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| Digital dividend auction, April 2013 |
| Auction guideRevised version: Published 20 March 2013 |
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Dear prospective bidder

On behalf of the Australian Communications and Media Authority (the ACMA), it gives me great pleasure to invite you to apply to take part in the 2013 digital dividend spectrum auction—one of the largest spectrum auctions to be held in Australia.

The auction of the 700 MHz and 2.5 GHz bands is part of the Australian Government’s strategy to meet industry demand for spectrum for wireless broadband and other applications, and will provide valuable opportunities to bring new and improved services to the Australian market—such as 4th generation (4G) mobile services. Allocating the two bands through this single auction process, using the combinatorial clock auction format, will assist prospective bidders to plan for advanced mobile telecommunications services by allowing them to bid for packages of spectrum lots from each of the two bands.

This *Auction guide* provides information to help you decide whether to apply to take part in the auction—and, if you wish to take part, how to do so. The *Auction guide* contains information about:

* the spectrum being offered
* how the auction will be conducted
* how to participate in the auction
* the licensing and technical arrangements applicable to the spectrum on offer.

Attachments to the *Auction guide* include the instruments that provide the legal basis for the auction and the operation of radiocommunications devices in the spectrum won at auction, and forms that auction participants may be required to complete. Collectively, the *Auction guide* and its attachments form the *Applicant information package* (AIP) for the auction.

Many aspects of the auction arrangements were developed by the ACMA in consultation with industry throughout 2012. I thank industry stakeholders for their sustained engagement and invaluable input. I believe the resulting arrangements provide a solid basis for the auction.

I encourage you to read the AIP carefully in its entirety before deciding whether to apply for registration as a bidder. I also encourage you to keep abreast of the most current auction related information by frequently visiting the ACMA’s *engage* website and subscribing to the *Spectrum auction e-bulletin* (see details under heading 6.1).

If you have any questions about the auction process, please feel free to contact the ACMA’s Allocation Liaison Officer through the channels listed under heading 6.2.

I look forward to welcoming you as a bidder in what I’m confident will be a successful auction—both for the communications industry *and* the Australian public.

Yours sincerely

Chris Chapman
Chairman

# Important notice and disclaimer

This *Applicant information package* (AIP) has been prepared by the ACMA in connection with the proposed reallocation of spectrum in the 700 MHz and 2.5 GHz bands by auction. The AIP comprises this *Auction guide* and the instruments, explanatory statements and other material provided as attachments to the guide, as well as the *Auction forms* booklet.

The ACMA must perform its spectrum allocation and management functions in accordance with relevant legislation; in particular, the *Radiocommunications Act 1992* (the Act). An auction process (the auction process) will be conducted in accordance with the rules and procedures made by the ACMA, pursuant to powers under sections 39A, 60 and 294 of the Act. The subsequent issue of spectrum licences will be made under section 62 of the Act.

The rules and procedures made by the ACMA for the auction process are set out
in the:

* Radiocommunications (Spectrum Licence Allocation – Combinatorial Clock Auction) Determination 2012 (the allocation determination)
* Radiocommunications Spectrum Marketing Plan (700 MHz Band) 2012 (the 700 MHz band marketing plan)
* Radiocommunications Spectrum Marketing Plan (2.5 GHz Band) 2012 (the 2.5 GHz band marketing plan).

These are collectively known as the allocation instruments. Copies are included as attachments in this AIP. Interested persons should note that the allocation instruments have legal effect and are registered as legislative instruments on the Federal Register of Legislative Instruments. In the event of any difference between the provisions of the allocation instruments and any other written or oral information made available, the allocation instruments are definitive.

The material contained in this AIP, including the *Auction guide*, is for information purposes only, and should not be used as a substitute for independent advice on participating in the auction process, or the rights or regulatory responsibilities that attach to any spectrum licences that may be obtained. The AIP does not, and does not purport to, contain all the information that may be required to evaluate any auction process or spectrum licence, or rights and obligations under the associated legislative instruments or applicable regulatory framework.

Nothing in this *Auction guide* should be taken to bind the ACMA to any particular course of action in the allocation of spectrum licences in the 700 MHz and 2.5 GHz bands. The ACMA may vary or revoke a legislative instrument at any time, as permitted at law. The auction manager has the power under the allocation determination to stop a round of the auction, cancel the result of a round of the auction, restart the auction or stop the entire auction if he or she is satisfied that the auction is affected by exceptional circumstances.

The AIP and its contents do not constitute or form part of any offer, contract, agreement or other legal obligation. This AIP is not intended to form any part of the basis of any investment decision or other evaluation by any person, and should not be considered as a recommendation by the ACMA to participate in the auction process. It is the responsibility of each recipient of this AIP to make its own independent investigation, review and assessment of:

* the proposed allocation of spectrum licences and the auction process
* rights and responsibilities under spectrum licences issued as a result of the auction
* the potential cost and value of a licence
* whether to participate in the auction process.

By virtue of clause 19 of the deed of acknowledgment form executed by applicants, the liability of the ACMA, the auction manager, the Commonwealth, and their officers, employees, agents, contractors, subcontractors, associates and delegates in connection with the auction process or delays in access to spectrum caused by the restack process is excluded. Completion of the deed of acknowledgement is a requirement for anyone wishing to participate in the auction. Please refer to heading 4.3 of the *Auction guide* for further information about application and registration requirements.

The information contained in this AIP is presented in good faith and is believed to be accurate at the time of publication. However, all such information is subject to amendment. It is the responsibility of the recipient, at its own cost, to verify to its own satisfaction the accuracy, currency, reliability and completeness of any of the information contained in or any matter referred to in this AIP, and obtain independent advice from appropriate experts. The ACMA has not authorised any person to make any statements or representations on its behalf that are not expressly contained in or contemplated by this AIP.

Recipients and interested persons should not rely solely on any statement, opinion or information set out in this AIP, including any statements about the policies that may be followed by other authorities nor about the effect of any legislation, but should take what steps they consider necessary to inform themselves on those matters independently of the ACMA. The comments made in this AIP about the ACMA’s functions and powers reflect the present policies of the ACMA.

Prospective applicants should, on their own responsibility, take whatever steps they consider necessary to obtain access to appropriate technical or other specialist advice independently of the ACMA concerning their application, the regulation and operation of radiocommunications devices and services, or any other matters relevant to the proposed spectrum licence allocation system. Applicants are also advised to seek advice independently of the ACMA on the treatment of spectrum licences and other investments under Australian taxation laws, and on the operation of foreign investment laws and policy on proposed investment in communications in Australia.

Prospective applicants are urged to familiarise themselves with all the provisions of the Act, not just those pertaining to spectrum licensing, and should be aware that activities associated with radiocommunications may also be regulated by the *Competition and Consumer Act 2010* (the Competition and Consumer Act), the *Broadcasting Services Act 1992* (the Broadcasting Services Act)and the *Telecommunications Act 1997* (the Telecommunications Act). Depending on the activity undertaken when using the spectrum under a licence, other Commonwealth, state and territory laws may apply.

The ACMA is a statutory authority established under the *Australian Communications and Media Authority Act 2005* (the ACMA Act) to administer the Act, among other things. The ACMA is also required by subsection 14(4) of the ACMA Act to perform its functions in a manner consistent with any directions given to the ACMA by the minister administering that Act. The policies of the government may change from time to time.

In exercising its powers and functions, including those conferred on the ACMA by the Act, the Broadcasting Services Act, the Telecommunications Act and the *Telecommunications* *(Consumer Protection and Service Standards) Act 1999*, the ACMA may also take into account its own policies, which may change from time to time.

The ACMA is also required under the *Financial* *Management and Accountability Act 1997* to manage its affairs in a way that promotes the efficient, effective, economical and ethical use of Commonwealth resources, and must act in accordance with any guidelines made under that Act.

Australia is a signatory to the International Telecommunication Union Constitution and Convention, and to other international instruments relating to communications. The administration of communications by the ACMA is undertaken having regard to these instruments.

**The ACMA may change its process**

The ACMA may in exceptional circumstances, under the Act and the allocation instruments, vary the processes that apply to the auction or terminate the auction process. The ACMA reserves the right, in its sole and absolute discretion, but without being under any obligation to do so, to add to, vary, amend, update or supplement the information, terms and procedures set out in this AIP and correct any inaccuracies.

**Other ACMA rights**

Subject to the Act and the allocation determination, the ACMA reserves the right, in its sole and absolute discretion, at any stage of the auction process to do all or any of the following:

* require additional information from any applicant or bidder
* change the structure and timing or any other element of the auction process as permitted from time to time.

The ACMA makes no representation as to the utility or otherwise of the spectrum.

The ACMA reserves the right to allocate further spectrum (that is, spectrum other than that on offer in the auction process) by issuing spectrum licences in the future.

**Applicants and bidders to meet own costs**

Each applicant’s and bidder’s participation in any stage of the auction process shall be at their sole risk, cost and expense.

**Applications may be used and retained by the Commonwealth**

All application documents submitted in connection with the auction process may be used and disclosed by the ACMA for the purposes of the allocation determination and in relation to spectrum licences issued, and may be retained by the ACMA for as long as necessary for the performance of the ACMA’s functions and exercise of its powers under the allocation determination or the Act.

