

EXPLANATORY STATEMENT

Approved by the Australian Communications and Media Authority

Radiocommunications Act 1992

Radiocommunications Spectrum Marketing Plan (3.6 GHz Band) 2018

Authority

The Australian Communications and Media Authority (**the ACMA**) has made the *Radiocommunications Spectrum Marketing Plan (3.6 GHz Band) 2018 (Marketing Plan)* under section 39A of the *Radiocommunications Act 1992 (the Act)*.

Subsection 39A(2) of the Act provides that the ACMA must, by legislative instrument, prepare a marketing plan for issuing spectrum licences that authorise the operation of radiocommunications devices at frequencies within a part or parts of the spectrum specified in a re-allocation declaration made under section 153B of the Act, and within the area or areas specified in that declaration with respect to that part or those parts. Subsection 39A(5) provides that a marketing plan may indicate:

- (a) the procedures to be followed for issuing spectrum licences in accordance with the plan;
- (b) the timetable for issuing spectrum licences in accordance with the plan;
- (c) how the spectrum dealt with under the plan is to be apportioned among the spectrum licences to be issued;
- (d) how much of the spectrum dealt with under the plan is to be reserved for public or community services;
- (e) the conditions, or types of conditions, that may be included in spectrum licences to be issued.

Purpose and operation of the Marketing Plan

The Marketing Plan specifies that available spectrum is to be divided into lots falling within 15 products designated by specific frequency range and geographic area.

The product details and the number of lots made available within each product are set out in Schedule 2 to the Marketing Plan.

The Marketing Plan also specifies the method by which the lots will be allocated, and the conditions that are likely to apply to spectrum licences issued after the conclusion of the allocation process.

Background

In March 2018, the Minister for Communications made three spectrum re-allocation declarations: the *Radiocommunications (Spectrum Re-allocation—3.6 GHz Band for Regional Australia) Declaration 2018*, the *Radiocommunications (Spectrum Re-allocation—3.6 GHz Band for Perth) Declaration 2018*, and the *Radiocommunications (Spectrum Re-allocation—3.6 GHz Band for Adelaide and Eastern Metropolitan Australia) Declaration 2018* (the re-allocation declarations), which provided that specified parts of the 3.6 GHz band (frequency range 3575 MHz to 3700 MHz), within defined geographic areas of Australia, be re-allocated by issuing spectrum licences.

The ACMA intends to allocate each of the parts of the 3.6 GHz band specified in the re-allocation declarations in 2018 through the 3.6 GHz spectrum auction.

The Marketing Plan specifies that spectrum licences are to be allocated authorising the use of radiocommunications devices in particular parts of the 3.6 GHz band in the 14 identified geographic areas of Australia, which are defined in Schedule 3 to the Marketing Plan.

Operation of the Marketing Plan

The ACMA has made the Marketing Plan in relation to the upcoming 3.6 GHz spectrum auction under the *Radiocommunications (Spectrum Licence Allocation – 3.6 GHz Band) Determination 2018 (Allocation Determination)*.

The Marketing Plan is one of a set of legislative instruments that enables the allocation of the 3.6 GHz band, including:

- > the Allocation Determination;
- > the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band) 2015*;
- > the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers – 3.4 GHz Band) 2015*; and
- > the *Radiocommunications (Unacceptable Levels of Interference – 3.4 GHz Band) Determination 2015*.

The purpose of the Marketing Plan is to describe the spectrum ‘products’ that will be offered at the 3.6 GHz spectrum auction. In doing so, it identifies the spectrum that will be allocated and defines how this spectrum will be divided into lots for applicants to acquire in the auction process under the Allocation Determination. 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 deciding whether to participate in the 3.6 GHz spectrum auction and when operating radiocommunications devices under a spectrum licence.

The Marketing Plan also briefly describes the procedures by which the ACMA will conduct the allocation. Full details of the allocation procedures are set out in the Allocation Determination. The ACMA will employ a price-based method of allocation, namely an auction, to allocate this spectrum. The ACMA has chosen the Enhanced Simultaneous Multi Round Ascending Auction (ESMRA) methodology, delivered through a secure online system, as the auction method to be used to conduct the auction.

The 3.6 GHz band is the range of frequencies from 3575 MHz to 3700 MHz. The 3.6 GHz band is divided into three categories and 15 products, with each product defined by a frequency range and geographic area, set out in Schedule 2 to the Marketing Plan. Each of the lots available is for a bandwidth of 5 MHz (unpaired). Fourteen geographic regions have been defined in Schedule 3 to the Marketing Plan. Each product falls into one of three categories. The category identifies the frequency range of the products in it. Thirteen products fall into category 1, the frequency range for which is the entire 3.6 GHz band. The remaining two products relate to spectrum in the Perth area. One of these products falls into category 2, the frequency range for which is 3575 MHz to 3655 MHz. The other product in the Perth area falls into category 3, the frequency range for which is 3655 MHz to 3700 Hz.

