a genuine alternative proposal for use of that spectrum.

## The ACMA’s Response

The ACMA notes that the reasoning behind employing provision of service obligations is to prevent spectrum “hoarding”. Hoarding is an alleged anti-competitive act involving the purchasing of spectrum not for own-use but to prevent another entity from using it. However, unused spectrum is often also an outcome of benign commercial behaviour, such as the purchase of spectrum for its “option value”.

The ACMA has reviewed the show cause and associated administrative enforcement provisions employed by the MED in relation to the implementation of the MSP. The show cause provision specified in the “Use or Lose” provisions of the MSP refer to a condition where each right holder in the MSP must make a statutory declaration to the MED, every two years following the initial grant of the licence, as to whether the

licence is in sufficient use. The criteria of what the MED considers sufficient use is also provided. If the MED decides to take some form of administrative enforcement action as a result of the licence being insufficiently used, the MED provides a notice of intending action to the licensee with a further opportunity for the licensee to provide a response.

The ACMA understands that this approach would be similar to the roll out obligations that applied to the 1.9 GHz band and will be removed from the Fixed LCD in the package of amendments proposed for the release of the 3.6 GHz band. Consequently, the ACMA will not be applying provision of service obligations or show cause provisions to the release of the 3.6 GHz band.

## 6. Role of Accredited Persons

The ACMA sought comment from industry and interested parties on the role Accredited Persons (APs) may have in the coordination of assignments in the release of the 3.6 GHz band. The ACMA raised the following issues for comment in the Discussion Paper

- > Whether there are enough APs with appropriate expertise to meet the likely demand from applicants, meanwhile ensuring that conflicts of interest do not occur;
- > Whether APs are provided with sufficient technical guidance from the ACMA to coordinate assignments in the 3.6 GHz band;
- > Whether there are any disadvantages in requiring applicants to use the services of APs, or discriminating in favour of applicants who do;
- > If the ACMA were to require applicants to use the services of APs, or give preference to applicants that did, what would be the benefits of earlier access to the spectrum?
- > What are the appropriate thresholds for licence applications and geographic areas for the ACMA to decide to refer applications to a PBA process?
- > What are the minimum geographic areas that this approach could be used in?
- > What other factors or approaches should the ACMA consider in order to encourage the involvement of APs in coordinating applications for WAS in the 3.6 GHz band?

Submissions that included information regarding the PBA process and the identification of potential geographic areas for PBA have been addressed in the previous chapter Allocation Arrangements and hence will not be addressed in this chapter. Further to this, no submissions were received in relation to the discussion question asking what other approaches the ACMA should consider in order to encourage the involvement of APs in the coordination process for the release of the 3.6 GHz band.

### 6.1 Perceptions on the number and expertise of APs

In the Discussion Paper, the ACMA indicated that involvement from APs in the coordination of assignments may occur after the PBA processes determining the “right to apply” had concluded. APs would be able to coordinate and submit applications on behalf of clients in the time frame provided for the successful applicants in the right to apply PBA process.

#### Submissions

The ACMA received four responses providing comment on the number and expertise of APs in coordinating services in the 3.6 GHz band. These comments included:

- > Concern regarding the experience and ability of APs to take fixed satellite services (FSS) into account and provide adequate protection from interference generated by terrestrial systems;
- > Concern regarding the decreasing number of APs overall and the subsequent increase in cost that may subsequently occur; and
- > The number of available APs and the potential for conflict of interest is a commercial matter that should not be addressed by the ACMA.

#### The ACMA’s Response

The ACMA provides accreditation to APs in accordance with the conditions set out in the *Radiocommunications (Accreditation – Prescribed Certificates) Principles 2003* made under section 266 of the *Radiocommunications Act 1992*. The application process for becoming an AP involves the ACMA’s senior frequency assigner providing

an assessment that the person is suitably qualified and that referee reports support that assessment.

The current process does not extend to assessing an AP's individual ability to undertake certain types of assignments, such as fixed point-to-multipoint for example. The current process also does not take into account an individual AP's ability to apply relevant qualifications and/or experience to the frequency assignment process. It is a commercial decision for applicants, in considering cost, expertise and services offered, as to whether they use an AP or the ACMA. In any event, the ACMA's frequency assignment team undertakes additional auditing of frequency assignment certificates (FACs) submitted by any new AP.

