

EXPLANATORY STATEMENT

Issued by the Australian Communications and Media Authority

Radiocommunications Spectrum Marketing Plan (2.5 GHz Band) 2012

Radiocommunications Act 1992

Purpose

The *Radiocommunications Spectrum Marketing Plan (2.5 GHz Band) 2012* (the **Marketing Plan**) specifies the spectrum lots available in the 2.5 GHz band allocation, the method by which the lots will be allocated, and conditions that will apply to the spectrum licences issued after that allocation process.

Legislative Provisions

The Marketing Plan is made by the Australian Communications and Media Authority (the **ACMA**) under section 39A of the *Radiocommunications Act 1992* (the **Act**). Under this provision, the ACMA must prepare a marketing plan before issuing spectrum licences in parts of the radiocommunications spectrum that are the subject of a spectrum re-allocation declaration made by the Minister for Broadband, Communications and the Digital Economy, Senator Stephen Conroy (the **Minister**) under section 153B of the Act.

Background

Currently, the 2.5 GHz band in Australia is primarily licensed to broadcasters for electronic news gathering (**ENG**) services. However, spectrum in the 2.5 GHz band has, for a number of years, been designated internationally as available for use by nations wishing to implement International Mobile Telecommunications (**IMT**) technologies, including wireless access services (**WAS**). In this time, there has been increasing demand from telecommunications operators and equipment manufacturers for access to the band for the provision of WAS services around the world, including in Australia. A large number of countries have already allocated, or intend to allocate, all or a portion of the 2.5 GHz band to WAS.

The global identification of the 2.5 GHz band for IMT has resulted in large-scale development and manufacture of equipment (such as mobile phone handsets) able to operate in the 2.5 GHz band across many international regions.

In 2010, after several comprehensive rounds of public consultation processes, the ACMA announced its intention to re-plan part of the 2.5 GHz band to facilitate new uses, primarily WAS technology. Allowing the use of the 2.5 GHz band for WAS will enable Australia to take advantage of the globally harmonised 2.5 GHz band. It is expected that the Australian public will benefit from lower costs and a wider range of devices that the economies of scale inherent in such large scale equipment production can offer. This development will also enable greater capacity for international mobile telephony roaming as more countries around the world adopt the same harmonised band standard.

On 1 November 2011, following a written recommendation from the ACMA, the Minister made a declaration under section 153B of the Act, the *Radiocommunications (Spectrum Re-allocation) Declaration No. 2 of 2011* (the **Minister's Declaration**), declaring that specific parts of the 2.5 GHz band would be subject to re-allocation by spectrum licensing. The government's goal in reallocating the spectrum is to maximise the overall public benefit derived from the use of that spectrum. The re-

allocation of this spectrum promises benefits to business, consumers and the broader Australian community in the form of service improvements, greater connectivity and productivity gains.

The Minister's Declaration identified two separate blocks of 70 MHz spectrum for re-allocation that lie in the frequency bands between 2500 MHz–2570 MHz and 2620 MHz–2690 MHz. These frequencies will be reallocated across Australia, with the exception of a region known as the Mid West Radio Quiet Zone (the **RQZ**) in Western Australia. The RQZ has been excised from this re-allocation process to avoid radiofrequency interference at scientific radio-astronomy observatories on this site. The specific frequency and geographic boundaries for the 2.5 GHz re-allocation are set out in the Minister's Declaration.

The Minister's Declaration also sets the re-allocation period. All apparatus licensees using the parts of the spectrum described must cease operating radiocommunications devices by the end of the re-allocation period. In Perth and a surrounding region (the 'Perth Area', as defined in the Minister's Declaration), the re-allocation period will end on 31 January 2016. This date takes account of the specific circumstances that make it undesirable for the current licensees to vacate the band earlier. However, in all other areas of Australia, the re-allocation period will end on 30 September 2014. The re-allocation period is intended to provide sufficient time for incumbent licensees to leave the 2.5 GHz band. New licences will only authorise the use of radiocommunications devices after the re-allocation period has elapsed in the coverage area of the licence.

A re-allocation deadline (30 September 2013) is also stated in the Minister's Declaration. This sets the date by which the ACMA must have allocated at least one spectrum licence for the parts of the spectrum affected by the Minister's Declaration. If this does not occur, the Minister's Declaration will automatically be considered to have been revoked, and will cease to apply immediately after the re-allocation deadline. However, this deadline date does not preclude the spectrum being allocated earlier.

Under subsection 39A(2) of the Act, the ACMA must prepare a marketing plan for issuing spectrum licenses that authorise the use of radiocommunications devices in parts of the spectrum described by the Minister's Declaration. The Marketing Plan is the document required under this provision for the 2.5 GHz band re-allocation. The ACMA must also determine the procedures for allocating spectrum licences under section 60 of the Act. These are set out in the *Radiocommunications (Spectrum Licence Allocation – Combinatorial Clock Auction) Determination 2012* (the **Allocation Determination**).

At present, the 2.5 GHz band is almost exclusively licensed for use by the three commercial free-to-air television broadcasters and the Australian Broadcasting Corporation for ENG services. These services facilitate television broadcasting coverage of events remotely located from broadcasting studios (also known as outside broadcasting). While most of the 2.5 GHz band will be opened up to WAS and other services, the middle part of the band (referred to as the mid-band gap) between 2570 MHz and 2620 MHz will be retained for use by incumbent ENG licensees.

The ACMA will be allocating spectrum under the Minister's Declaration together with spectrum from the 700 MHz band (declared to be subject to re-allocation by the issue of spectrum licensing under the *Radiocommunications (Spectrum Re-allocation) Declaration No. 1 of 2011*) in a single auction process. Licences in the 2.5 GHz band issued in this allocation will commence after ENG services have been cleared from the band.

Marketing Plan Operation

The Marketing Plan is one of a set of legislative instruments that gives effect to the Minister's Declaration to reallocate the specified range of frequencies in the 2.5 GHz band (a complete list of the relevant instruments is provided at the end of this section).

The purpose of the Marketing Plan is to describe the spectrum ‘product’ that will be offered at auction. In doing so, it identifies the spectrum that will be allocated and defines how this spectrum will be divided into lots for applicants (bidders) to acquire in the auction process. In addition, it sets out some of the technical and non-technical conditions that may apply to spectrum licences and other matters that licensees should take into account when operating devices under a spectrum licence.