The technical conditions to be included in spectrum licences allocated in accordance with the Marketing Plan and the Allocation Determination are drawn from the ACMA’s existing technical framework for the 3.4 GHz band, as amended by the *Radiocommunications – 3.4 GHz Omnibus Variation 2018 (No. 1)*, developed in consultation with industry stakeholders. The technical conditions for the 3.6 GHz band are set out in the Marketing Plan in the parts that deal with licence

conditions that will be included and the sample spectrum licence. The broader technical framework is set out in the following legislative instruments, as amended by the *Radiocommunications – 3.4 GHz Omnibus Variation 2018 (No. 1)*:

- > the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band) 2015*;
- > the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers – 3.4 GHz Band) 2015*;
- > the *Radiocommunications (Unacceptable Levels of Interference – 3.4 GHz Band) Determination 2015*.

The technical framework places constraints on, and regulates the use of, spectrum licences to allow licensees to operate services without causing undue interference to other services operating in other (or the same) parts of the radiofrequency spectrum. Core conditions (in accordance with section 66 of the Act) will be included in spectrum licences to:

- > define their geographic boundaries;
- > define their range of frequencies;
- > set out-of-area radio emission limits;
- > set out-of-band (spurious and non-spurious) radio emission limits.

In addition, the Marketing Plan discusses other relevant obligations, including requirements for licensees to afford protection to devices operated under incumbent apparatus licences prior to the end of the relevant re-allocation period, to manage interference with other spectrum and some apparatus licensees in the 3.4 GHz and 3.6 GHz bands, and to follow coordination and protection procedures in relation to notional earth stations within new earth station protection zones established by the ACMA's Radiocommunications Assignment and Licensing Instruction No. MS 44, Frequency coordination procedures for the Earth Station Protection Zones (**RALI MS 44**). The Marketing Plan also discusses other relevant licence conditions that are customarily included in spectrum licences, such as in relation to spectrum trading rules, use by third parties, registration of transmitters with the ACMA and payment obligations.

Licence commencement and licence duration are also described in the Marketing Plan. Spectrum licences issued as a result of the auction will commence on 30 March 2020 and will be for a fixed term with an expiry date of 13 December 2030, which expiry date is in line with the existing spectrum licences in the 3.4 GHz band.

A sample spectrum licence set out in Schedule 6 to the Marketing Plan contains information relating to core and other licence conditions that may apply to the operation of radiocommunications devices under the spectrum licence. However, the spectrum licences actually issued by the ACMA may contain additional or different conditions.

A provision-by-provision description of the Marketing Plan is set out in the notes at **Attachment A**.

The Marketing Plan is a disallowable legislative instrument for the purposes of the *Legislation Act 2003 (the LA)*.

The Department of Communications and the Arts has conducted a review into potential reform of the spectrum management framework in Australia. As a result it has published and consulted on draft new spectrum legislation. At the time this Marketing Plan was prepared, no Bill had been introduced into the Commonwealth Parliament. However, the spectrum legislation proposed, will, if made, replace the Act any may affect licences issued in the 3.6 GHz spectrum auction. In May 2017 the Department of Communications and the Arts published a consultation paper entitled "A proposed approach to

transition from the 1992 Act to the Radiocommunications Bill” (available from the Department’s website at www.communications.gov.au), which discussed proposed arrangements for transition and noted that it is intended that existing spectrum legislation issued prior to any new legislation would continue in effect until expiry with minimal impact to existing rights and obligations. Applicants should consider the information about the proposed legislation that can be found at www.communications.gov.au/what-we-do/spectrum/spectrum-reform. Further information may be obtained by contacting the Department of Communications and the Arts at spectrumreform@communications.gov.au.

Documents incorporated by reference

The Marketing Plan incorporates the Australian Spectrum Map Grid 2012. The Australian Spectrum Map Grid (ASMG) is used to identify geographic areas of spectrum licences. The Australian Spectrum Map Grid 2012 describes the ASMG and the associated Hierarchical Cell Identification Scheme (HCIS) that the Marketing Plan uses to define licences’ geographic areas. The Australian Spectrum Map Grid 2012 is available from the ACMA’s website: www.acma.gov.au. The Australian Spectrum Map Grid 2012 is incorporated as existing from time to time, as permitted by subsection 314A(2) of the Act.

The Marketing Plan also incorporates a reference to two ACMA documents, Radiocommunications Assignment and Licensing Instruction (RALI) MS 32 (**RALI MS 32**) and the RALI MS 44. These RALIs set out procedures to be followed to coordinate radiocommunications transmitters with earth stations and notional earth stations operating in the designated Radio Quiet Zone (**RQZ**). These RALIs are available from the ACMA’s website: www.acma.gov.au. These RALIs are incorporated as existing from time to time, as permitted by subsection 314A(2) of the Act.

The Marketing Plan also incorporates the International Telecommunication Union (ITU) Radio Regulations (**the Radio Regulations**). The ITU describes itself as the United Nations’ specialised agency for information and communication technologies, and the Radio Regulations are an instrument made by decisions at World Radiocommunications Conferences. The Radio Regulations are available to be downloaded for free from the ITU’s website: www.itu.int. The Radio Regulations are incorporated as existing from time to time, as permitted by subsection 314A(2) of the Act.