Although the uptake of accreditation has decreased over the past two years, the ACMA understands that the number of APs is not diminishing, per se. Out of the 67 registered APs, only 13 appear to be active, that is, submitting FACs in the 08/09 financial year. Consequently, the majority of the work submitted by APs is being completed by a small number of APs overall. The types of assignments being undertaken are likely to be in point-to-multipoint frequency bands below 1 GHz.

Coordination requirements for point-to-multipoint services in microwave bands such as the 1.5 GHz, 1.9 GHz and 3.4 GHz bands are more complex. However, the ACMA notes that since the close of the consultation period, several APs have expressed an interest in the coordination of assignments in the 3.6 GHz band.

## **6.2 Technical guidance provided to APs by the ACMA**

The ACMA sought comment on the proposed coordination criteria and guidelines for the assignment of point-to-multipoint apparatus licences in the 3.6 GHz band to provide WAS in regional and remote areas of Australia. A summary of the responses received from stakeholders regarding the coordination criteria are provided in Chapter 3. This section focuses on the suitability of the information provided in RALI FX19 for APs to participate in the allocation process for the 3.6 GHz band.

### **Submissions**

The ACMA received one response in relation to the technical guidance provided by the ACMA for APs to coordinate services and issue FACs in the 3.6 GHz band. The comments provided in the response include:

- > Query the ability of APs to coordinate services given that the method of licensing has not been fully established;
- > Query how the ACMA will deal with FACs issued by APs against classified systems that may be contained in the ACMA's classified register;
- > The ACMA should continue to develop and retain frequency assigners with the appropriate skill levels required to undertake the coordination of new services, such as WAS.

### **The ACMA's Response**

Although the ACMA does not provide training to APs, access to relevant documentation including RALIs, policy information papers and legislative instruments, such as licence condition determinations (LCDs), is provided. The combination of these documents provides guidance for the assignment of frequencies and the licensing of services. Further to this, the ACMA's frequency assignment team provides day-to-day support, advice and clarification to APs on the application of these documents to the assignment process.

The issues relating to assessment of FACs against the classified register and the ACMA's continued development of frequency assignment resources will be discussed in greater detail in section 6.3 below.

### **6.3 The use of APs as a requirement in the 3.6 GHz process**

The ACMA sought comment from respondents in relation to whether there would be any disadvantages to requiring applicants in the release of the 3.6 GHz band to use the services of an AP in submitting their application; or giving preference to applicants who use the services of APs. The purpose of this discussion question was to try and ascertain whether the involvement of APs in the assignment process could have an impact on the overall allocation process to be determined by the ACMA.

#### **Submissions**

The ACMA received four responses in relation to these discussion questions. The responses were varied and contained the following:

- > One respondent supported the involvement of APs in the coordination process;
- > One respondent suggested there is no requirement for APs to undertake the work and hence the ACMA should always be in a position to perform the assignment function;
- > One respondent suggested that the scarcity of APs will mean that costs will increase; and
- > One respondent recommended that flexibility should be provided for applicants to use either the ACMA or APs and applications should not be discriminated against on this basis.

The ACMA received comment supporting the assertion that there is no requirement for APs to complete the coordination of assignments in the 3.6 GHz band. According to the respondent, the need for APs to undertake assessments that take into account information contained on the classified register means that the assignment process cannot be solely undertaken by APs and requires some involvement from the ACMA. The ACMA also received comment suggesting that the initial allocation process should be undertaken by the ACMA with APs being involved in coordination after this time, on a first in time basis.

#### **The ACMA's Response**

The ACMA understands that flexibility should be provided to potential applicants with the option of having their applications coordinated by either the ACMA or APs. The ACMA has provided flexibility in the allocation process by ensuring that applicants are able to use the services of an AP for the coordination of services once the order of applicants is determined via the PBA process.

The ACMA understands that concern regarding the coordination of services by APs against those that may be listed on the classified register may be unfounded. Under current practice, every FAC that is submitted by an AP in support of a licence application is assessed against the classified register by the ACMA to ensure there is no conflict. The same process will apply to any FACs submitted by APs in support of licence applications in the 3.6 GHz band. The current process ensures the security of the classified register is maintained as only staff from the ACMA with appropriate security clearance has access to the register.

The ACMA is currently exploring further options intended to increase the involvement of APs in the assignment process for the release of the 3.6 GHz band. Further information on these options will be provided by the ACMA on its website at an appropriate time.