The Marketing Plan also notes the method by which the ACMA will conduct the allocation, although limited details of the allocation procedure and related administrative arrangements are included in this document. Full details of the allocation procedure are set out in the Allocation Determination. With the expected high demand for spectrum in the 2.5 GHz band, the ACMA considers that a price-based method of allocation, namely an auction, to be the most efficient means of allocating this spectrum. The ACMA has chosen the Combinatorial Clock Auction (**CCA**) methodology, delivered through a secure online system, as the auction method to be used to conduct the auction.

The 2.5 GHz band spectrum to be reallocated will be divided into auction lots that are defined by their geographic area and bandwidth range. The spectrum has been disaggregated into 11 geographic licence areas that cover metropolitan, regional and remote parts of Australia. Remote area licences exclude the excised RQZ. In each licence area, 14 lots of 10 MHz each will be available in a paired configuration (2x5 MHz). A lot will consist of a block of 5 MHz in each of the lower (2500 MHz – 2570 MHz) and upper (2620 MHz – 2690 MHz) parts of the band. The paired configuration enables the use of WAS technologies such as 4G Long Term Evolution (**LTE**).

The technical conditions applied to spectrum licences are drawn from the ACMA’s technical framework developed for the 2.5 GHz band in consultation with industry stakeholders. The technical framework is partly set out in the Marketing Plan sections on licence conditions and the sample spectrum licence. They are also set out in the *Radiocommunications (Unacceptable Levels of Interference – 2.5 GHz Band) Determination 2012* (the **Unacceptable Interference Determination**) and the radiocommunications advisory guidelines documents listed at the end of this section. These conditions place constraints and regulations on the use of spectrum licences to allow all licensees to operate services without causing undue interference to other services operating in other parts of the radiofrequency spectrum. Core conditions (in accordance with section 66 of the Act) will apply to spectrum licences in terms of:

- > defining their geographic boundaries
- > defining their range of frequencies
- > setting out-of-area radio emission limits
- > setting out-of-band radio emission limits.

In addition, the Marketing Plan discusses other relevant obligations, including spectrum trading rules, use by third parties and registration of transmitters with the ACMA. Licence commencement and licence duration are also described.

Spectrum licences reallocated under the Minister’s Declaration in the 2.5 GHz band will commence from 1 October 2014, except in regions within the Perth Area as defined in the Minister’s Declaration. Licences issued for regions within the Perth Area will not commence until 1 February 2016. These start dates align with the end of the re-allocation periods inside and outside the Perth Area.

A sample spectrum licence provided in the Schedules to the Marketing Plan also contains information relating to core and other conditions that may apply to the operation of a service under the spectrum licence. The spectrum licences issued by the ACMA may contain additional or varied conditions.

The set of legislative instruments, including the Marketing Plan, are relevant to the re-allocation of the 2.5 GHz band, are listed below.

- > *Radiocommunications (Spectrum Re-allocation) Declaration No. 2 of 2011*
- > *Radiocommunications Spectrum Marketing Plan (2.5 GHz Band) 2012*
- > *Radiocommunications (Spectrum Licence Allocation – Combinatorial Clock Auction) Determination 2012*
- > *Radiocommunications (Unacceptable Levels of Interference – 2.5 GHz Band) Determination 2012*
- > *Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 2.5 GHz Band) 2012*
- > *Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 2.5 GHz Band) 2012*

A description of each section in the Marketing Plan is provided in Attachment A.

Consultation

The ACMA has consulted extensively with stakeholders about its plans for the re-allocation of the 2.5 GHz band generally, and on the Marketing Plan in particular. A variety of communication methods have been used to reach as many stakeholders as possible at each stage of the re-allocation planning process.

The ACMA undertook a review of the 2.5 GHz band during 2010. In January 2010, it released the discussion paper, *Review of the 2.5 GHz band and long term arrangements for ENG*. This paper sought public comment on a range of options for future licensing arrangements, planning and pricing for the 2.5 GHz band. The purpose of the review was to determine the use of this band that would maximise the overall benefit derived from that spectrum. It also sought to identify long-term arrangements for ENG services that currently use this band. Such arrangements included finding alternative bands that could accommodate ENG services in the future.

The ACMA received a total of 42 written submissions in response to the discussion paper. All submissions are published on the ACMA's website at www.acma.gov.au. Stakeholder views expressed in these submissions have been taken into consideration in subsequent auction planning.

The ACMA also consulted with potentially affected apparatus licence holders and the public prior to recommending to the Minister, under section 153F of the Act, that he specify parts of the 2.5 GHz band for re-allocation. In accordance with section 153G of the Act, the ACMA prepared a draft recommendation, published the terms of this recommendation, and sought comment from potentially-affected licensees. The consultation began at the start of June 2011 and concluded on 15 July 2011. Three written submissions commented on the draft terms of the 2.5 GHz recommendation, which the ACMA had regard to when preparing its final recommendation to the Minister. All written submissions are available on the ACMA's website at www.acma.gov.au.

The ACMA has engaged with incumbent licensees, prospective new licensees and other public stakeholders during the development of the Marketing Plan and associated legislative instruments. In addition to this, spectrum licensees and industry representatives have provided input into the preparation of the technical framework that forms part of the 2.5 GHz band Marketing Plan through extensive involvement in a technical working panel (the **Technical Liaison Group**) organised and chaired by the ACMA.

Stakeholder views were also taken into account in the development of the Marketing Plan. During the preparation of a draft version of the Marketing Plan, the ACMA held the *Digital Dividend Auction Tune-Up 2011*, an industry forum which presented stakeholders with details on preliminary approaches being considered on several key parts of the spectrum auction planning process. Presentations and details of this event are available on the ACMA's *engage* website (www.engage.acma.gov.au). The ACMA also undertook preliminary consultation (through the ACMA's *engage* website) on its proposed approaches to key auction planning issues, such as lot configuration and licence commencement.

A draft version of the Marketing Plan was subsequently released for detailed public consultation on 11 April 2012. The Marketing Plan was released as part of a package of draft allocation instruments, together with the explanatory information paper, *Draft allocation instruments for the allocation of spectrum in the 700 MHz and 2.5 GHz bands (the digital dividend auction)*. A revised draft of the Marketing Plan, prepared following comments on the initial draft, was released for a second round of detailed public consultation on 31 August 2012.