The Marketing Plan also incorporates the document entitled “LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Physical channels and modulation (3GPP TS 36.211 version 14.6.0 Release 14)”, (**3GPP TS 36.211**). This document is incorporated as it existed on the day the *Australian Communications and Media Authority (Radiocommunications Licence Conditions – 3.4 GHz and 3.6 GHz Bands Interference Management) Direction 2018 (Interference Management Direction)* was made. This is a technical specification published by the European Telecommunication Standards Institute and which is available for free from its website at www.etsi.org/.

The Marketing Plan also incorporates the following Acts and legislative instruments (including by the adoption of definitions), or otherwise refers to them:

- > the Act;
- > the *Acts Interpretation Act 1901*;
- > the *Administrative Appeals Tribunal Act 1975*;
- > the Allocation Determination;
- > the *Australian Communications and Media Authority Act 2005*;
- > the *Income Tax Assessment Act 1997*;
- > the Interference Management Direction;
- > the *International Tax Agreements Act 1953*;

- > the LA;
- > the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters — 3.4 GHz Band) 2015*;
- > the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 3.4 GHz Band) 2015*;
- > the *Radiocommunications (Interpretation) Determination 2015*;
- > the *Radiocommunications Licence Conditions (Apparatus Licence) Determination 2015*;
- > the *Radiocommunications (Mid-West Radio Quiet Zone) Frequency Band Plan 2011*;
- > the *Radiocommunications (Register of Radiocommunications Licences) Determination 2017*;
- > the *Radiocommunications (Trading Rules for Spectrum Licences) Determination 2012*;
- > the *Radiocommunications (Unacceptable Levels of Interference – 3.4 GHz Band) Determination 2015*; and
- > the re-allocation declarations.

The Acts and legislative instruments listed above may be obtained from the Federal Register of Legislation (www.legislation.gov.au). The Acts listed above are incorporated as in force from time to time, in accordance with section 10 of the *Acts Interpretation Act 1901* and subsection 13(1) of the LA. The legislative instruments listed above, with the exception of the Interference Management Direction, are incorporated as in force from time to time, in accordance with section 6 of the Marketing Plan and subsection 14(1) of the LA. The Interference Management Direction is incorporated as in force on the day the Marketing Plan commences.

Consultation

Before the Marketing Plan was made, the ACMA was satisfied that consultation was undertaken to the extent appropriate and reasonably practicable, in accordance with section 17 of the LA.

A draft version of the Marketing Plan was released for public consultation on 18 May 2018, together with the consultation paper [Draft allocation instruments for 3.6 GHz band \(3575-3700 MHz metropolitan and regional lots auction\)](#). Consultation closed on 15 June 2018.

The ACMA consultation sought stakeholder views on several issues, including licence commencement dates and lot configuration. The ACMA received thirteen written submissions to this consultation paper. On the issue of licence commencement dates, the majority of submissions supported a licence commencement date at the end of the first of the re-allocation periods established by the re-allocation declarations (that is 30 March 2020).

In relation to lot configuration, the ACMA asked stakeholders to consider three options, detailed in the consultation paper, for the geographic boundaries of the products on offer. On this issue a range of views were expressed, with some submissions supporting no outer metropolitan lots, some supporting outer metropolitan lots of differing sizes and a small number opposing the proposed alignment of the 3.6 GHz boundaries with those applying to existing spectrum licences in the 3.4 GHz band. On balance and having considered all submissions, the ACMA considered that the most efficient use of spectrum was to align the areas applicable for lots in the metropolitan areas with the geographic boundaries of spectrum licences in the 3.4 GHz band, with no outer metropolitan areas specified and eight regional areas. The ACMA reached this view because:

- Alignment with current 3.4 GHz metropolitan spectrum licences should facilitate future trading and potential defragmentation across the broader 3400-3700 MHz band, allowing increased efficiency in use of the band.

- The metropolitan and regional areas adopted ensure the allocation limits, specified in the Allocation Determination, can be more readily implemented. That is, the areas of existing spectrum licences align with the new lots available, making it easier for applicants and the ACMA to determine how allocation limits apply.
- A larger number of regional areas allows bidders to focus on the areas of most interest to them during the auction.
- The ACMA was not convinced that there was significant differential demand between inner and outer metropolitan areas.
- Not including inner and outer metropolitan areas increases efficiency of spectrum use by minimising “dead zones”, where spectrum cannot be used without creating a significant risk of interference to an adjacent service. While dead zones exist at the border of regional and metropolitan areas, there are likely to be far fewer dead zones than if an inner metropolitan/outer metropolitan/regional lot configuration were adopted.