**Release of information and documents by the ACMA**

Information and documents obtained by the ACMA in the performance of its functions under the allocation determination may be released under the *Freedom of Information Act 1992* (unless an exemption applies) or disclosed to other authorities under Part 7A of the ACMA Act. The ACMA may also release information and documents for other reasons including for the purpose of parliamentary processes or where otherwise required or authorised by law (for example, under a court subpoena). While the ACMA seeks to consult submitters of confidential information before that information is provided to another party, the ACMA cannot guarantee that confidential information will not be released through these or other legal means.

**Collusive bidding**

Registered applicants and their officers, employees, agents and advisers must not engage in any collusive bidding, anti-competitive conduct or any other similar conduct with any other registered applicants or any other person in breach of applicable law (including but not limited to the Competition and Consumer Act) when preparing or lodging applications or bids for a spectrum licence under the auction process. Applicants must not be affiliated (as described in the allocation determination) with another bidder during the auction process and must comply with the requirements of the allocation determination concerning affiliates.

**Confidential information**

Registered applicants and their officers, employees, agents and advisers must not take steps to obtain, or use, confidential information of the ACMA relating to its spectrum allocation functions or the auction process, other than in accordance with the confidentiality requirements of the allocation determination and the deed of confidentiality form executed by applicants and related persons.

**Return of information to the ACMA**

Registered applicants must, under the deed of acknowledgment form executed by applicants, at their sole expense, upon request by the ACMA in its absolute discretion, return to the ACMA any items or written information provided to the applicant (and copies of the information) at any stage.

**Application of laws**

The laws of Victoria and the Commonwealth of Australia apply to the auction process pursuant to the deed of acknowledgment form executed by applicants.

# Auction Q&A

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|  |  |  | More information |
|  | What spectrum is available? | The digital dividend auction is being held to allocate the following frequency ranges as spectrum licences:* 703–748 and 758–803 MHz (the 700 MHz band)
* 2500–2570 and 2620–2690 MHz (the 2.5 GHz band).

The spectrum in both bands will be allocated nationally, excluding the Mid-west Radio Quiet Zone (RQZ). | 2.1, 2.2 & 5.7.4 |
|  | How will the spectrum be licensed?  | Spectrum lots won at auction will be issued to winning bidders as spectrum licences issued under section 62 of the Act.Spectrum licences authorise a licensee to operate radiocommunications devices for a fixed period, within a particular frequency range, within a particular geographic area. Spectrum licensing offers a technology-flexible, market-oriented approach to managing the radiofrequency spectrum.Spectrum licensees must comply with a series of licence conditions and a technical framework developed for the relevant band by the ACMA in consultation with industry. | 2.3 & ch.5 |
|  | When will licences commence?  | Licences for the 700 MHz band will commence on 1 January 2015. In most cases, licences for the 2.5 GHz band will commence on 1 October 2014. However, licences for the 2.5 GHz band that are for the Metro Perth region and/or the Regional Western Australia region will have a commencement date of 1 February 2016.  | 2.3.2 |
|  | How long will the licences last? | With the exception of 2.5 GHz band licences for the Metro Perth region and/or the Regional Western Australia region, licences in both bands will be issued for a 15-year period.Licences for the Metro Perth region and/or the Regional Western Australia region will have a duration of less than 15 years. The duration of these licences will be such as to allow the licences to expire at the same time as other licences issued in the 2.5 GHz band as a result of the auction. | 2.3.3 |
|  | How can I be sure incumbent licensees will have vacated by the time my licence commences? | In the case of the 2.5 GHz band, any apparatus licences remaining in this band will have been automatically cancelled by the proposed dates of commencement of the relevant spectrum licences, leaving the 2.5 GHz spectrum free of incumbent licensees from those dates.In the case of the 700 MHz band, the process for vacating incumbent licensees will vary depending on the type of licence they hold. In particular, the vacation of television broadcasting services by the proposed date of commencement for the relevant spectrum licences depends on a process known as ‘restack’ being completed by the government’s target date of 31 December 2014. To protect against the possibility of restack being delayed beyond that date, spectrum licences for the 700 MHz band will include a condition to manage potential interference to the reception of any broadcasting or retransmission services operating lawfully in the band after the licence commences. | 1.2 |
|  | Will I be able to access the spectrum early, if incumbent licensees vacate before my licence commences?  | For the 2.5 GHz band, there will be no potential to access the spectrum before the licence commencement dates stated at question 3. There will be no period between the cancellation of incumbent apparatus licences in the band and the commencement of spectrum licences issued for the band as a result of the auction.For the 700 MHz band, it is possible that incumbent broadcasting services may vacate the spectrum in some areas prior to the commencement of spectrum licenses issued for the band as a result of the auction. In such cases, winning bidders will be able to apply to the ACMA to be issued apparatus licences for the period until the spectrum licence commences. The ACMA will consider such applications on a case-by-case basis. | 2.3.4 |
|  | I only want to use spectrum in some parts of Australia—what options are available? | Spectrum lots in the 700 MHz band will be auctioned as a single ‘national’ product—that is, each of the nine lots on offer in that band will provide for coverage across one nationwide region covering all of Australia except the Mid-west Radio Quiet Zone.Spectrum lots in the 2.5 GHz band will be auctioned as 11 separate products, each providing for coverage across a discrete area within Australia. The 11 areas in which each of the 14 lots on offer in the 2.5 GHz band are available include eight metropolitan areas, two regional areas and one remote area. | 2.2 & 5.7.4 |
|  | I don’t wish to use all the spectrum I purchase in the auction—what options are available?  | Spectrum licence-holders can trade part or all of the spectrum space covered by their licence, once allocated, in accordance with the legislation. They can allow third parties to use the licensed spectrum by negotiation. | 5.6.2 & 5.8.2 |
|  | How will the auction work? | The auction will be conducted online using the combinatorial clock auction (CCA) format and according to the procedures set out in the allocation determination. The CCA is a price clock-based auction format used to sell multiple items in a single process. Auctioning the 700 MHz and 2.5 GHz bands in a single CCA process will allow bidders to bid on packages of spectrum in the two bands—offering them the opportunity to acquire the specific combinations of spectrum that will best meet their business needs. | ch.3 |
|  | I want to participate in the auction—what amounts will I need to pay? | To apply to be registered as a bidder in the auction, you will need to pay a non-refundable application fee of $25,000.To complete the bidder registration process, applicants will need to make an eligibility payment or give a deed of financial security—or both. (A deed of financial security is an alternative to an eligibility payment.)No GST is payable on these amounts. | 4.3 |
|  | I want to participate in the auction—what do I need to do? | Chapter 4 of the *Auction guide* provides a step-by-step guide to participating in the auction. It guides prospective bidders through auction-related activities, from the opening of applications to the issuing of licences to winning bidders—including an explanation of the forms, payments and deadlines associated with the bidder registration process. It also provides references to more detailed information and instructions, as appropriate.  | ch.4 |

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# Key dates

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|  | **Event** | **Date** | **Further info.** |
|  | The ACMA advertises auction, publishes the *Applicant information package* and applications open. | Thurs 3 Jan 2013 |  |
|  | The ACMA publishes lot ratings, dollar value of initial eligibility points, initial (reserve) prices and eligibility nomination form. | No later than 70 days after auction is advertised  | 3.2.3 & 3.2.4 |
|  | Application deadline. By this date, applicants will need to:* submit a completed application form
* submit a completed deed of acknowledgement form
* submit a completed deed of confidentiality form
* pay the application fee.
 | Thurs 24 Jan 2013 | 4.3.1 |
|  | The ACMA gives each applicant details about the identity of all other applicants and their associates, and asks each applicant to make a statutory declaration about whether they are affiliated with another applicant. | After application deadline | 4.3.2 |
|  | Deadline for statutory declarations requested under event #4. | Not less than 5 working days after request | 4.3.2 |
|  | Deadline for any new applications submitted by applicants whom the ACMA has notified that it is satisfied are affiliated. | Not more than 10 working days after notification | 4.3.2 |
|  | First mock auction held, to acquaint prospective bidders with the auction system. | To be announced | 3.4 |
|  | The ACMA notifies applicants about the supplementary bid limit it has set. | No later than Thurs 14 Mar 2013  | 3.1.2 |
|  | Eligibility deadline. By this date, applicants will need to:* lodge a completed eligibility nomination form
* make an eligibility payment, provide a deed of financial security or do both.
 | Thurs 28 Mar 2013  | 4.3.3 |
|  | The ACMA tells registered bidders that they have been registered and may participate in the auction, and gives them information to enable their participation (e.g., information about how to access and use the online auction system). | After eligibility deadline | 4.3.4 |
|  | The ACMA notifies registered bidders about the start date and time of the first clock round in the auction. | No later than Tues 9 Apr 2013 | 4.4.1 |
|  | Second mock auction held, to further acquaint registered bidders with the auction system. | To be announced | 3.4 |
|  | Auction begins. | Tues 23 Apr 2013 | 4.4 |

 |
| *Note: The above timetable is indicative and for guidance purposes only, and is subject to change. Any changes made to the timetable will be announced through the sources listed under heading 6.1.*  |

Part one—
Understanding the auction process

# What is the digital dividend auction?

**This chapter provides information about the:**

* **purpose and structure of the *Auction guide*, and the other elements of the *Applicant information package***
* **background to the reallocation of the 700 MHz and 2.5 GHz bands**
* **legislative processes for clearing incumbent licences from the 700 MHz and 2.5 GHz bands**
* **ACMA’s decision to allocate the 700 MHz and 2.5 GHz bands through a single auction**
* **instruments that provide the legal basis for the auction**
* **consultative processes by which the auction instruments were developed.**

## Overview

The ACMA will allocate spectrum in the 700 MHz (digital dividend) and 2.5 GHz bands as spectrum licences through a single auction commencing in April 2013.