The ACMA took the views of stakeholders into consideration during the re-drafting of the Marketing Plan, including the final version of this instrument.

Documents Incorporated into the Marketing Plan by Reference or Otherwise Referred to

The Marketing Plan incorporates the following documents by reference, or otherwise refers to them:

- > RALI MS-32 Coordination of Apparatus Licensed Services Within the Mid West Radio Quiet Zone, which are Radiocommunications Assignment and Licensing Instructions that provide processes for co-ordination with the RQZ. These instructions are available from the ACMA's website at www.acma.gov.au.
- > The Australian Spectrum Map Grid 2012 – The Australian Spectrum Map Grid (**ASMG**) is used to identify geographic areas of spectrum licences. This document describes ASMG and the Hierarchical Cell Identifier Scheme (**HCIS**) that the Marketing Plan uses to define licence areas. This document is on the ACMA's website.

The Marketing Plan also incorporates or refers to the following instruments and Acts:

- > *Radiocommunications (Spectrum Licence Allocation – Combinatorial Clock Auction) Determination 2012*
- > *Radiocommunications Act 1992*
- > *Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 2.5 GHz Band) 2012*
- > *Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 2.5 GHz Band) 2012.*
- > *Radiocommunications (Spectrum Re-allocation) Declaration No. 2 of 2011*
- > *Radiocommunications (Register of Radiocommunications Licences) Determination 1997*
- > *Radiocommunications (Trading Rules for Spectrum Licences) Determination 2012*
- > *Australian Communications and Media Authority Act 2005*
- > *International Tax Agreements Act 1953*
- > *Income Tax Assessment Act 1997*
- > *Radiocommunications Licence Conditions (Apparatus Licence) Determination 2003*

- > *Radiocommunications (Mid-West Radio Quiet Zone) Frequency Band Plan 2011*
- > *Radiocommunications (Labelling) Determination 1997*

These instruments and Acts can be found on the Australian Government's ComLaw website (www.comlaw.gov.au/).

In accordance with subsection 314A(2) of the Act, a legislative instrument made under the Act may incorporate a matter contained in any other instrument or writing as in force from time to time, even if the other instrument or writing does not exist at the time the first instrument is made.

Detailed Description of the Instrument

Details of the instrument are in Attachment A.

Regulation Impact Statement

A regulation impact statement (**RIS**) entitled, *Lot configuration for the digital dividend auction*, was prepared by the ACMA to inform decision-making by the Authority on how to divide the 2.5 GHz spectrum for re-allocation into lots for auction. The definition of lots available in the 2.5 GHz spectrum auction is included in the Marketing Plan. This RIS has been approved by the Office of Best Practice Regulation (the **OBPR**) and will be published on the OBPR website (<http://www.finance.gov.au/obpr/about/>). Based on advice from the OBPR, no further aspect of the Marketing Plan warranted the preparation of a RIS (OBPR issue reference ID13105).

Statement of Compatibility with Human Rights

In accordance with Part 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*, the ACMA has prepared a Statement of Compatibility with Human Rights (the **Statement of Compatibility**) to consider the human rights implications of the Marketing Plan. The Statement of Compatibility concludes that the content of this legislative instrument does not raise any human rights issues and is therefore regarded as being compatible with human rights. The Statement of Compatibility prepared for this instrument is provided in Attachment B.

DETAILED DESCRIPTION OF THE INSTRUMENT**Part 1 Introduction****Section 1.1 – Name of Plan**

This section gives the name of the Marketing Plan as the *Radiocommunications Spectrum Marketing Plan (2.5 GHz Band) 2012*.

Section 1.2 – Commencement

This section specifies when the Marketing Plan will come into effect. The Marketing Plan commences the day after it is registered on the Federal Register of Legislative Instruments.

Section 1.3 – Purpose of this Plan

This section lists the matters contained in the Marketing Plan, which should be taken into account by prospective auction applicants. The Marketing Plan should be read in conjunction with the Allocation Determination for a more complete understanding of all allocation procedures.

Section 1.4 – Definitions

This section provides definitions of terms used in the Marketing Plan. These are designed to assist the reader in interpreting the Marketing Plan. Where a defined term is explained in more detail in this explanatory statement, a cross reference to the relevant section is given below.

Australian spectrum map grid (ASMG): See section 3.6.

HCIS identifier: See section 2.4.

Hierarchical Cell Identifier Scheme (HCIS): See section 3.6.

lot: See section 2.4.

lot rating: See section 2.4.

product: See section 2.4.

region: See section 2.4.

spurious emission: See Schedule 5.

Part 2 Allocation of spectrum licences**Section 2.1 – Purpose of this Part**

This section provides a brief description of topics that are covered by Part 2. These include the procedures and timetable for allocating spectrum under the Marketing Plan. This section is intended to aid readers to navigate through the document and quickly find sections of interest.

Section 2.2 – Parts of the spectrum

This section explains that 2.5 GHz band spectrum defined in the Minister's Declaration will be allocated under the conditions and procedures described in the Marketing Plan and accompanying Allocation Determination. No part of the spectrum identified in the Marketing Plan has been set aside for public or community services.

If the Minister's Declaration is revoked under the Act, the Marketing Plan will have no effect. The declaration will be taken to have been revoked if no spectrum licence is allocated by the re-allocation deadline of 30 September 2013.

Section 2.3 – How licences will be allocated

This section states that the primary means of allocating spectrum licences in the 2.5 GHz band will be by auction using the CCA methodology. The rules and procedures that apply to the auction are set out in the Allocation Determination for this re-allocation process.

The ACMA has chosen the CCA as the auction methodology that is most likely to deliver an efficient outcome and enable spectrum to be allocated to persons who value it the highest. This decision took into account the fact that 700 MHz band spectrum will be allocated in the same auction process as the 2.5 GHz band spectrum. These bands can offer complementary signal propagation characteristics when used to deliver mobile communications service over a wide-scale network.