The consultation also sought views on two options for the size, or frequency bandwidth, of the lots on offer. The first option was to have 5 MHz lots offered in all areas. This option assumed a common network synchronisation requirement could be achieved across spectrum licences and some apparatus licences operating in adjacent spectrum. The second option provided for the lower 15 MHz in the 3.6 GHz band across all areas to be offered as a single lot as a “guard band” to allow for any potential interference with devices operating in the 3.4 GHz band. The majority of submission supported the 5 MHz bandwidth. Having considered these submissions, the ACMA has decided to adopt the 5 MHz bandwidth configuration. It should be noted that the Minister made the Interference Management Direction on 17 July 2018, which effectively requires the ACMA to take all reasonable steps to ensure that existing spectrum and certain apparatus licensees operating in adjacent spectrum are required to synchronise operation of their devices by imposing certain technical requirements. Compliance with this direction should remove the need to implement a guard band between the 3.4 GHz and 3.6 GHz spectrum bands. However, potential applicants for 3.6 GHz licences should be aware that, if it is not possible to achieve uniformity of licence conditions across all 3.4 GHz spectrum licences and PTS transmitter licences, the ACMA may consider applying alternative interference management arrangements to 3.6 GHz spectrum licences.

Submissions made in relation to the 3.6 GHz allocation process are also discussed in more detail in the explanatory statement to the Allocation Determination.

Regulation Impact Statement

The Department of Communications and the Arts considered whether a regulatory impact analysis process was required in relation to the allocation of spectrum licences in the 3.6 GHz band by undertaking a preliminary assessment, and based on this preliminary assessment the Office of Best Practice Regulation (**OBPR**) determined that the allocation of spectrum licences in the 3.6 GHz band had a nil or low regulatory impact on the economy or individuals and therefore verified that no further regulatory impact analysis is required – OBPR reference number 23261.

Statement of Compatibility with Human Rights

Subsection 9(1) of the *Human Rights (Parliamentary Scrutiny) Act 2011* requires the rule-maker in relation to a legislative instrument to which section 42 (disallowance) of the LA applies to cause a statement of compatibility to be prepared in respect of that legislative instrument.

The statement of compatibility set out below has been prepared to meet that requirement.

Overview of the Marketing Plan

On 5 March 2018, following a recommendation from the ACMA, the Minister for Communications made three spectrum re-allocation declarations: the *Radiocommunications (Spectrum Re-allocation—3.6 GHz Band for Regional Australia) Declaration 2018*, the *Radiocommunications (Spectrum Re-allocation—3.6 GHz Band for Perth) Declaration 2018*, and the *Radiocommunications (Spectrum Re-allocation—3.6 GHz Band for Adelaide and Eastern Metropolitan Australia) Declaration 2018*. These re-allocation declarations provide that specified spectrum in the 3.6 GHz band, within certain identified geographic areas within Australia is to be re-allocated by issuing spectrum licences.

The ACMA intends to allocate each of the parts of the 3.6 GHz band specified in the re-allocation declarations in a single process in 2018, known as the 3.6 GHz band auction.

Subsection 39A(2) of the Act provides that the ACMA must, by legislative instrument, prepare a marketing plan for issuing spectrum licences that authorise the operation of radiocommunications devices at frequencies within a part or parts of the spectrum, and within the relevant geographic areas, specified in the re-allocation declarations. Subsection 39A(5) provides that the marketing plan may indicate:

- (a) the procedures to be followed for issuing spectrum licences in accordance with the plan;
- (b) the timetable for issuing spectrum licences in accordance with the plan;
- (c) how the spectrum dealt with under the plan is to be apportioned among spectrum licences to be issued;
- (d) how much of the spectrum dealt with under the plan is to be reserved for public or community services; and
- (e) the conditions, or types of conditions, that may be included in spectrum licences to be issued.

Subject to the operation of certain allocation limits, any person may apply to be allocated a spectrum licence in accordance with the Marketing Plan.

Human rights implications

The ACMA has assessed whether the Marketing Plan is compatible with human rights, being the rights and freedoms recognised or declared by the international instruments listed in subsection 3(1) of the *Human Rights (Parliamentary Scrutiny) Act 2011* as they apply to Australia.

Having considered the likely impact of the instrument and the nature of the applicable rights and freedoms, the ACMA has formed the view that the Marketing Plan does not engage any of those rights or freedoms.

Conclusion

The Marketing Plan is compatible with human rights as it does not raise any human rights issues.

Notes to the *Radiocommunications Spectrum Marketing Plan (3.6 GHz Band) 2018*

PART 1 PRELIMINARY

Section 1 Name

This section provides for the Marketing Plan to be cited as the *Radiocommunications Spectrum Marketing Plan (3.6 GHz Band) 2018*.

Section 2 Commencement

This section provides for the Marketing Plan to commence on the day after it is registered.

Section 3 Authority

This section identifies the provision that authorises the making of the Marketing Plan, namely section 39A of the *Radiocommunications Act 1992*.

Section 4 Purpose of the instrument

This section lists the main matters dealt with by the Marketing Plan. The Marketing Plan should be read in conjunction with the Allocation Determination for a more complete understanding of all allocation procedures.

Section 5 Definitions

This section defines a number of key terms used throughout the Marketing Plan, and indicates where other key terms are defined. A number of other expressions used in the Marketing Plan are defined in the Act.

Section 6 References to other instruments

This section provides that in the Marketing Plan, unless the contrary intention appears, a reference to another legislative instrument is a reference to that other legislative instrument as in force from time to time, and a reference to another instrument or writing is a reference to that instrument or writing as existing from time to time.