While the auction will be used to allocate spectrum in both the 700 MHz and 2.5 GHz bands, it is referred to simply as ‘the digital dividend auction’.

These bands, which are currently occupied, are being replanned to enable the spectrum to move to its highest value use. The reallocation of the bands for the issue of spectrum licences is an important part of this process, as the regulatory and technical framework underpinning spectrum licences is designed to maximise the ability of the user or market to determine what the highest value use of the frequency band may be.

The digital dividend auction will be run online using a combinatorial clock auction (CCA) format. The CCA is a price clock-based auction method used to sell multiple items in a single process. In addition to the other benefits of the CCA format discussed at 3.1.1, a single CCA process will allow bidders to bid on packages of spectrum in the two bands, offering them the opportunity to acquire the specific combinations of spectrum that will best meet their business needs.

This *Auction guide* is designed to give prospective bidders information to help them decide whether to apply to take part in the auction—and, if they wish to take part, how to do so. The *Auction guide* is structured as follows:

* **Chapter 1: What is the digital dividend auction?**—provides information about the background to the auction, the clearance of incumbent licences from the spectrum on offer, the decisions to reallocate the 700 MHz and 2.5 GHz bands through a single auction, and the instruments that provide the legal basis for the digital dividend auction.
* **Chapter 2: What is being offered in the auction?**—provides information about the spectrum available, how the spectrum is configured as auction lots and key issues that will affect how winning bidders can use the spectrum.
* **Chapter 3: How will the auction be conducted?**—provides information about the CCA format, the auction procedures, the online auction system, and support and training opportunities for prospective bidders.
* **Chapter 4: How do I participate in the auction?**—provides a practical step-by-step guide to participating in the auction, from the opening of applications to the issuing of licences.
* **Chapter 5: Spectrum licensing and technical frameworks**—provides information about the spectrum licensing and technical frameworks applicable to the spectrum on offer.
* **Chapter 6: Communicating with the ACMA**—provides information about how the ACMA will keep stakeholders informed about developments leading up to the auction, and how stakeholders can submit queries, lodge auction documents and make payments to the ACMA.
* **Attachments**—includes:
* the instruments that provide the legal basis for the auction
* forms that auction participants may be required to complete
* formal documentation of matters set by the ACMA to date under the auction procedures.

Together, the *Auction guide* and its attachments form the *Applicant information package* for the digital dividend auction.

## Reallocation of the 700 MHz and 2.5 GHz bands

### Ministerial spectrum reallocation declarations

On 1 November 2011, the Minister for Broadband, Communications and the Digital Economy, Senator Stephen Conroy, having considered recommendations made by the ACMA, made two spectrum reallocation declarations:[[1]](#footnote-1)

* The Radiocommunications (Spectrum Re-allocation) Declaration No.1 of 2011, which relates to the 700 MHz band—see declaration and explanatory statement at Attachment J.
* The Radiocommunications (Spectrum Re-allocation) Declaration No. 2 of 2011, which relates to the 2.5 GHz band—see declaration and explanatory statement at Attachment K.

Together, the two declarations provided that the frequency bands 703–748 and
758–803 MHz in the 700 MHz band, and 2500–2570 and 2620–2690 MHz in the 2.5 GHz band should be reallocated for issuing as spectrum licences.

The declarations provide that the spectrum in both the 700 MHz and 2.5 GHz bands should be reallocated nationally, excluding the Mid-west Radio Quiet Zone (RQZ). The ACMA endeavours to maintain low levels of radiofrequency emissions in the RQZ area (near Boolardy Station, approximately 200 kilometres west of Meekatharra in remote Western Australia) to facilitate the development and use of radioastronomy technologies at the Murchison Radio-astronomy Observatory (see 5.7.4).

The decision to reallocate spectrum in the 700 MHz band came after the minister directed the ACMA in July 2010 to clear 126 MHz of digital dividend spectrum (694–820 MHz) and reallocate that spectrum for new uses.[[2]](#footnote-2) The minister made the direction following public consultation through the *Digital Dividend Green Paper,* released in January 2010.[[3]](#footnote-3)

The decision to allocate spectrum in the 2.5 GHz band followed an extensive ACMA review of that band during 2010. The review recommended the reallocation of 2.5 GHz band spectrum for new uses, especially wireless access services.[[4]](#footnote-4)

### Effect of a reallocation declaration

Ordinarily, a spectrum reallocation declaration has the effect of cancelling apparatus licences in the spectrum to be reallocated, at the end of the ‘reallocation period’ specified in the declaration.[[5]](#footnote-5)

This is the case in the 2.5 GHz band, meaning that any apparatus licences remaining in this band at the end of the reallocation period (that is, 30 September 2014, or 31 January 2016 for the ‘Perth Area’[[6]](#footnote-6)) are automatically cancelled. Cancelling the remaining apparatus licences will leave the 2.5 GHz spectrum free for new licensees to use from those dates. Spectrum licences for the 2.5 GHz band that are issued as a result of the auction will commence in alignment with the reallocation period end dates (see 2.3.2).

However, in the 700 MHz band, the declared spectrum lies in the broadcasting services bands.[[7]](#footnote-7) As a result, while some apparatus licences operating in this spectrum are cancelled as a result of the spectrum allocation declaration, others are not. This point is discussed further below.

### Licences to be cleared from the declared spectrum

There are a number of different licences currently operating in the declared spectrum, which will be cleared to make way for new spectrum licensees. The mechanism used to clear the services will depend on the particular type of licence the incumbent licensee holds.

In the 2.5 GHz band, there are apparatus licences (issued under section 100 of the Act), primarily for electronic news gathering (ENG) services.

In the 700 MHz band there are:

* apparatus licences (issued under section 100, 100B, 102 or 102A of the Act) for delivery of commercial, national or community television broadcasting services
* apparatus licences (issued under section 100 of the Act) for the retransmission of television broadcasting services, temporary delivery of commercial television services in digital mode or delivery of open narrowcasting services
* class licences (issued under section 132 of the Act) for low interference potential devices, such as wireless microphones.

The mechanism being used to clear each licence type from the declared spectrum is described under the following headings.

### Clearance of the declared spectrum—2.5 GHz band

Apparatus licences for electronic news gathering and other services

The apparatus licences issued under section 100 of the Act, primarily for ENG services, will be automatically cancelled at the end of the reallocation period as a result of the spectrum reallocation declaration.

The ACMA is making alternative bands available for these apparatus licensees to relocate to. Further information about this process is available on the ACMA [website](http://www.acma.gov.au/WEB/STANDARD/pc%3DPC_410102).

### Clearance of the declared spectrum—700 MHz band

Apparatus licences for commercial, national or community broadcasting services

The apparatus licences issued under section 100, 100B, 102 or 102A of the Act for commercial, national or community television broadcasting services are *not* cancelled as a result of the spectrum reallocation declaration.

Instead, these licences will be cleared from the band through television licence area plans (TLAPs) prepared by the ACMA under subsection 26(1B) of the Broadcasting Services Act.[[8]](#footnote-8) TLAPs allow the ACMA to set a date, or range of dates, within which broadcasting services must vacate the reallocated spectrum and move to other channels. In some cases, services will move to channels identified in digital channel plans (DCPs) where the changes take place before the relevant TLAP can take effect.[[9]](#footnote-9) This process of moving broadcasting services to other channels, which will occur on an area-by-area basis, is referred to as ‘restack’.

In June 2012, the government announced its expectation that the restack process would be completed by 31 December 2014 and that it had committed $143.2 million in the 2012–13 Budget to ensure that the declared parts of the 700 MHz band would be released in a timely fashion with minimal disruption for viewers.[[10]](#footnote-10) The Department of Broadband, Communications and the Digital Economy (DBCDE) subsequently engaged Broadcast Australia to develop a nationwide restack implementation timetable in consultation with the broadcasting industry.

An indicative timetable (which includes an outline of the restack process and resourcing, and sets out the underlying assumptions that informed the development of the timetable) was published on the DBCDE [website](http://www.dbcde.gov.au/television/achieving_the_digital_dividend_-_restack) in September 2012. More detailed timetable information is expected to be released by DBCDE before the end of 2012. The information will be subject to further updates as planning and implementation of the restack progresses.

The ACMA will progressively release drafts of the remaining TLAPs for consultation with consideration to the indicative timetable. All draft TLAPs released by the ACMA for consultation will include a final restack date that reflects the government’s expectation that the restack process will be completed by 31 December 2014. After consulting on the draft TLAPs in accordance with section 27, the ACMA will make TLAPs under subsection 26(1B) of the Broadcasting Services Act (see 1.2.6).

Other apparatus licences

The apparatus licences issued under section 100 of the Act for the retransmission of television broadcasting services, temporary delivery of commercial television services in digital mode or delivery of open narrowcasting services will be cancelled at the end of the reallocation period.

The ACMA wrote to these licensees in June 2011 to inform them about how a draft version of the spectrum reallocation declaration for the 700 MHz band may affect their licence and service, and provide them with an opportunity to make written comments. Where appropriate, the ACMA will write to licensees again in the near future to set out proposed arrangements to authorise these services in broadcasting services bands spectrum outside of the declared spectrum.