The major attributes that make the CCA methodology suited to maximising the efficient allocation of 2.5 GHz and 700 MHz band spectrum in the combined band auction are described below:

- > It allows package bidding – this will give bidders a high level of flexibility to bid on packages of lots within a single band or across bands. Bidders have certainty that if they win lots, they will win all lots in a package, rather than risk exposing themselves to winning only part of a package that may be insufficient for their business needs.
- > The CCA enables bidders to easily change their bidding strategy to switch to different packages that may become more profitable to them as the auction progresses. That is, bidders may wish to bid on an alternative package when the difference between the bidder's valuation of the package currently being bid on and the current auction price becomes less than the equivalent difference for an alternative package. This situation may occur as the price rises higher than anticipated for a particular product or when the ratio of prices between different products changes significantly over the course of the auction.
- > The package bidding nature of the CCA methodology also makes it well adapted to auctions where complementary products are on offer. Products are complementary where the bidders place a higher value on acquiring a set of items than the sum of the individual value of each item in the set. With bidders having certainty that they can only win whole packages of lots, they are able to express their true value for complementary products in the auction. As spectrum in complementary bands is being offered, this attribute is especially relevant.

In the circumstances that not all 2.5 GHz (or 700 MHz) band spectrum on offer is allocated in the auction, the ACMA may choose to hold a further allocation procedure or procedures. The method used and the configuration of the spectrum offered in any subsequent allocation process will be determined by the ACMA at a later date.

Section 2.4 – The auction

This section sets out how the allocation will take place, partly by reference to the procedures set out in the Allocation Determination. It also provides a detailed summary of the allocation process.

It explains that the spectrum being reallocated in the 2.5 GHz band has been divided by the ACMA into smaller blocks (referred to as *lots*) for auction. Each lot is defined by a specific geographic area (regions) and a frequency bandwidth. In the 2.5 GHz band, lots will cover metropolitan, regional and remote geographic areas and will each consist of 5 MHz in the 2.5 GHz lower band paired with 5 MHz in the 2.5 GHz upper band. Schedule 3 of the Marketing Plan defines the different regions specified for each of the lots in this allocation.

Lots have also been given a category for the purposes of the auction. Categories have been created to divide the 2.5 GHz (and 700 MHz) spectrum being reallocated under the Allocation Determination into separate bands. For the auction, all 2.5 GHz lots have been assigned to a single category referred to as the '2.5 GHz band'. This category is defined by the frequency ranges set out in

Schedule 1 and the bandwidth of spectrum lots in the 2.5 GHz band category. The name and number used to describe the category are set out in Schedule 1.

Lots that are identical, that is, they belong to the same category and share a common geographic region and bandwidth, collectively comprise units of a *product*. All spectrum earmarked for re-allocation in the Minister's Declaration will be assigned to a specific product type. The products available in the 2.5 GHz band are defined in Schedule 2 of the Marketing Plan. The bandwidth of units (lots) are specified in column 5 ('Bandwidth') of Schedule 1.

The lots specified in this Marketing Plan will be auctioned in accordance with the allocation procedures set out in the Allocation Determination. Lots in the 2.5 GHz spectrum band will be auctioned simultaneously with lots in the 700 MHz band, using the CCA methodology. This auction will allow bidders to place bids on lots within either the 2.5 GHz band, or the 700 MHz band, or on packages of lots in both bands.

This section states that the ACMA will notify auction applicants of the lot rating for each lot under section 4.6 of the Allocation Determination. The ACMA will publish these ratings on its website within 70 days of a notice about the auction being published under subsection 4.4(1) of the Allocation Determination. Lot ratings determine the relative value of a spectrum lot for the purpose of the auction. Each lot is ascribed a lot rating, with lots regarded as being of higher value given a higher lot rating. All lots in a product will have the same lot rating.

Lot ratings play an important role in the auction. As part of the registration process, each auction applicant is required to nominate a total (or aggregate) amount of lot ratings for the lots that they want to obtain. This will set their initial eligibility, which is a numerical quantity that limits the size of packages (in terms of their combined lot ratings) that an applicant can bid for during the clock round phase of the auction. The initial eligibility, in combination with the dollar value of initial eligibility points set by the ACMA under paragraph 4.6(1)(b) of the Allocation Determination, will be used to calculate an applicant's initial eligibility payment. The eligibility payment must be made to the ACMA prior to the auction, as a participation amount, a deed of financial security, or a combination of these two payment methods.

In accordance with the Allocation Determination, the auction will be held in two stages, an allocation stage and an assignment stage. The allocation stage determines the number and type of products that will be allocated, along with the allocation price to be paid for these products by each winning bidder. The assignment stage determines the exact frequency boundaries of each allocated lot and the final price to be paid by successful bidders.

At the end of the auction, providing that specific post-auction conditions set out in the Allocation Determination, the Act and other laws are met, the ACMA will issue spectrum licences to the successful bidders. Spectrum licences issued under the Marketing Plan will go to each person allocated a product in the auction.

Subject to the requirements of the Act, other laws and the Allocation Determination, a spectrum licence will be issued for the lots of each product won and at the frequencies assigned during the assignment stage of the auction. Successful bidders who meet these requirements and who have been allocated spectrum in one or both of the 'Metro Perth' and 'Regional Western Australia' regions (as defined in Schedule 3 of the Marketing Plan), will be issued a spectrum licence for the use of spectrum in those lots. Successful bidders who have been allocated lots outside the 'Metro Perth' and/or the 'Regional Western Australia' region will be issued another spectrum licence for those other lots, regardless of whether or not they have also been allocated lots in the 'Metro Perth' and 'Regional Western Australia' regions. Separate spectrum licences will be issued for these two parts of Australia

because they will each have different commencement dates. Section 3.4 below explains the need for different licence commencement dates.

Section 2.5 – Advertising the auction

This section refers to the requirement that the ACMA advertise the details of the spectrum auction in accordance with the Allocation Determination, in which this process is described in more detail. The notice published will invite persons to apply to participate in the auction.

Section 2.6 – Taking part in the auction

This section specifies that detailed information about the auction and the application process will be made available by the ACMA in the Applicant Information Package (the **AIP**) in accordance with the Allocation Determination. The AIP will be made available prior to the application process. The contents of the AIP are set out in section 4.5 in the Allocation Determination.

The AIP will contain important information about the auction for potential participants. It will describe how to apply to participate in the auction, and will include copies of all necessary forms and documents to participate in the auction. Section 4.5 of the Allocation Determination contains a complete list of the documents and forms that will be included in the AIP. The AIP will also include copies of the legislative instruments that are relevant to the re-allocation of spectrum in the 2.5 GHz band.