Section 7 References to frequency ranges

This section provides that in the Marketing Plan the range of numbers that identifies a frequency range includes the higher, but not the lower, number.

PART 2 ALLOCATION OF SPECTRUM LICENCES

Section 8 Simplified outline of this Part

This section sets out a simplified outline of Part 2.

Section 9 Parts of the spectrum

This section provides that spectrum licences in the 3.6 GHz band will be allocated and issued in the manner described in the Marketing Plan and the Allocation Determination.

Section 10 How licences will be allocated

This section provides that spectrum licences in the 3.6 GHz band will be allocated by auction in accordance with the procedures set out in the Allocation Determination.

Section 11 The auction

This section describes how the 3.6 GHz band has been divided by the ACMA into smaller blocks (referred to as lots) for auction. Each lot is defined by a frequency range (and resultant bandwidth), and a specific geographic area (region).

There are 350 lots on offer in the auction.

Lots have been given a category for the purpose of the auction.. There are three categories, each defined by the frequency ranges and bandwidth, as described in Schedule 1 to the Marketing Plan.

Lots that belong to the same category and share a common geographic region collectively comprise units of a product. There are 14 regions described in Schedule 3 to the Marketing Plan. There are 15 products on offer, defined by the category and specific region to which that product relates in Schedule 2 to the Marketing Plan. For the product within category 1, there are 25 lots on offer per product. For the products within category 2 there are 16 lots on offer. For the products within category 3 there are 9 lots on offer.

This section also provides that the ACMA will notify applicants of the lot rating for each lot in accordance with the Allocation Determination. Lots within the same product will have the same lot rating.

This section also provides that the auction will be held in accordance with the procedures set out in the Allocation Determination and gives a brief description of the manner in which the auction will be run. Full details of the auction procedures are set out in the Allocation Determination.

Section 12 Advertising the auction

This section provides that the ACMA will advertise the details of the auction and invite persons to take part, in accordance with the Allocation Determination (which sets out requirements for this process in more detail).

Section 13 Taking part in the auction

This section provides that detailed information about the auction and the application process will be made available by the ACMA in an applicant information package (**AIP**), to be published in accordance with the Allocation Determination. The AIP will be made available at the beginning of the allocation process. The mandatory contents of the AIP are set out in subsection 27(1) of the Allocation Determination.

The AIP will contain information about the allocation process for potential participants. It will describe how to apply to participate in the allocation process, and will include copies of all necessary forms and documents to participate in the process.

This section also states 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 14 Simplified outline of this Part

This section sets out a simplified outline of Part 3.

Section 15 Issue of licences

This section sets out when the ACMA will issue spectrum licences in the 3.6 GHz band. A licence will be issued to a person to whom it is allocated as soon as practicable after that person has paid the full spectrum access charge that the Allocation Determination requires to be paid before a licence will be issued (the balance of the winning price).

The Allocation Determination sets out the relevant procedures for payment of spectrum access charges in more detail.

Section 16 Duration of licences

This section explains that all spectrum licences will be for a fixed term with an expiry date of 13 December 2030, in line with the existing spectrum licences in the 3.4 GHz band.

Section 17 Commencement of licences

This section explains that licences issued as a result of the 3.6 GHz spectrum auction will commence on 30 March 2020. This aligns with the end of the re-allocation period determined in the *Radiocommunications (Spectrum Re-allocation—3.6 GHz Band for Adelaide and Eastern Metropolitan Australia) Declaration 2018*.

Section 18 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 the types of core conditions to be included in a spectrum licence allocated in accordance with the Marketing Plan, including the geographic area and frequency bands in which a radiocommunications device can be operated under a spectrum licence, and the out-of-area and out-of-band emission levels.

Section 19 Determining core licence conditions

This section explains how the core conditions for spectrum licences issued in the 3.6 GHz band as a result of an auction will be determined.

Each licence will specify a range of frequencies within which the licensee may operate radiocommunications devices. The range of frequencies will depend on the lots the licensee has been allocated in accordance with the Allocation Determination. If a licensee has been allocated multiple lots, the licence issued may specify the aggregate frequency range for the lots.

Each licence will also specify the geographic area within which the licensee may operate radiocommunications devices. The geographic area will be the region, or regions, described in Schedule 3 to the Marketing Plan for the lots allocated in accordance with the Allocation Determination.

The regions are defined by an identifier scheme adopted by the ACMA in 2012 (the HCIS). Under the HCIS, areas are defined by referring to a set of identifiers which collectively correspond to a single area on the ASMG. The ASMG is described in more detail, including the use of geographic co-ordinates to define the ASMG outer boundary, in 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 (**cells**) of four sizes, with the side lengths of the largest to smallest cells being, respectively, 3 degrees, 1 degree, 15 minutes and 5 minutes of arc. The HCIS names the cells in this tiered structure, with cells of each size given a unique identifier name. Under this system, the region for a lot is 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. A HCIS area description to Placemark conversion tool has also been developed and is available online at the ACMA website: www.acma.gov.au.

An indicative map that illustrates the areas of the regions is shown in Schedule 3 to the Marketing Plan.