Class licences for low interference potential devices

There is currently a class licence for low interference potential devices in place within the declared spectrum.[[11]](#footnote-11)

Prior to the spectrum licences for the 700 MHz band commencing on 1 January 2015, the ACMA will vary the class licence under section 134 of the Act, so as to exclude the operation of devices under the licence within the declared spectrum. This means that by 1 January 2015, low interference potential devices will be required by law to cease operating in the declared spectrum.

Further information about the clearance of low interference potential devices from the declared spectrum is available on the ACMA [website](http://www.acma.gov.au/WEB/STANDARD/pc%3DPC_312475).

### Contingency planning for possible delay to restack process

While planning is being undertaken to achieve the government’s timetable, current legislation does allow for the ACMA to extend the date by which broadcasting services must vacate the declared spectrum. This aims to ensure that television viewers do not lose services if restack is delayed for technical or other reasons. If there are delays in achieving the restack timetable, it is open to the ACMA to prepare a TLAP or, in accordance with subsection 26(2) of the Broadcasting Services Act, vary a TLAP it has prepared, such that the deadline within which broadcasting services must vacate the spectrum falls after the end of the reallocation period for the 700 MHz band (31 December 2014). For example, the ACMA may consider varying a TLAP, at its own initiative or after receiving a request, where extreme weather, environmental or logistical conditions make the timing of frequency moves impossible or highly impractical. The ACMA may also be directed by the minister under subsection 26(8) of the Broadcasting Services Act about the exercise of its powers to make or vary a TLAP for a particular area. If the ACMA varies a TLAP, the TLAP may permit broadcasting services to continue operating in the 700 MHz band in the relevant area after spectrum licences for the 700 MHz band commence on 1 January 2015. Generally speaking, the ACMA is required to consult with affected persons before varying a TLAP.[[12]](#footnote-12) The ACMA will provide stakeholders with as much notice as possible about any TLAP variations it proposes to make.

Where delivery against the restack timetable is delayed, the ACMA may also, acting in accordance with special circumstance provisions in section 153P of the Act, authorise the continued operation of television broadcasting retransmission services in the relevant area beyond 31 December 2014.

Spectrum licences for the 700 MHz band that are issued as a result of the auction will include a condition to manage potential interference to the reception of any broadcasting services or retransmission services operating lawfully in the frequency range 694–820 MHz after the licence commences.

This will include a requirement to comply with Part 4 of the Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 700 MHz Band) 2012 at Attachment D (one of the radiocommunications advisory guidelines discussed at 1.4.3 and 5.5). The condition is intended to prevent new spectrum licensees from causing unacceptable interference to broadcasting services or retransmission services that remain legally authorised to operate in the 700 MHz band after the new licensee’s spectrum licence commences.

The effect of the condition is that any person who is issued a spectrum licence in the 700 MHz band as a result of the auction will be prevented from commencing operation in the exclusion zone specified for each transmitter that is being used to legally provide a broadcasting or retransmission service. The condition will cease to apply in an exclusion zone when the transmitters cease to provide a broadcasting or retransmission service in the area. Further information about the interference management condition is provided at 2.3.5.

Information about the progress of the restack process is available on the ACMA [website](http://engage.acma.gov.au/digitaldividend/category/restack/). This includes copies of draft TLAPs released for comment, submissions received in response to the draft TLAPs, final TLAPs prepared to date and a link to the indicative nationwide restack timetable published by DBCDE in September 2012. This material will be updated from time to time throughout the course of the restack process. Prospective bidders are encouraged to check the website regularly for updates.

### Excision of declared 700 MHz band spectrum from broadcasting services bands

Consistent with the intent of the spectrum reallocation declarations made by the minister, it is expected that the declared parts of the 700 MHz band will be excised from the broadcasting services bands (BSBs) before spectrum licences commence on 1 January 2015.[[13]](#footnote-13)

However, as discussed at 1.2.6, it remains possible that a TLAP prepared by the ACMA, or varied by the ACMA in accordance with subsection 26(2) of the Broadcasting Services Act, may permit broadcasting services to continue operating lawfully in the 700 MHz band in the relevant area after the spectrum licences commence. In circumstances where broadcasting or retransmission services are still operating, the declared parts of the 700 MHz band would need to remain in the BSBs until the last service has vacated.

Currently, a person who is issued a spectrum licence in the 700 MHz band as a result of the auction may be subject to additional regulatory obligations that arise from the regulation of datacasting services under Schedule 6 of the Broadcasting Services Act if they commence services prior to the revision of the designation of the BSBs. However, the minister has advised the ACMA of his intention to introduce amendments to the Broadcasting Services Act in 2013 to allow Long Term Evolution (LTE) services to generally operate in the BSBs and provide a range of audiovisual content without the encumbrance of a datacasting licence.

Prospective bidders in the auction should note that the proposed amendments have not yet been introduced to Parliament. Further information on this issue is provided at 2.3.6.

## Allocating the 700 MHz and 2.5 GHz bands through a single auction

The ACMA has decided to allocate the 700 MHz and 2.5 GHz bands in a single auction because they will become available at around the same time, subject to completion of the restack process, are complementary for some potential users and may be regarded as substitutes by others.

While both frequency bands are suitable for wireless broadband services, their different propagation characteristics allow them to be used in complementary ways. Spectrum in the 700 MHz band is suited to providing coverage over a wide area and with high in-building penetration. Spectrum in the 2.5 GHz band, with its abundant bandwidth but less effective in-building and distance propagation, is suited to providing high-data capacity in more densely populated, high-demand areas. These differing properties make the bands potentially complementary, but they might also be regarded as substitutes by some users who are interested in acquiring spectrum in one of the two bands, and whose choice of band may depend on the relative price of each.

A single CCA process will allow bidders to bid on packages of spectrum in the two bands, offering them the opportunity to acquire the specific combinations that will best meet their needs. The means by which the CCA format enables this to happen is discussed at 3.1.

## Legislative framework

The Act provides a legislative framework for allocating spectrum licences by auction.

### Allocation determination

Section 60 of the Act requires the ACMA to determine written procedures to apply to the allocation of spectrum licences by auction. An allocation determination made under section 60 essentially sets out the ‘auction rules’.

For the digital dividend auction, the ACMA has made one allocation determination, as the two bands are being allocated in a single process:

* The Radiocommunications (Spectrum Licence Allocation — Combinatorial Clock Auction) Determination 2012—see determination and explanatory statement at Attachment A.

In summary, the allocation determination specifies:

* that the auction will be conducted using the CCA format, and the procedures for the auction
* the allocation limits (also referred to as ‘competition limits’ or ‘spectrum caps’) on the amount of spectrum a person will be permitted to purchase in the auction—see 3.2.5
* administrative matters such as the bidder registration process and the different payments auction participants may be required to make.

Further information about the procedures set out in the allocation determination is provided in Chapter 3.

### Marketing plans

Where a relevant spectrum reallocation declaration has been made, section 39A of the Act requires the ACMA to prepare a marketing plan for issuing spectrum licences within a particular part of the spectrum. A marketing plan made under section 39A essentially sets out the product offering.

For the digital dividend auction, the ACMA has made two marketing plans—one for each band—as there are two separate categories of spectrum being offered for auction. The two marketing plans made by the ACMA are:

* The Radiocommunications Spectrum Marketing Plan (700 MHz Band) 2012—see marketing plan and explanatory statement at Attachment B.
* The Radiocommunications Spectrum Marketing Plan (2.5 GHz Band) 2012—see marketing plan and explanatory statement at Attachment F.

The marketing plan for each band specifies:

* the spectrum products that will be available in each band
* the method by which the spectrum products will be allocated
* the conditions that may apply to the spectrum licences issued.

A summary of the key elements of the marketing plans is provided in chapters 2 and 5.

### Technical instruments

An overview of the spectrum licensing framework is provided in Chapter 5. As mentioned in that chapter, spectrum licensees are required to register the radiocommunications transmitters they intend to operate under their licences in the Register of Radiocommunications Licences maintained by the ACMA, unless the transmitter type is specifically exempted from registration under their licence.

Under subsection 145(1) of the Act, the ACMA may refuse to register a radiocommunications transmitter if it is satisfied that the operation of the transmitter could cause unacceptable levels of interference to the operation of other radiocommunications devices. Under subsection 145(4) of the Act, the ACMA may determine what are ‘unacceptable levels of interference’ for the purposes of subsection 145(1). A subsection 145(4) determination sets out the circumstances in which the ACMA may decide that the operation of the device is likely to cause ‘unacceptable interference’. Such circumstances include, without limitation, where:

* any part of the device boundary falls outside the geographic area of the spectrum licence
* the operation of the transmitter will breach a core condition of the spectrum licence
* the deployment of the transmitter breaches the deployment constraints of the section 145 determination.

Under section 262 of the Act, the ACMA may make advisory guidelines about any aspect of radiocommunications. Such guidelines can include provisions to help manage interference between spectrum-licensed devices and radiocommunications devices for other services.

For the digital dividend auction, the ACMA has made technical instruments for each of the two bands.

For the 700 MHz band, the ACMA has made:

* The Radiocommunications (Unacceptable Levels of Interference – 700 MHz Band) Determination 2012—see determination and explanatory statement at Attachment C.
* The Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 700 MHz Band) 2012—see guidelines and explanatory statement at Attachment D.
* The Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 700 MHz Band) 2012—see guidelines and explanatory statement at Attachment E.