This section also explains that information about how to apply to participate in the auction is included in Part 4 of the Allocation Determination.

Part 3 Spectrum licences to be issued

Section 3.1 – Purpose of this Part

This section provides an overview of the subjects covered by this Part and is intended to aid readers to navigate through the document quickly to find sections of interest.

Part 3 describes the spectrum licences that will be issued in accordance with the Marketing Plan, as well as some of the matters that prospective applicants should consider when deciding whether to apply for a spectrum licence under this Marketing Plan (prospective applicants should in all cases, seek their own legal, technical and financial advice before applying). It also covers some of the matters that a licensee must take into account when operating a radiocommunications device under a licence obtained under this Marketing Plan.

Section 3.2 – Issue of licences

This section describes when the ACMA will issue spectrum licences in the 2.5 GHz band. The licence will be issued to a successful applicant as soon as practicable after that applicant has paid the balance of the winning price in accordance with the Allocation Determination.

Section 3.3 – Duration of licences

This section explains that spectrum licences issued in the 2.5 GHz band allocation will generally last for a period of 15 years from the date the licence commences.

However, spectrum licences that are issued solely for the 'Metro Perth' and 'Regional Western Australia' (defined in Schedule 3), will come into effect on 1 February 2016 to align with the end of the re-allocation period for the 'Perth Area' (which describes a geographically equivalent area). In this case, spectrum licences will have a duration of less than 15 years (that is, a duration of 13 years and 8 months) as the ACMA is proposing to end all spectrum licences in the 2.5 GHz band at the same time.

If any lots in the 2.5 GHz band remain unallocated after the auction, the ACMA may choose to allocate some or all of those lots at a later date. This section states that licences for lots allocated after the auction will start on a date to be determined by the ACMA and will have less than 15 years duration in order to have all licences in the 2.5 GHz band expire on the same date.

The 15-year licence duration is the maximum term permitted under section 65 of the Act. The ACMA has set the licence duration for the maximum period to provide long-term certainty to licence holders. This has the aim of encouraging licensees to invest in new networks or services, thereby enabling spectrum to move to its highest value use. However, in cases where later commencement dates are necessary, the ACMA considers that it is preferable to have shorter licence durations so that the expiry of all spectrum licences in the 2.5 GHz band can be aligned, rather than having a 15 year duration for all licences and a staggered end to licences in the band.

Aligning the expiry dates of all licences in the band will maximise the flexibility available to licensees for spectrum trading. It will also reduce the chance of band fragmentation and will provide the government with more flexibility in planning the re-allocation of this spectrum when the new licences expire.

Section 3.4 – Commencement of licences

This section specifies when a spectrum licence issued as a result of the auction will commence. Upon commencement, a licence holder is entitled to use the spectrum in accordance with the conditions of that licence.

Spectrum licences for lots in the 'Metro Perth' and 'Regional Western Australia' regions of the 2.5 GHz band allocated through the auction process set out in the Allocation Determination will commence on 1 February 2016. Spectrum licences allocated through the auction process that authorise the operation of radiocommunications devices in all other regions of Australia will commence on 1 October 2014.

The two licence commencement dates have been chosen to allow 2.5 GHz band spectrum to be used by new licensees as soon as incumbent licensees have vacated the band. This will minimise the time that this valuable public spectrum resource lies unused.

In selecting the commencement dates, the ACMA has taken into account the dates set for the re-allocation period in the Minister's Declaration. Under the Minister's Declaration, incumbent licensees operating in the spectrum to be reallocated must cease operating radiocommunications devices in the spectrum by:

- > 31 January 2016, for areas covered by the 'Metro Perth' and 'Regional Western Australia' regions for this auction (referred to as the 'Perth Area' in the Minister's Declaration).
- > 30 September 2014, for all other parts of Australia (except for the Radio Quiet Zone in Western Australia, or RQZ).

The later commencement date for spectrum licences in parts of Western Australia relates to the current Earth station operations at Lansdale (approximately 17 km from the Perth central business district). These operations use spectrum in the alternative bands identified for ENG services in the Perth area, meaning that ENG operations cannot relocate and commence in those bands without a risk of unacceptable levels of interference to earth station operations. It is anticipated that the earth station operations will relocate out of these bands at the end of 2015.

Section 3.5 – Core licence conditions

Under section 66 of the Act there are a number of core conditions which a spectrum licence must include. This section sets out these core conditions, including the geographic area and frequency bandwidth in which a radiocommunications device can be operated under a spectrum licence.

Section 3.6 – Determining core licence conditions

This section explains how the core conditions for spectrum licences issued in the 2.5 GHz band as a result of the auction are determined. Where 2.5 GHz band spectrum is left unallocated after this auction, the ACMA may choose to allocate this spectrum in a second auction. For spectrum licences allocated in a second auction in accordance with the Allocation Determination, this section also explains how the frequency band and geographic area core conditions of spectrum licences are determined.

Each licence will specify the range of frequencies that the new licensee has been allocated in accordance with the Allocation Determination. These will be the frequencies assigned to the spectrum lots won at the end of the assignment stage of the auction, providing that the successful applicant has satisfied all post-auction obligations under the Allocation Determination and the Act. If a licensee has been allocated more than one spectrum lot, the licence issued may specify the aggregate frequency range for the spectrum lots won.

Spectrum licences in the 2.5 GHz band will each consist of a minimum of 10 MHz of spectrum in a paired configuration (2x5 MHz).

Smaller spectrum blocks are inappropriate for either 3G or 4G mobile telecommunications technologies (the most likely uses of the 2.5 GHz band). However, bidders who wish to acquire larger blocks of spectrum are still able to bid on multiple blocks of 2x5 MHz spectrum to build up larger amounts of spectrum (e.g. 2x10, 2x15 or 2x20 MHz), subject to the constraints set out in the Minister's direction, *Radiocommunications (Spectrum Licence Limits) Direction No.2 of 2012* (the **Minister's Direction**), as amended. The Minister's Direction caps the amount of spectrum that any person or related group of persons can use after the auction. The flexibility to bid on multiple blocks of spectrum will allow auction participants to bid on packages which best suit their business needs and to take advantage of the greater technical efficiency that wider bandwidths offer to technologies such as LTE.