Subsections 19(2) and 19(3) of the Marketing Plan provide that the emission limits, which will be licence conditions included in the spectrum licences issued in accordance with the Marketing Plan, will be calculated in accordance with Schedules 4 and 5 to the Marketing Plan. These Schedules are, respectively, used to calculate the maximum emission limits allowable outside the geographic area, and outside the frequency band, of a spectrum licence, and they form part of the core conditions of each licence.

Section 20 Other licence conditions

This section identifies other kinds of statutory licence conditions and other licence conditions that may be included in each spectrum licence issued under this allocation process, but which are not core conditions of the licence. These include the conditions in relation to payment to the ACMA of applicable charges, use by third parties, registration requirements for radiocommunications transmitters and residency requirements of the licensee. 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.

Each spectrum licence will also include a condition requiring the licensee to ensure that they protect any apparatus licence operating in a re-allocation zone in the 3.6 GHz band in accordance with criteria specified in the *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters – 3.4 GHz Band) 2015* until the end of the re-allocation period for the relevant re-allocation zone. This condition ensures that incumbent apparatus licences that are authorised to operate in the band for a period of time after the new spectrum licences commence are protected from interference.

Three different areas are established by the three re-allocation declarations, referred to in the Marketing Plan as the Metropolitan re-allocation zone, the Perth re-allocation zone and the Regional Australia re-allocation zone. Relevantly, the re-allocation period for the Perth and Regional Australia re-allocation zone does not expire until three years (for Perth) and five years (for Regional Australia) after licences issued as a result of 3.6 GHz spectrum auction are to commence. Existing apparatus licences in those areas will be protected until the end of those relevant re-allocation periods for those areas. After the end of those re-allocation periods, the incumbent apparatus licences will be cancelled automatically in accordance with Part 3.6 GHz of the Act.

Further, each spectrum licence will include a condition, requiring the licensee to follow the procedures set out in RALI MS44 for the coordination with and protection of the any earth stations that may operate in defined earth station protection zones. RALI MS 44 establishes four earth protection zones, defined by HCIS identifiers, in which earth stations may be established in future. RALI MS 44 sets out notional earth station receiver and transmitter characteristics and establishes

protection and coordination criteria that licensees operating near those areas are required to comply with.

Each spectrum licence will also include a condition requiring the licensee to take certain steps to manage interference with a radiocommunications device operated under another 3.4 GHz band spectrum licence, or certain apparatus licences, by synchronising operation of devices under their licence with those other devices in certain circumstances. The inclusion of this condition assumes that the 3.4 GHz spectrum licences and PTS transmitter licences operating adjacent to the 3.6 GHz band are subject to the same licence condition. As discussed above, the Minister has given the ACMA a direction, the Interference Management Direction, about this matter. As a result of the Interference Management Direction, the ACMA expects that most or all of the 3.4 GHz spectrum licences and the PTS transmitter licences will include the necessary conditions.

However, potential applicants for 3.6 GHz spectrum licences should be aware that, if it is not possible to achieve uniformity of licence conditions across all 3.4 GHz spectrum licences and PTS transmitter licences, the ACMA may consider applying alternative interference management arrangements to 3.6 GHz spectrum licences.

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 Marketing Plan or the sample spectrum licence.

Section 21 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 pursuant to the Marketing Plan 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. This is a mandatory licence condition for inclusion in all spectrum licences, under subsection 69(1) of the Act.

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 other radiocommunications devices, either under the same licence or another licence. For the 3.6 GHz band, including the 3.4 GHz band, unacceptable levels of interference are defined in the *Radiocommunications (Unacceptable Levels of Interference — 3.4 GHz Band) Determination 2015* made under subsection 145(4) of the Act.

Under subsection 69(2) of the Act, the ACMA may include in a condition an exemption from the registration requirements in the mandatory spectrum licence condition as required by subsection 69(1) of the Act.

Radiocommunications transmitters operating in the 3.6 GHz band will be exempt from the requirement to be registered if they operate with a total power of less than or equal to 28 dBm per occupied bandwidth.

This exemption is included in Licence Schedule 3 of the sample spectrum licence at Schedule 6 to the Marketing Plan.

These devices are still required to meet all the core and other conditions of the licence, including relevant emission limit requirements.

Section 22 Draft sample licence

This section provides that a sample spectrum licence is included at Schedule 6 to the Marketing Plan. The sample spectrum licence sets out the technical and other conditions that may apply to spectrum licences issued as a result of the allocation process. However, the conditions in the sample spectrum licence may not reflect the actual conditions included in a spectrum licence issued to a successful applicant.

Section 23 Advisory guidelines

This section provides that *Radiocommunications Advisory Guidelines (Managing Interference from Spectrum Licensed Transmitters — 3.4 GHz Band) 2015* and the *Radiocommunications Advisory Guidelines (Managing Interference to Spectrum Licensed Receivers — 3.4 GHz Band) 2015* provide a means of coordinating services operating under spectrum licences in the 3.6 GHz band.

PART 4 AFTER ALLOCATION

Section 24 Simplified outline of this Part

This section sets out a simplified outline of Part 4.