For the 2.5 GHz band, the ACMA has made:

* The Radiocommunications (Unacceptable Levels of Interference – 2.5 GHz Band) Determination 2012—see determination and explanatory statement at Attachment G.
* The Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 2.5 GHz Band) 2012—see guidelines and explanatory statement at Attachment H.
* The Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 2.5 GHz Band) 2012—see guidelines and explanatory statement at Attachment I.

The purpose and effect of these technical instruments are discussed further in Chapter 5.

## Stakeholder consultation

From the early stages of its preparations for the digital dividend auction, the ACMA made clear its commitment to developing the auction arrangements with appropriate regard to stakeholder views.[[14]](#footnote-14) Consistent with that commitment, the ACMA developed the above instruments in close consultation with auction stakeholders, particularly prospective participants.

A summary of the stakeholder consultation undertaken in preparation for the auction, including links to all relevant information and documents, is available on the ACMA’s [engage website](http://engage.acma.gov.au/digitaldividend/stakeholder-engagement-and-consultation/).

# What is being offered in the auction?

**This chapter provides information about:**

* **the 700 MHz and 2.5 GHz spectrum available**
* **how the spectrum will be configured as auction lots**
* **key matters affecting how winning bidders can use the spectrum**

## Available spectrum

The digital dividend auction is being held to allocate the following frequency ranges as spectrum licences:

* 703–748 and 758–803 MHz (the 700 MHz band)
* 2500–2570 and 2620–2690 MHz (the 2.5 GHz band).

The spectrum in both bands will be allocated nationally, excluding the Mid-west RQZ.[[15]](#footnote-15)

## Spectrum auction lots

The ACMA has configured the declared parts of the 700 MHz and 2.5 GHz bands into smaller units, referred to as ‘lots’, for auction.

The auction lots are grouped as a series of ‘products’ defined by frequency ranges and geographic region. The lots in each product are taken to be ‘generic’—that is, they are good substitutes for each other in that:

* they are in the same frequency range (or ‘category’)—that is, the lots are in either the 700 MHz or 2.5 GHz band
* they are of the same bandwidth
* they are for the same geographic area
* there was no other reason (such as a factor seriously affecting the value or utility of some but not all of the lots) for concluding that the lots are not good substitutes for each other.

Details of the lot configurations for the 700 MHz and 2.5 GHz bands are provided below. A summary of the lots available in each band is provided in Figure 5.

### Lot configuration in the 700 MHz band

For the 700 MHz band category, there is one product containing nine generic lots. Each lot consists of 10 MHz in paired configuration (2x5 MHz), with a block of 5 MHz in the upper and lower parts of the band separated by 55 MHz, which includes a 10 MHz mid-band gap (748–758 MHz). The mid-band gap is not available in the auction.

Each of the nine lots in the single ‘national’ product will provide for coverage across one nationwide region covering all of Australia, excluding the Mid-west RQZ.The decision to auction the 700 MHz spectrum in national lots was made with regard to stakeholder submissions that this spectrum would best be used as the foundation for a national mobile network.

|  |
| --- |
| Figure 1 Lots available in the one 700 MHz band product\*  |
|  |
| *\*Not to scale.* |
| Figure 2 Indicative national geographic region covered by each of the nine lots in the 700 MHz band |
|  |
|  |

More detailed versions of the image in Figure 2 are available in [Google Maps](http://maps.google.com.au/maps?q=http%3A%2F%2Fwww%2Eacma%2Egov%2Eau%2Finterforms%2Fplacemarks%2Fspectrum_mp%2Fmarket_region_700_gm.kmz)[[16]](#footnote-16) and [Google Earth](http://www.acma.gov.au/interforms/placemarks/spectrum_mp/market_region_700.kmz)[[17]](#footnote-17) formats. The image in Figure 2, and the Google Earth and Google Map versions of the image, are provided for information only. The ACMA does not accept responsibility for the accuracy of that information. Potential auction participants should obtain their own advice and make their own enquiries into pictorial representations of the region. The geographic area of the region can be determined by the aggregation of block areas referenced by the hierarchical cell identification scheme (HCIS) identifiers listed at item 1.2 in Schedule 3 of the 700 MHz marketing plan, at Attachment B.

### Lot configuration in the 2.5 GHz band

For the 2.5 GHz band category, there are 11 products, each containing 14 generic lots. Each lot consists of 10 MHz in paired configuration (2x5 MHz), with a block of 5 MHz in the upper and lower parts of the band separated by 120 MHz, which includes a 50 MHz mid-band gap (2570–2620 MHz). The mid-band gap is not available in the auction.

Each of the 11 products provides for coverage across a discrete area within Australia. The 11 areas in which each of the 14 lots are available are:

* eight metropolitan areas—ACT, Adelaide, Brisbane, Darwin, Hobart, Melbourne, Perth, Sydney
* two regional areas—Regional East Australia, Regional Western Australia
* one remote area—Remote Australia, which covers the rest of Australia, but excludes the Mid-west RQZ.

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| --- |
| Figure 3 Lots available in the 11 separate 2.5 GHz band products\* |
|  |
| *\*Not to scale.* |

|  |
| --- |
| Figure 4 The indicative 11 geographic regions covered by each of the 14 lots in the 2.5 GHz band |
| C:\Users\rurquhar\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\XWSFRW3G\overiew_2g5_v3 (4).png |
|  |

More detailed versions of the image in Figure 4 are available in [Google Maps](http://maps.google.com.au/maps?q=http%3A%2F%2Fwww%2Eacma%2Egov%2Eau%2Finterforms%2Fplacemarks%2Fspectrum_mp%2Fmarket_regions_2g5_gm.kmz)[[18]](#footnote-18) and [Google Earth](http://www.acma.gov.au/interforms/placemarks/spectrum_mp/market_regions_2g5.kmz)[[19]](#footnote-19) formats. The image in Figure 4, and the related Google Earth and Google Map versions of the image, are provided for information only. The ACMA does not accept responsibility for the accuracy of that information. Potential participants in the auction should obtain their own advice and make their own enquiries into pictorial representations of the region. The geographic area of each region can be determined by the aggregation of block areas referenced by the hierarchical cell identification scheme (HCIS) identifiers listed in Schedule 3 of the 2.5 GHz marketing plan, at Attachment F.

### Summary of lots on offer

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| --- |
| Figure 5 Summary of the lots available in the 700 MHz and 2.5 GHz bands |
|

|  |  |
| --- | --- |
| Product | Category |
| **700 MHz band** | **2.5 GHz band** |
| National | Nine generic lots of 2x5 MHz |  |
| Metro ACT |  | 14 generic lots of 2x5 MHz |
| Metro Adelaide |  | 14 generic lots of 2x5 MHz |
| Metro Brisbane |  | 14 generic lots of 2x5 MHz |
| Metro Darwin |  | 14 generic lots of 2x5 MHz |
| Metro Hobart |  | 14 generic lots of 2x5 MHz |
| Metro Melbourne |  | 14 generic lots of 2x5 MHz |
| Metro Perth |  | 14 generic lots of 2x5 MHz |
| Metro Sydney |  | 14 generic lots of 2x5 MHz |
| Regional East Australia |  | 14 generic lots of 2x5 MHz |
| Regional Western Australia |  | 14 generic lots of 2x5 MHz |
| Remote Australia |  | 14 generic lots of 2x5 MHz |

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|  |

## Key issues affecting the use of the spectrum

### Spectrum to be allocated as spectrum licences

Spectrum lots won at auction will be allocated to winning bidders as spectrum licences issued under section 62 of the Act.

Spectrum licences authorise a licensee to operate radiocommunications devices for a fixed period, within a parcel of spectrum space—that is, within a particular frequency range, within a particular geographic area. Spectrum licensing offers a technology-flexible, market-oriented approach to managing the radiofrequency spectrum in that licensees may:

* subdivide and trade their spectrum space
* change their services over time in response to the changing market environment and new technologies.

Spectrum licensees must comply with:

* the Act
* a set of core licence conditions
* statutory licence conditions
* other licence conditions
* a technical framework established for the relevant band by the ACMA in consultation with industry.

Detailed information about the spectrum licensing and technical frameworks applicable to the spectrum licences to be allocated in the 700 MHz and 2.5 GHz bands, and other important matters for spectrum licensees to be aware of, is provided in Chapter 5. Information specific to the spectrum licences to be issued for the lots on offer in the auction is available in Part 3 of the 700 MHz band marketing plan (Attachment B) and the 2.5 GHz band marketing plan (Attachment F). This includes, at Schedule 6 to the marketing plan for each band, a sample licence containing the conditions that may be included in a spectrum licence to be allocated in each band.

Drawing from the marketing plans, the matters discussed in Chapter 5 and other sources, headings 2.3.2 to 2.3.6 highlight a number of key issues affecting use of spectrum on offer that may be of particular interest to prospective auction participants.

A number of the issues addressed below may be affected by the progress of the restack process discussed at 1.2.5 and 1.2.6. Relevant information is available on the ACMA website and will be updated from time to time. Information about the restack process and the types of information available on the website is provided at 1.2.6. It is the responsibility of prospective applicants, applicants and registered bidders to ensure that they review the website regularly in order to receive all updated information.

### Licence commencement

Spectrum licences for the 700 MHz band will commence on 1 January 2015. This date aligns with the end of the reallocation period set in the 700 MHz band spectrum reallocation declaration.