Each licence will also specify the geographic area over which the licence will apply. The geographic area will be the region specified for the spectrum lots that have been issued as a result of the auction. The geographic area will correspond to the region described in Schedule 3 of the Marketing Plan for the products won.

Spectrum licences in the 2.5 GHz band allocation will cover 11 market areas disaggregated across metropolitan, regional and remote parts of Australia. The eight metropolitan areas consist of Melbourne, Sydney, Perth, Adelaide, the ACT, Hobart, Brisbane and Darwin. The two regional licence areas are Regional East Australia, which takes in regional parts of Queensland, NSW, Victoria, South Australia and the remainder of Tasmania, and Regional Western Australia, which covers a large area within Western Australia surrounding Perth. The Remote Australia licence area takes in all other parts of Australia.

Disaggregated geographic licence areas for the 2.5 GHz band were selected in consideration of technical factors and stakeholder feedback. The propagation characteristics of the 2.5 GHz spectrum make this band more likely to be used to support or boost carrying capacity for delivery of mobile communications networks using technologies such as 4G LTE, rather than provide a foundation for a widespread mobile network. As a result, the 2.5 GHz band use is unlikely to be uniform across Australia, and instead be concentrated in more densely populated centres.

The ACMA's disaggregation of geographic areas into metropolitan, regional and remote areas in the 2.5 GHz band recognises the likely uneven usage of the band and is consistent with the views of stakeholders who commented on this issue.

Previous marketing plans have provided a set of geographic co-ordinates to define the outer boundary of each spectrum lot available for allocation. However, this Marketing Plan incorporates a new identifier scheme adopted by the ACMA in 2012 (the Hierarchical Cell Identifier Scheme, or **HCIS**) to define the geographic area of lots.

Under this system, lot areas are defined, not by co-ordinates, but by referring to a set of identifiers which collectively correspond to a single lot area on the Australian Spectrum Map Grid (the **ASMG**). The ASMG is described in more detail, including with the use of geographic co-ordinates to define the ASMG outer boundary, in the ACMA information paper, *The Australian spectrum map grid 2012*, available from the ACMA's website at www.acma.gov.au.

The ASMG divides the Australian land mass into a grid of squares (termed cells) of four sizes, corresponding to sides of length 3 degrees, 1 degree, 15 minutes and 5 minutes of arc. The new identifier scheme is aligned to this tiered structure, with cells at each size given a unique identifier name. Under this system, spectrum lots are comprised of a collection of unique identifiers that cover the required geographic area on the ASMG. Spatial data files (in Shapefile format), which are available from the ACMA's website, may be used to generate a map of an area defined by a set of HCIS identifiers with geographic information software.

The HCIS provides for a more detailed description of geographic areas through aggregation of smaller cells into complete larger blocks of cells and is likely to provide greater flexibility to licensees for future spectrum trading.

An indicative representation (map) to illustrate the area of each region is shown in Schedule 3.

Subsections 3.6(3) and 3.6(4) of the Marketing Plan explain that the emission limits that will apply as a licence condition upon the licences issued in accordance with this Marketing Plan will be calculated in accordance with Schedules 4 and 5 of the Marketing Plan. These Schedules, respectively, are used to calculate the maximum emission limits allowable outside the geographic area, and outside the frequency band, of the spectrum licences as part of the core conditions of each licence.

Section 3.7 – Other licence conditions

This section identifies other kinds of statutory licence conditions and other licence conditions that will also apply to each spectrum licence issued under this allocation process, but which are not included in the core conditions of a licence. These include residency requirements of the licensee and the obligations for payment to the ACMA of applicable charges before a spectrum licence can be issued. The ACMA may also include conditions about other matters, including conditions relating to interference management. Some of these conditions are included in the sample licence at Schedule 6.

An interference management-related licence condition will provide protection to the RQZ. The RQZ is an area where emissions from radiocommunications devices are restricted to assist with the development and use of new radio astronomy technologies. It is the site of the CSIRO Murchison Radio-Observatory and the potential site of the Square Kilometre Array telescope, a major international scientific project supported by the Commonwealth and Western Australian governments.

In July 2011, following public consultation, the ACMA implemented enhanced protection measures for the RQZ by making a new frequency band plan and other legislative instruments (and amendments). The 2.5 GHz band spectrum licences will include a condition that must be observed where a licence surrounds or is adjacent to the RQZ. These conditions are consistent with the enhanced protection measures, and are designed to prevent harmful interference to radio astronomy services at the site. An example of the licence condition is included in Licence Schedule 4 in the sample spectrum licence at Schedule 6 of the Marketing Plan.

Pursuant to section 71 of the Act, the ACMA may include conditions about such other matters as it thinks fit. The ACMA may also include conditions in a spectrum licence that are not included in the sample spectrum licence.

The Marketing Plan does not deal with all the requirements a licensee may need to meet when using a radiocommunications device, only the requirements imposed by or under the Act.

Section 3.8 – Registration of transmitters

Under Part 3.5 of the Act, the ACMA is required to register all spectrum licences, and certain details of radiocommunications devices (except in particular cases) that are operated under each spectrum licence. This section of the Marketing Plan states that all spectrum licences issued under this allocation will include a condition that prevents the operation of a radiocommunications transmitter unless all requirements for registering the transmitter under Part 3.5 have been met to the satisfaction of the ACMA. This is a mandatory licence condition for inclusion in all spectrum licences under subsection 69(1) of the Act. This section of the Marketing Plan also makes provision for allowing transmitters that are part of a group of transmitters to be registered separately or as a group.

The ACMA has the discretion to refuse to register a transmitter under subsection 145(1) of the Act if it forms the view that operating the device in question will cause unacceptable levels of interference to the operation of another transmitter, either under the same or another licence. Unacceptable levels of interference are specified in the Unacceptable Interference Determination made under section 145 of the Act.

However, under subsection 69(2) of the Act, the ACMA may include an exemption from the registration requirements within the mandatory spectrum licence condition, as set out in section 69(1) of the Act.