Section 25 Registration of licences

This section provides that, in accordance with Part 3.5 of the Act and the *Radiocommunications (Register of Radiocommunications Licences) Determination 2017 (the Register Determination)*, the ACMA must register the details of spectrum licences in the Register of Radiocommunications Licences (**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 radiocommunications devices operated under a spectrum licence.

Section 26 Third party use

This section provides that a licensee may permit third parties to operate radiocommunications devices under any spectrum 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 27 Trading in spectrum licences

This section provides that a licensee may assign, or otherwise deal with, the whole or any part of a spectrum licence in accordance with Division 5 of Part 3.2 of the Act. The *Radiocommunications (Trading Rules for Spectrum Licences) Determination 2012* made under section 88 of the Act provides further details about rules for trading in spectrum licences. In part, these rules define the minimum block of spectrum and geographic area that may be traded to a third party, and must be retained by the licensee.

Section 28 Agreements about emission limits

This section provides that a licensee in the 3.6 GHz band may enter into an agreement about emission limits. Licensees of licences that are adjacent to one another may wish to enter agreements that allow a licensee to exceed their emission limits specified in the core licence conditions. The word 'adjacent' can refer to spectrum licences that share a geographic boundary, a frequency boundary, or

both. This section notes the provisions of Schedules 4 and 5 to the Marketing Plan which underpin such agreements.

When such an agreement is in place, that agreement effectively sets the emission limits that apply to that licence under section 18 of the Marketing Plan and in accordance with Schedules 4 and 5 to the Marketing Plan. Schedules 4 and 5 require that such an agreement must be in writing.

Section 29 Spectrum licences that are about to expire

This section sets out the actions that the ACMA takes under the Act 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 specified in the notice. The notice will invite expressions of interest from persons wishing to obtain spectrum licences relating to the relevant parts of the spectrum. This information will be published on the ACMA's website.

Section 30 Re-issue of licence

This section sets out what the ACMA does under the Act 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 the licence is used to provide a service included in a class of services determined by the Minister for which re-issuing licences to the same licensee would be in the public interest, or if special circumstances exist as a result of which the ACMA is satisfied it is in the public interest for that person to be re-issued the licence. Otherwise, the ACMA must 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 licence.

As noted above, it is possible that, prior to the expiry of any spectrum licences issued as a result of this allocation process, new spectrum legislation may have been made that may replace the Act and affect the re-issue process. Applicants should consider the available information about the proposed new spectrum legislation available at www.communications.gov.au/what-we-do/spectrum/spectrum-reform.

SCHEDULE 1 Categories

This Schedule defines how the spectrum will be divided into different categories to reflect the fact that the lots on offer in the 3.6 GHz band are not generic and that, as such, registered bidders may attribute different values to different lots.

Table 1 of Schedule 1 to the Marketing Plan lists the category number and name, the lower and upper frequencies and the bandwidth of each lot in each category.

SCHEDULE 2 Products

This Schedule defines the 3.6 GHz band products that will be offered during the auction. A product for the purpose of the Marketing Plan is the set of spectrum lots that have the same region and belong in the same category. For each product, Schedule 2 lists the lot name, category number, region and number of lots available.

SCHEDULE 3 Regions

This Schedule defines the geographic areas (regions) of the lots on offer under the Marketing Plan. It provides the names for the regions and precise geographic definitions.

To define a region, this Schedule lists a set of HCIS identifiers that correspond to the region on the ASMG.

A map of each regions is also provided (for illustrative purposes only).

SCHEDULE 4 Emission limits outside the area

This Schedule sets the method for calculating the limits that will be placed on radiofrequency emissions that are produced by radiocommunications devices operating under a spectrum licence outside a spectrum licence's geographic area (**the out-of-area core licence condition**). The limit is expressed as a total radiated power limit that applies to all radiocommunications devices operated within the licence's geographic area.

Schedule 4 provides for base emission limits that apply to parts of the spectrum that are not covered by an agreement made between adjacent licensees to exceed the out-of-area core licence condition. A written agreement between a licensee and all affected licensees of frequency-adjacent and area-adjacent spectrum licences can allow the first licensee to exceed the limits in the out-of-area core licence condition up to the maximum level of radio emissions specified in the agreement.

SCHEDULE 5 Emission limits outside the band

This Schedule sets the method for calculating the limits that will be placed on radiofrequency emissions that are produced by radiocommunications devices operated under a spectrum licence outside the licence's authorised frequency band (**the out-of-band core licence condition**).

Schedule 5 provides for base emission limits for spurious and non-spurious emissions (collectively referred to as unwanted emissions) by radiocommunications devices operating in relevant parts of the 3.6 GHz band under a spectrum licence, which are not covered by an agreement made between adjacent licensees to exceed the out-of-band core licence condition. A written agreement between a licensee and all affected licensees of frequency-adjacent and area-adjacent spectrum licences can allow the first licensee to exceed the limits in the out-of-band core licence condition up to the maximum level of radio emissions specified in the agreement.