Spectrum licences for the ‘National Area’ (as specified in the 2.5 GHz band spectrum reallocation declaration) in the 2.5 GHz band will commence on 1 October 2014—except for those licences solely for the Metro Perth region and/or the Regional Western Australia region. This date aligns with the end of the reallocation period for the National Area set in the 2.5 GHz band spectrum reallocation declaration. Licences solely for the Metro Perth region and/or the Regional Western Australia region in the 2.5 GHz band will have a later commencement date of 1 February 2016. This later date aligns with the end of the reallocation period set for the ‘Perth Area’ in the 2.5 GHz band spectrum reallocation declaration.[[20]](#footnote-20)

Where a person wins auction lots in the Metro Perth region and/or the Regional Western Australia region, they will be issued one spectrum licence (containing the 1 February 2016 commencement date) for those lots, and a separate spectrum licence (containing the 1 October 2014 commencement date) for any lots they win in other regions.

### Licence duration and expiry

With the exception of licences in the 2.5 GHz band for the Metro Perth region and/or the Regional Western Australia region, spectrum licences in both bands will be issued for a 15-year period. The 15-year licence duration is the maximum period permitted under section 65 of the Act.

Spectrum licences in the 2.5 GHz band for the Metro Perth region and/or the Regional Western Australia region will have a duration of less than 15 years. The duration of these licences will be such as to allow the licences to expire at the same time as other licences issued in the 2.5 GHz band as a result of the auction.

Under these arrangements, all licences issued in each of the two bands as a result of the auction will have a common expiry date—31 December 2029 in the case of the 700 MHz band, and 30 September 2029 in the case of the 2.5 GHz band.

Spectrum licences are issued with no automatic right of renewal. Rules for the reissuing of spectrum licences are set out in Division 4 of Part 3.2 of the Act. Section 78 of the Act requires the ACMA to periodically publish notices in the *Gazette* about forthcoming expiring spectrum licences, and invite expressions of interest from people who wish to be issued spectrum licences for the relevant parts of the spectrum. Notices published by the ACMA in the *Gazette* under section 78 of the Act are also published on the ACMA website.

### Potential access to spectrum prior to licence commencement

The legislative processes for vacating incumbent licensees from the 700 MHz and 2.5 GHz bands are discussed at 1.2.

In summary, apparatus licences in the 2.5 GHz band will be cancelled automatically at the end of the reallocation period set in the 2.5 GHz band spectrum reallocation declaration, thereby leaving the band free for use by new licensees from the licence commencement dates (see 2.3.2). There will be no period between the cancellation of the incumbent apparatus licences and the commencement of the new spectrum licences.

Apparatus licences in the 700 MHz band held by commercial, national and community television broadcasting service licensees will be cleared from the band in accordance with TLAPs, or in some cases DCPs, prepared by the ACMA with regard to a nationwide restack timetable being implemented by DBCDE (see 1.2.5 and 1.2.6). It is possible that the restack process may be completed, and the spectrum left vacant, in some areas prior to the commencement of 700 MHz band spectrum licences on 1 January 2015. Bidders should refer to DBCDE’s indicative timetables (available through the link at 1.2.6), which provide an indication of where restack will have occurred earlier than 31 December 2014.

The ACMA understands that some prospective bidders may wish to access the 700 MHz spectrum they win in the auction from the earliest possible date, where an area is left vacant before their spectrum licence commences. The regulatory arrangements underpinning access to vacant spectrum prior to the commencement of spectrum licences are separate from, and unrelated to, the arrangements applicable to spectrum licences issued in the 700 MHz band as a result of the auction. Winning bidders can apply to the ACMA to be issued an apparatus licence for a period until the spectrum licence commences. The ACMA will consider applications on a case-by-case basis. This will include a consideration of the legislative requirement that the ‘special circumstances’ of the case justify a departure from the general rule that prevents the ACMA from issuing an apparatus licence in spectrum that is the subject of a spectrum reallocation declaration.[[21]](#footnote-21) The ACMA will consult with stakeholders separately on the apparatus licensing arrangements in the near future.

Any apparatus licence issued in such cases would be on an interim basis only, and would expire in alignment with the commencement of the winning bidder’s spectrum licence.

As discussed at 1.2.7, prior to the complete vacation of the 700 MHz band by broadcasting services, the declared 700 MHz spectrum must remain in the BSBs. Additional obligations may arise as a result of this, although the minister has advised the ACMA of his intention to modify these arrangements in 2013. This is discussed further at 2.3.6.

### Managing interference with broadcasting services and retransmission services (700 MHz band)

The legislative processes for vacating incumbent broadcasting services and retransmission services from the 700 MHz band are discussed at 1.2.

Each spectrum licence issued in the 700 MHz band as a result of the auction will include an interference management condition, which is discussed at 1.2.6.

A description of the licence condition appears in subsection 3.7(2) of the 700 MHz band marketing plan—and a version of the condition is included in the sample licence at Schedule 6 of that marketing plan.[[22]](#footnote-22) The condition provides that licences issued as a result of the auction will require that:

* where a transmitter is used to provide a broadcasting service in accordance with a TLAP, or a retransmission service, on a channel between 694 MHz and 820 MHz, and
* the transmitter is operated under an apparatus licence;

new licensees must comply with Part 4 of the Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 700 MHz Band) 2012 (Attachment D) to the extent that Part 4 prevents the operation of a radiocommunications device in an area that includes the transmitter site.

Part 4 of the guidelines provides as follows:

4.2 Digital television receivers

1. Where a digital television broadcasting or retransmission service continues to operate in the 694 to 820 MHz frequency range after the end of the re-allocation period, there is potential for interference to digital television receivers from spectrum-licensed transmitters operating in either the 700 MHz upper band or 700 MHz lower band.
2. To mitigate potential interference, spectrum-licensed transmitters must be separated from coverage areas of digital television broadcasting and retransmission services. The ACMA will publish a set of maps showing the required exclusion zones that implement these separation distances. For that area, as designated by these published maps, where a UHF digital television broadcasting or retransmission operates on any channel in the channel 52 to channel 69 range, a spectrum licensee must not deploy a service in any part of the 700 MHz band. This is for reasons of equitable access.
3. These maps will be made available on the ACMA website and will be updated from time to time (for example, the number of applicable maps may be reduced) as digital television broadcasting and retransmission services are ‘re-stacked’ to channels below 694 MHz. Spectrum licensees should consult the ACMA website and refer to these maps when planning services in the 700 MHz band.
4. In this section, *coverage area*, in relation to a broadcasting or retransmission service, means the area within which transmitters make that service available.

The effect of the condition described in subsection 3.7(2) of the 700 MHz marketing plan, and to be included in each spectrum licence issued in the 700 MHz band, is that any person who is issued a spectrum licence in this band as a result of the auction will be prevented from using the spectrum to deploy a radiocommunications device in any area where a transmitter is being used to legally provide a broadcasting service or retransmission service.

700 MHz band spectrum licensees will only have to comply with Part 4 of the guidelines where:

* a transmitter is operated, under an apparatus licence, to provide a broadcasting or retransmission service in an area
* the service is being provided on a channel between 694 MHz and 820 MHz.

Additionally, spectrum licensees will only have to comply with Part 4 of the guidelines in designated areas (exclusion zones) where the relevant transmitters are being used. Where transmitters cease to provide the relevant services in an area, the relevant exclusion zone will be removed pursuant to the process under the guidelines and the condition will cease to apply in that area—although exclusion zones for operating transmitters in other areas will still apply. The condition will cease to apply entirely, and new licensees will be able to commence using the spectrum, when the last broadcasting or retransmission service vacates. New licensees should ensure that they review the ACMA’s website regularly in order to access all updated information about the vacation of broadcasting and transmission services, including all updates to the exclusion zone maps (see link at 1.2.6).

Ordinarily, it is not necessary to protect licensees in this way against interference in the same geographic area and bandwidth frequency. This is because the effect of a spectrum reallocation declaration under Part 3.6 of the Act is to cancel existing apparatus licences and clear the declared frequency range.[[23]](#footnote-23) However, the reallocation of digital dividend spectrum is unique in that some of the apparatus licences operating in the 700 MHz band will be cleared through a different process (see 1.2.5). For this reason, it is necessary to include a specific provision in the 700 MHz band spectrum licences, as described in the 700 MHz band marketing plan, to protect incumbent licensees from interference in the event that broadcasting services or retransmission services remain lawfully operating in the 700 MHz band after the new spectrum licences commence. The interference management condition provides such protection in a way that recognises the staged clearance of broadcasting and retransmission services. The ‘self-executing’ aspect of the condition means that new licensees can commence using any 700 MHz spectrum they win in the auction in an area immediately following the vacation of the last service from the area.

It is important that any person who is considering participating in the auction be aware that each spectrum licence issued in the 700 MHz band as a result of the auction will include this condition, and consider how the condition may impact on their intended use of any 700 MHz spectrum they win.

### Datacasting licence conditions (700 MHz band)

As discussed at 1.2.7, consistent with the intent of the spectrum reallocation declarations made by the minister, it is expected that the declared parts of the 700 MHz band will be excised from the BSBs before spectrum licences commence on 1 January 2015. However, as discussed at 1.2.6, it remains possible that a TLAP prepared by the ACMA, or varied by the ACMA under subsection 26(2) of the Broadcasting Services Act, may permit broadcasting or retransmission services to continue operating lawfully in the 700 MHz band in the relevant area *after* the spectrum licences commence. In circumstances where broadcasting or retransmission services are still operating, the declared parts of the 700 MHz band would need to remain in the BSBs until the last service has vacated.