Transmitters operated in the 2.5 GHz band with a radiated maximum true mean power no more than 35 dBm per 5 MHz (typically mobile or fixed indoor transmitters) will be exempt from the requirement to be registered. Provided these low power transmitters meet emission mask requirements of the spectrum licence, the ACMA considers that they will not cause unacceptable interference. This exemption is included in Licence Schedule 3 of the sample spectrum licence at Schedule 6 of the Marketing Plan.

Section 3.9 – Draft sample licence

This section states that a sample spectrum licence is available at Schedule 6 of the Marketing Plan. The sample spectrum licence sets out the technical and other conditions that may apply to spectrum licences issued in a part of the spectrum referred to in the Minister's Declaration. However, the conditions in the sample spectrum licence may not reflect the actual conditions included in a spectrum licence issued to a winning bidder.

Section 3.10 – Compatibility requirements

This section explains the purpose of the ACMA Radiocommunications Advisory Guidelines (made under section 262 of the Act) that relate to the re-allocation of the 2.5 GHz band.

Part 4 After allocation

Section 4.1 – Purpose of this Part

This section sets out the purpose of this Part, which is to explain matters that apply after the spectrum licences are issued under the Marketing Plan.

Section 4.2 – Registration of licences

This section specifies that, in accordance with Part 3.5 of the Act and the *Radiocommunications (Register of Radiocommunications Licences) Determination 1997* (the **Register Determination**), the ACMA must register the details of spectrum licences on the Register of Radiocommunications Licences (the **Register**). The Register is a publicly available database that is available on the ACMA's website.

Part 3.5 of the Act and the Register Determination set out the information that the Register is required to contain, including the name and postal address of the licensee, the licence date of issue and expiry date. The Register may also include details of third party authorisation to use a licence and details of radiocommunications devices to be used under a licence.

Section 4.3 – Third party use

This section highlights that a licensee may permit third parties to operate radiocommunications devices under any licences it holds. Any such arrangement must comply with Division 1 of Part 3.2 of the Act, which includes provisions governing third party use.

Section 4.4 – Trading in licences

This section provides that a licensee may assign, or otherwise deal with, the whole or any part of a licence in accordance with Division 5 of Part 3.2 of the Act. Section 4.5 of the Marketing Plan provides further details about the rules for trading in spectrum licences issued under this Plan.

Section 4.5 – Trading rules

This section ensures that licensees who wish to trade part or all of a spectrum licence in a secondary market are made aware that they must comply with the trading rules made by the ACMA under section 88 of the Act.

In part, the trading rules define the minimum block of spectrum and geographic area that (a) may be traded to a third party, and (b) must be retained by the licensee. The full trading rules are set out in *Radiocommunications (Trading Rules for Spectrum Licences) Determination 2012*.

Section 4.6 – Agreements about emission limits

This section explains the purpose for which an agreement about emission limits can be made. Licensees who are issued 2.5 GHz band spectrum licences that are adjacent to one another may wish to establish agreements that allow a licensee to exceed their out-of-band or out-of-area core licence conditions. The word 'adjacent' can refer to spectrum licences that share a geographic boundary, a boundary between frequency bands, or both. This section explains the conditions under which these agreements can be made by reference to Schedules 4 and 5 in the Marketing Plan.

When such an agreement is in place, that agreement effectively sets the emission limits that apply to that licence under section 3.6 of the Marketing Plan and in accordance with Schedules 4 and 5. Schedules 4 and 5 provide that such an agreement must be in writing.

Section 4.7 – Spectrum licences that are about to expire

This section explains the actions that the ACMA will take to determine market interest in spectrum licences which are about to expire. In accordance with section 78 of the Act, the ACMA will publish a notice about spectrum licences that are due to expire within the period set out in the notice. The notice will invite expressions of interest from people wishing to obtain those expiring spectrum licences. This information will be published in the *Gazette* and will also be published on the ACMA's website.

Section 4.8 – Re-issue of licences

This section explains what the ACMA will do when spectrum licences expire. Under Division 4 of Part 3.2 of the Act, the ACMA may decide to re-issue a spectrum licence to the existing licence holder

when it expires, if it is in the public interest to do so. Alternatively, the ACMA may offer the spectrum licence for re-allocation by auction, tender, or pre-determined or negotiated price. A re-issued licence may be different to the original licence, including by having different conditions placed on the licensee.

Schedule 1 Category

This Schedule defines the category referred to in subsection 2.4(1) of the Marketing Plan. In the 2.5 GHz band, the ACMA has created a single category for the purposes of the auction.

Schedule 1 provides details of the 2.5 GHz band category by name, number, and lower and upper paired frequency ranges. It also provides the bandwidth of all spectrum lots in the category.

Spectrum within a category is considered to have similar spectrum qualities and be subject to the same or very similar non-core licence conditions. Spectrum in the 2.5 GHz band has distinctly different properties from the 700 MHz band, which is being auctioned simultaneously. All spectrum being reallocated in the 2.5 GHz band will belong to the same category (the '2.5 GHz band') because of the similar properties of the spectrum across the band, and the consistent licence conditions that will apply to its use.

The category to which a lot has been assigned is one of several characteristics used to define groups of lots, referred to as products.

Schedule 2 Products

This Schedule defines each 2.5 GHz band spectrum product that will be offered during the auction.

A product for the purposes of this Marketing Plan is the set of spectrum lots that have the same geographic area (region) and bandwidth, and belong to the same category.

For each product in the 2.5 GHz band, Schedule 2 lists the product name, its category number, its region, the number of lots that are available. The bandwidth of lots in each product is shown in column 5 ('Bandwidth') of Schedule 1.

Schedule 3 Regions

This Schedule specifies the geographic areas (regions) of spectrum lots on offer. It provides the name for each region and a precise geographic definition.

To precisely describe the region for each spectrum lot on offer, this Schedule lists a set of HCIS references that correspond to the same area on the ASMG.

A map of the area is also provided (for illustrative purposes only).

Schedule 4 Emission limits outside the area

This Schedule describes the limits placed on the radiofrequency emissions outside the licence area by transmitters operating under the spectrum licence. The limit is expressed as a horizontally radiated power limit that applies to all transmitters within the licence area. In determining the level of emissions from a transmitter, this Schedule requires the licensee to take into account the kind of antenna and associated equipment used.