Spurious emissions are emissions that are outside the licence's frequency band that are not deliberately generated or transmitted. These emissions include parasitic emissions, intermodulation products, harmonic emissions and frequency conversion products not associated with the transmission of information by the transmitter.

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

SCHEDULE 6 Sample Spectrum Licence

This Schedule sets out a sample spectrum licence for the licences that will be allocated in the 3.6 GHz band. 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 licence schedule sets out the fields for the licensee, the licence issue, expiry and effect dates, and other details of the licence, including the frequency bands of the licence and the geographic area for the licence.

Licence Schedule 2 Core Conditions

This licence schedule includes the core conditions of the licence.

The core conditions are the conditions in relation to the geographic area and frequency ranges within which devices may be used, the out-of-area core licence condition and the out-of-band core licence condition.

This licence schedule also makes provision for the licensee to exceed the out-of-area and the out-of-band core licence 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 licence schedule contains other statutory conditions that apply to the licence relating to liability for charges, third party operation of radiocommunications transmitters and transmitter registration requirements. It also includes conditions regarding when where a radiocommunications transmitter will be exempt from the requirement to be registered, and residency requirements for licensees.

Licence Schedule 4 Other Conditions

This licence schedule contains other licence conditions that may be included by the ACMA in accordance with section 71 of the Act. One such condition imposed on the licensee is the responsibility to manage interference between radiocommunications devices operated under the licence, and between radiocommunications devices operated under the licence and under any other spectrum licence held by the licensee (sample conditions 2(a) and (b) in Licence Schedule 4).

Managing interference is defined as including the investigation of the possible causes of interference, taking of all steps reasonably necessary to resolve disputes about interference, taking all steps reasonably likely to reduce the interference to acceptable levels and negotiating with other persons to reduce interference to an acceptable level.

Other conditions included in the sample licence under this licence schedule are:

- > a condition in relation to interference management for radiocommunications devices that are co-sited (located within 500 metres of each other) (sample condition 3);
- > a requirement to provide the ACMA with information to be included in the Register (sample condition 4);
- > a requirement to prevent harmful interference to a radiocommunications receiver operating in another country and in accordance with the ITU Radio Regulations (sample condition 5);
- > a requirement to comply with specified electromagnetic energy regulation (sample condition 6);
- > a requirement to comply with record-keeping requirements for radiocommunications transmitters located at communal sites (sample condition 7);

- > a requirement to follow the procedures set out in RALI MS 32 in relation to the operation of radiocommunications transmitters in or around the RQZ (sample condition 8);
- > a requirement to ensure that operation of a radiocommunications transmitter that is exempt from registration does not cause harmful interference to other radiocommunications devices (sample condition 9);
- > a requirement to follow the procedures set out in RALI MS44 before seeking to register or operate a radiocommunications transmitter in order to coordinate with and protect notional earth stations in earth station protection zones established by that RALI (sample condition 10);
- > a requirement to manage any interference between radiocommunications devices operated under the spectrum licence and those operated under a spectrum licences in the 3.4 GHz band, or PTS transmitter licences, by synchronising operation of their device with the other device in accordance with certain technical specifications (sample condition 11);
- > a requirement to manage interference caused by unwanted emissions (sample condition 12); and
- > a requirement to ensure the operation of any radiocommunications device within a particular re-allocation zone under a spectrum licence does not interfere with the lawful operation of a device being operated within that re-allocation zone under an apparatus licence (sample condition 13).

In relation to sample condition 11, it should be noted that the inclusion of this condition assumes that the 3.4 GHz spectrum licences and PTS transmitter licences operating adjacent to the 3.6 GHz band are subject to same licence condition. As discussed above, the Minister has given the ACMA a direction, the Interference Management Direction, which effectively requires the ACMA to take all reasonable steps to ensure that existing spectrum licences operating in adjacent spectrum are also required to synchronise operation of such devices in accordance with certain technical requirements. Given the Interference Management Direction, the ACMA will consider imposing the relevant conditions on the 3.4 GHz spectrum licences. The Interference Management Direction also requires the ACMA to make a licence condition determination under paragraph 107(1)(f) of the Act to impose the relevant conditions on the PTS transmitter licences. Accordingly, the ACMA expects that most or all of the 3.4 GHz spectrum licences and the PTS transmitter licences will include the necessary conditions.

Sample condition 11 sets out a process for managing interference between licensees if they cannot agree to a resolution between themselves. Broadly this involves a requirement to ensure the relevant device uses a particular frame structure and that the timing of the frame structure is aligned with each of the other devices.

However, there remains the possibility that the ACMA will not include the condition on a particular 3.4 GHz spectrum licence, or that its decision to include such a condition will be subject to judicial or merits review, or that the House of Representatives or the Senate will disallow any licence condition determination. Potential applicants for 3.6 GHz licensees should be aware that, if it is not possible to achieve uniformity of licence conditions across all 3.4 GHz spectrum licences and PTS transmitter licences, the ACMA may consider applying alternative interference management arrangements to 3.6 GHz spectrum licences.

Licence Schedule 5 Licence Notes

Example licence notes are included in the sample licence for the purposes of clarification and guidance on the use of the spectrum licence.