Currently, additional regulatory obligations may arise where radiocommunications devices are operated in accordance with a spectrum licence while the spectrum authorised by the licence remains in the BSBs. These obligations arise under Schedule 6 of the Broadcasting Services Act, which establishes a system for regulating datacasting services. The services provided using spectrum licences, if provided in the BSBs, may be ‘datacasting services’. Under current arrangements, datacasting service providers must hold datacasting licences, which are subject to licence conditions that, among other things, restrict the provision of certain kinds of audio content and certain genres of television programs. Other licence conditions require compliance with any applicable codes or standards under the Broadcasting Services Act. There is also a condition that a datacasting licensee remain a suitable licensee. The requirement to hold a datacasting licence would cease to apply following the removal of the declared parts of the 700 MHz part band from the BSBs.

Any person who is considering participating in the auction should obtain their own advice as to whether the operation of devices in the 700 MHz band may give rise to these additional obligations, and the precise extent and nature of the obligations. Any such obligations would be additional to the obligation to comply with the conditions of the spectrum licence, including the interference management condition discussed under the previous heading.

The minister has advised the ACMA of his intention to introduce amendments to the Broadcasting Services Act in 2013 to limit the circumstances under which a person needs to hold a datacasting licence under Schedule 6 so that generally only commercial and national broadcasters would be required to hold such a licence. It is intended that the amendments, if made, would allow Long Term Evolution (LTE) services to generally operate in the BSBs and provide a range of audiovisual content without the encumbrance of a datacasting licence. However, the amendments will also include a reserve power so that, in the unlikely event that an LTE service provider subsequently sought to provide a commercial television broadcasting service, the minister could prescribe that that particular service provider must hold a datacasting licence.

Prospective bidders should note that the minister has advised the ACMA of his intent in this regard only, and that the proposed amendments have not, as at the date of this *Auction guide*, been introduced to Parliament and therefore may be subject to change. Information about significant developments in relation to the proposed amendments will be made available through the ACMA’s [*engage* website](http://engage.acma.gov.au/digitaldividend/). Prospective bidders should check the website regularly for updates.

Part two—
Participating in the auction

# How will the auction be conducted?

**This chapter provides information about:**

* **adoption of the CCA format**
* **the CCA procedures**
* **other key auction procedures**
* **the online auction system**
* **support and training opportunities for prospective bidders.**

The digital dividend auction will be conducted online using the CCA format according to the procedures set out in the allocation determination at Attachment A. A practical step-by-step guide to registering as a bidder and participating in the auction is provided in Chapter 4.

**Important warning: The information in this chapter is intended to provide only a general overview of the procedures contained in the Radiocommunications (Spectrum Licence Allocation — Combinatorial Clock Auction) Determination 2012. Potential applicants should *not* rely on this information, but should instead carefully review and understand the content of the allocation determination itself.**

## The combinatorial clock auction (CCA) format

### Adoption of the CCA format

The auction format used in Australian spectrum auctions is decided on a case-by-case basis, with regard to the characteristics of the spectrum on offer and other relevant factors.

In selecting a format for the digital dividend auction, the ACMA considered the object of the Act, which provides, among other things, for ‘…management of the radiofrequency spectrum in order to maximise, by ensuring the efficient allocation and use of the spectrum, the overall public benefit derived from using the radiofrequency spectrum.’ In line with this, the ACMA aims to conduct the auction in a way that:

* allocates spectrum to the bidders that value it most highly
* is transparent and accessible
* is, to the extent possible, technology-neutral
* minimises opportunities for gaming and collusive behaviour.

The ACMA concluded that, of the available auction formats, the CCA best met the object of the Act and the aims listed above. Importantly, the CCA is the format most likely to allocate the spectrum in a way that reflects each bidder’s value for the asset, and therefore produce the greatest benefit to society.

The key benefits of the CCA in the digital dividend auction are that it:

* **Enables ‘package bidding’**—bidders can bid on the combination, or ‘package’, of lots from each band that is best suited to their business needs. Bidders have certainty that if they win lots, they will win all lots in a package. This means they do not risk exposing themselves to winning only part of a package. This feature makes the CCA format well suited to auctions where potentially complementary offerings (such as the 700 MHz and 2.5 GHz band spectrum) are available.
* **Enables flexible bidding approaches**—subject to the constraints discussed below, bidders can readily switch to different packages of lots that may become more attractive to them as prices change during the course of the auction.
* **Enables assignment of contiguous lots**—the configuration of the 700 MHz and 2.5 GHz bands into a series of ‘products’ comprising generic spectrum lots (see 2.2), and the operation of the assignment stage (see below), enable the assignment of contiguous frequency lots to winning bidders—thereby minimising the fragmentation of spectrum holdings. One of the potential uses of the 700 MHz and 2.5 GHz bands is for 4G communications services, which can deliver higher data speeds and more data-intensive applications with wider bandwidths. Minimising the fragmentation of winners’ spectrum holdings will help to optimise the range and quality of services provided using the spectrum.
* **Promotes price discovery**—the clock rounds in the CCA format give bidders the opportunity to see how other bidders value the spectrum.
* **Creates incentives for truthful bidding**—the pricing and activity rules in the CCA format are designed to encourage bidders to bid their true value for the spectrum, and discourage them from engaging in strategic behaviour that could result in an inefficient outcome. For example, the pricing rule requires the winning bidder to only pay an amount just enough to surpass the next highest bidder regardless of how high the winner bid. Such a rule provides an incentive for bidders to bid their true value as it requires them to pay only what the market demands.

In recent years, the CCA format has achieved widespread acceptance internationally as a method for price-based allocation of spectrum. The CCA format has been used in the UK, Ireland, Denmark, the Netherlands, Austria and Switzerland in recent years—and is planned to be used in the UK and Canada to auction digital dividend or similar high-value spectrum in 2013.

### Overview of CCA procedures

The CCA consists of two major stages:

1. **An allocation stage**, which determines the number of lots of each product that each bidder wins. The allocation stage consists of:
* *Clock rounds*—a series of rounds where bidders submit bids for generic lots of each product, together as a package, that they most want at the current round prices. In each subsequent round, the auction manager increases the prices for all products with excess demand. The clock rounds end when there is no excess demand for any product. This is the price discovery phase of the auction.
* *A supplementary round*—a single round where bidders who have bid for at least one lot in the first clock round can submit additional bids for packages of lots, at prices that they choose, subject to constraints based on their initial eligibility, their clock round bids, the initial (that is, reserve) prices and the allocation limits.
1. **An assignment stage**, which determines the specific frequency ranges awarded to each winning bidder from the allocation stage. In the assignment stage, bidders can submit additional bids, at prices they choose, for particular frequency assignment options listed by the auction manager.

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| Figure 6 Key elements of the CCA auction process |
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Allocation stage

The allocation stage determines the amount of spectrum (the number of lots of each product) that each bidder wins.

In all rounds in the allocation stage, a valid bid is a binding commitment to buy the relevant package of lots for any price up to the amount of the bid. Bidders may change their bids during the course of a round—the binding bid will be the last valid bid (or set of supplementary bids) in the auction system at the end of the round. It is intended that the auction manager will, through the auction system, notify bidders immediately if he or she becomes aware that a bid they are attempting to make is invalid.

Clock rounds

In each clock round, bidders can bid for the number of lots of each product they most want at the current round prices announced by the auction manager. Each bidder can make one bid in each clock round. Each bid is treated as a package bid for all of the lots specified.

In the first clock round, the price for the lots of each product will be the initial price (the reserve price) set by the ACMA (see 3.2.4). In each subsequent clock round, the auction manager will increase the price for all products with excess demand (that is, products for which the aggregate demand in the preceding clock round exceeded the number of lots available). The rate at which the prices of individual products are increased will vary at the auction manager’s discretion depending on the level of demand for each product. The clock rounds will end when there is no excess demand for any product. Bidding will remain open on all products until the end of the clock rounds.

Figure 7 provides a hypothetical example of how bidding may progress across a series of clock rounds. In the example:

* there are three products on offer (X, Y and Z)
* the number of available lots for each product (supply) is represented in blue
* the price of a lot for each product in each round is represented in green
* the aggregate demand (AD) for each product in each round is represented in red.

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| Figure 7 Simple example of how the clock rounds can progress |
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| **Round** |
|  | **Supply** | **R1 price** | **R1 AD** | **R2 price** | **R2 AD** | **R3 price** | **R3 AD** | **R4 price** | **R4 AD** |
| **Product X** | **9** | $10 | **12** | $12 | **12** | $14 | **9\*** | $14 | **9\*** |
| **Product Y** | **12** | $5 | **18** | $7 | **16** | $8 | **14** | $9 | **12\*** |
| **Product Z** | **7** | $7 | **10** | $8 | **7\*** | $8 | **8** | $9 | **7\*** |

 |
| *\*There is no excess demand for this product in this round.* |

In this example, the clock rounds end at round four, when there is no excess demand for any product.

Bids in clock rounds are subject to all of the following constraints:

* in the first clock round, the value (in eligibility points) of the package of lots bid for must not exceed the bidder’s initial eligibility, as nominated by the bidder in their eligibility nomination form (see 4.3.3)
* in subsequent clock rounds, the bid must either:
* be less than or equal to the bidder’s current eligibility, based on previous clock rounds (see Activity rules below)
* satisfy the ‘revealed preference constraint’ (see Activity rules below)
* satisfy clause 17(d)(iii) of the allocation determination (see Activity rules below)
* in all clock rounds:
* the package of lots bid for must not exceed the allocation limits (see 3.2.5)
* bids must be received between the start and end time of the round
* for each product, the number of lots bid for must not exceed the number of lots of the product that are available.