Schedule 4 provides base emission limits that apply to parts of the spectrum that are not covered by an agreement made between the relevant licensees to exceed out-of-area core licence conditions. A written agreement between the licensee and all affected licensees of frequency-adjacent and area-adjacent spectrum licences can permit the out-of-area core condition to be exceeded up to a specified maximum level of radio emissions. Part 2 of Schedule 4 states the specified maximum that must not be exceeded.

Schedule 5 Emission limits outside the band

This Schedule describes the limits placed on the radiofrequency emissions outside the licence band that are produced by transmitters and receivers under the spectrum licence.

Schedule 5 provides base emission limits for spurious and non-spurious emissions from transmitters operating in the lower and upper parts of the 2.5 GHz band under the spectrum licence. These limits apply to parts of the spectrum that are not covered by an agreement to exceed out-of-band core licence conditions between licensees.

Spurious emissions are emissions that are outside the licence bandwidth that are not deliberately generated or transmitted. They include emissions that are not modulation products, wide band noise or emissions caused by switching transients.

Non-spurious emissions are emissions that are outside the licence bandwidth that are generated in the process of generating the emission within the licence bandwidth. They include modulation products, wideband noise and switching transients produced as the transmitter is turned on and off.

Base emission limits for spurious emissions from receiver devices operating under this licence are also specified in this Schedule. These also apply to parts of the spectrum that are not covered by an agreement to exceed out-of-band core licence conditions between licensees.

This Schedule also states that a written agreement between the licensee and all affected licensees of frequency-adjacent and area-adjacent spectrum licences can permit the out-of-band core condition to be exceeded up to a specified maximum level of radio emissions. Part 2 of Schedule 5 provides that the specified maximum that must not be exceeded.

Schedule 6 Sample spectrum licence

This Schedule sets out a sample spectrum licence for the 2.5 GHz band spectrum declared for re-allocation. It is an example, constructed for the purposes of illustration only, and is not an actual licence. It includes five licence schedules, which are explained below.

Licence Schedule 1 – Licence details, bands and areas

This Schedule to the licence identifies the licensee, the licence issue and expiry dates and other technical details of the licence. The technical details include the frequency bands of the licence and the geographic area over which it applies.

Licence Schedule 2 – Core conditions

This Schedule sets out the core conditions of the licence. Licence Schedule 2 also authorises the operation of radiocommunications devices in accordance with these licence core conditions.

Licence Schedule 2 defines and applies the core conditions, including out of band and out of area base emission limits that must be observed by the licensee when operating radiocommunications devices under the spectrum licence.

This Schedule also makes provision for the licensee to exceed the emission limit core conditions in circumstances where there is a written agreement between the licensee and all affected licensees of frequency-adjacent and area-adjacent spectrum licences. Where such a written agreement exists, the licensee must comply with the maximum permitted level of radio emission specified in the agreement.

Licence Schedule 3 – Statutory Conditions

This Schedule contains other statutory conditions that apply to the licence relating to liability for charges, third party operation of transmitters and transmitter registration requirements. It also includes conditions under which the ACMA may refuse to register a transmitter, conditions where

a transmitter will be exempt from the requirement to be registered, and residency requirements for licensees.

Licence Schedule 4 – Other Conditions

This Schedule contains other licence conditions included by the ACMA relating to interference management. It places the responsibility to manage interference on licensees. It also explains the term, 'manage interference', which describes the responsibilities of licensees to ensure that the causes of interference are investigated and that steps are taken to reduce the interference to acceptable levels.

Under this Schedule, interference management responsibilities cover:

- > the need to manage interference between radiocommunications devices operated under the licence, and between devices operated under this licence and other spectrum licences held by the licensee;
- > interference management of radiocommunications devices that are co-sited (located within 200 metres of each other);
- > interference management in relation to protection of the RQZ;
- > the obligation to prevent harmful interference to a receiver operating in another country and in accordance with the International Telecommunications Union Radio Regulations;
- > information to be included on the Register of Radiocommunications Licences;
- > Electromagnetic Energy Requirements (EME)

Licence Schedule 5 – Licence Notes

The licence notes are provided in the sample licence document for the purposes of clarification and guidance on the use of the licence.

STATEMENT OF COMPATIBILITY WITH HUMAN RIGHTS

Prepared in accordance with Part 3 of the Human Rights (Parliamentary Scrutiny) Act 2011

Radiocommunications Spectrum Marketing Plan (2.5 GHz Band) 2012

This Legislative Instrument is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Overview of the Legislative Instrument

On 1 November 2011, the Minister for Broadband, Communications and the Digital Economy made the *Radiocommunications (Spectrum Re-allocation) Declaration No. 2 of 2011* (the **Minister's Declaration**) under section 153B of Part 3.6 of the *Radiocommunications Act 1992* (the **Act**).

The Minister's Declaration makes the part of the spectrum from:

- (a) 2500 MHz to 2570 MHz; and
- (b) 2620 MHz to 2690 MHz,

in the areas set out in the re-allocation declaration, subject to re-allocation by issuing spectrum licences.

Under section 60 of the Act, the Australian Communications and Media Authority (the **ACMA**) must determine the procedures for allocating spectrum licences. These procedures are set out in the *Radiocommunications (Spectrum Licence Allocation — Combinatorial Clock Auction) Determination 2012* (the **Allocation Determination**).

Under subsection 39A(2) of the Act, the ACMA must also prepare a marketing plan for issuing spectrum licences that authorise the operation of radiocommunications devices at frequencies within the spectrum and within areas specified in the Minister's Declaration. This legislative instrument is the marketing plan required by that section.

The marketing plan that constitutes this legislative instrument sets out:

- (a) the procedures for issuing spectrum licences for the spectrum set out in the Minister's Declaration;
- (b) the timetable for issuing spectrum licences;
- (c) how the spectrum licences are to be allocated and issued;
- (d) how much of the spectrum is to be reserved for public or community services; and
- (e) the types of conditions that may be included in the spectrum licences to be issued.

Other than making reference to the procedures, this legislative instrument does not set out the procedures for allocating spectrum licences relating to spectrum set out in the Minister's Declaration; these are set out in the Allocation Determination.

Human Rights Implications

The marketing plan that constitutes this legislative instrument does not engage any of the applicable rights or freedoms.

Conclusion

The marketing plan that constitutes this legislative instrument is compatible with human rights as it does not raise any human rights issues.

The Australian Communications and Media Authority