Supplementary round

The supplementary round is a single round in which bidders may submit a number of package bids. While there is no requirement for a bidder to submit any bids during the supplementary round, this round gives bidders the opportunity to:

* increase their bids for the package(s) of lots they bid on in the clock rounds
* express their preferences more fully by bidding on other packages.

Each supplementary round bid must specify the number of lots of each product sought (the package) and the amount the bidder is willing to pay for the package.

Bids in the supplementary round are subject to all of the following constraints:

* only bidders who have bid for at least one lot in the first clock round can bid in the supplementary round
* the value of the package in eligibility points must not exceed the bidder’s initial eligibility, as nominated by the bidder in their eligibility nomination form (see 4.3.3)
* the package of lots bid for must not exceed the allocation limits (see 3.2.5)
* bids must be received between the start and end time of the supplementary round
* for each product, the number of lots bids for must not exceed the number of lots of the product that are available
* although packages bid for may have some products and lots in common, a bidder’s collection of supplementary round bids must *not* include more than one supplementary bid for identical packages
* the price of each bid must:
* be at least the sum of the initial prices (the reserve prices) for the lots in the package
* be a whole multiple of the minimum increment set by the auction manager for supplementary bids (for example, if the minimum increment set by the auction manager is $1,000, then the bid must be a multiple of $1,000)
* be greater than any bid that the bidder made for the same package in the clock rounds
* satisfy the ‘revealed-preference cap’ with respect to the last clock round in which the bidder’s eligibility points allowed them to bid on the package (see *Activity rules* below)—*if* the bidder did not make a bid for the same package in the final clock round
* the number of bids for different packages cannot exceed the supplementary bid limit.[[24]](#footnote-24)

Activity rules (eligibility points and revealed preference)

A key feature of the CCA format is the application of activity rules in the clock and supplementary rounds. The activity rules encourage truthful bidding by discouraging bidders from hiding their intentions in earlier rounds and by limiting strategic bidding.

When registering to participate in the auction each applicant must nominate their ‘initial eligibility points’ by giving the ACMA a completed eligibility nomination form (see 4.3.3). As set out in that form, an applicant’s initial eligibility points can be worked out by identifying which lots the applicant is interested in acquiring and totalling the lot ratings attached to those lots. An applicant’s initial eligibility points determine their maximum eligibility (expressed in eligibility points) to bid in the first clock round.

In the first clock round, a bidder can only bid on a package of lots that has a value in eligibility points less than or equal to the bidder’s initial eligibility points. For example, a bidder with 100 initial eligibility points can bid on lots whose total sum of eligibility points is 100 or less.

Similarly, in any subsequent clock round, a bidder can bid on any package of lots that has a value in eligibility points that is less than or equal to their eligibility from the previous round, or when permitted by ‘revealed preference’[[25]](#footnote-25) or where clause 17(d)(iii) of the allocation determination is satisfied. Where the bidder bids on a package with a lesser point value, their eligibility to bid in the next round is reduced to that figure. This is illustrated in Figure 8, in which the bidder’s initial eligibility is 250.

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| Figure 8 Example of how bidding during clock rounds can reduce a bidder’s eligibility |
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|  | **Eligibility points per lot** | **Round** |
| **R1 bid** | **R1 pts** | **R2 bid** | **R2 pts** | **R3 bid** | **R3 pts** | **R4 bid** | **R4 pts** | **R5 pts** |
| **Product X** | 50 | 2 | 100 | 3 | 150 | 3 | 150 | 0 | 0 |  |
| **Product Y** | 20 | 1 | 20 | 2 | 40 | 1 | 20 | 0 | 0 |  |
| **Product Z** | 40 | 3 | 120 | 1 | 40 | 0 | 0 | 0 | 0 |  |
| ***Total*** |  |  | 240 |  | 230 |  | 170 |  | 0 |  |
| ***Max. permitted*** |  |  | 250 |  | 240\* |  | 230\* |  | 170\* | 0 |

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| *\*Except where the package bid has not become relatively more expensive than the package bid for in a previous clock round or clause 17(d)(iii) is satisfied.* |

If a bidder places no valid bid in a clock round, the bidder is considered to have placed a bid for zero lots in all products. The bidder’s eligibility points will drop to zero and they will be unable to bid in any further clock rounds.

The effect of clause 17(d)(iii) is that, despite having a greater value in eligibility points than the bidder’s current eligibility and not satisfying the revealed preference constraint, a bid may still be valid if the bid in the previous clock round included at least one lot of the 700 MHz product, and the current bid is a subset of the bid in the previous clock round (or the same as the previous bid).

In addition, the ‘bid reduction restriction rule’ set out in clauses 19 and 20 of Schedule 1 of the allocation determination operates to prevent a bidder from significantly reducing their demand for lots of the 700 MHz band product during the clock rounds. Under this rule:

* a bidder who bid for three or more lots of the 700 MHz product in the previous clock round must bid for at least two lots of the 700 MHz product in the current clock round
* if the supply of lots of the 700 MHz band product was equal to or greater than demand in the previous clock round (implying that the auction manager did not increase the price for the lots after the round), a bidder cannot reduce their demand for lots of the 700 MHz product in the current round.

In the supplementary round, the activity rule ensures that a bidder’s supplementary bids are consistent with the preferences revealed by their clock round bids and other supplementary round bids. This is achieved through the ‘revealed preference cap’. Under the revealed preference cap, a bidder can bid any amount they wish for the package on which they bid in the final clock round. However, for other packages, their bid must not be relatively more expensive than the package they bid for in the last clock round in which they were eligible to bid for the desired package.

Determining winning allocation stage bids and prices

The winning allocation stage bids and prices will be calculated using the auction system in accordance with the procedures set out in the allocation determination.

The winning allocation stage bids will be the combination of clock and supplementary round bids that maximises the sum of the bid prices—subject to the available supply of lots, and no more than one allocation stage bid being accepted from each bidder. Following the example in Figure 9, assume there are two products being offered (X and Y), three bidders (b1, b2 and b3) and that:

* b1 only wants Product X and is willing to pay $28 for it
* b2 only wants Product Y and is willing to pay $20 for it
* b3 wants both products X *and* Y, so places a package bid for both at $30.

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| Figure 9 Example allocation stage bidding scenario |
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|  | **b1** | **b2** | **b3** |
| **Product X** | $28 |  | $30 |
| **Product Y** |  | $20 |

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If you allocated Product X to b1 and Product Y to b2, this would produce a total bid price of $48. If you gave both products to b3, this would produce a total bid price of $30. In this example then, Product X would be allocated to b1 and Product Y would be allocated to b2, as this maximises the sum of the bid prices.

The allocation determination contains tie-breaking rules for use in the event that more than one combination of bids maximises the sum of the bid prices.

The allocation price for each winning bid will be calculated using a form of second-price rule referred to as Nearest-Vickrey Core pricing. Under the rule, the Vickrey price for each bidder is first calculated. The Vickrey price is the price bid *less* the amount by which the bidder has increased the sum of all high bids. The core price is an amount that is sufficient to ensure there is no other bidder or group of bidders prepared to pay more for the lots. If the Vickrey price is less than the core price, the price is increased to the core price in such a way that is closest to the Vickrey price (doing so minimises revenue). Where this price adjustment is required for a number of bidders, the price increase is shared between the bidders in proportion to the initial prices of their winning packages. The resulting allocation price will be at least as much as the sum of the initial prices for the lots, and no more than the amount offered by the winning bidder for the lots in the package.

The Nearest-Vickrey Core prices can be calculated for the example in Figure 9. For bidder b1, the Vickrey price is calculated as:

* with b1 the highest total bid price is $48; without b1 the highest total bid price is $30, so b1 has increased the sum of all high bids by $18
* the Vickrey price is the price bid ($28) minus the amount by which the bidder has increased the sum of all high bids ($18)—so the Vickrey price is $10.

Similarly the Vickrey price for b2 is calculated as:

* with b2 the highest total bid price is $48; without b2 the highest total bid price is $30, so b2 has increased the sum of all high bids by $18.
* the Vickrey price is the price bid ($20) minus the amount by which the bidder has increased the sum of all high bids ($18)—so the Vickrey price is $2.

However, b3 has bid $30 for both products, which is more than the sum of the Vickrey prices paid by b1 and b2 ($10 + $2 = $12). The prices need to be increased to the minimum revenue core price ($30). Assuming the initial prices of the products were the same, the prices that minimise the formula in clause 50 of Schedule 1 of the allocation determination be found by adding the same amount to each Vickrey price. The Nearest-Vickrey Core prices in the example in Figure 9 are:

* b1 pays $19, its Vickrey price of $10 plus $9
* b2 pays $11, its Vickrey price of $2 plus $9
* the total price paid is $19 + $11 = $30, which is the minimum revenue point in the core that is nearest the Vickrey prices.

Assignment stage

The assignment stage determines the specific frequency ranges awarded to each winning bidder from the allocation stage.

Only winning bidders from the allocation stage can bid in the assignment stage, and each allocation stage winner is guaranteed to be assigned the number of lots of each product it won in the allocation stage. While there is no requirement for a bidder to bid during the assignment stage, this stage gives bidders the opportunity to submit additional bids, at prices they choose, to express their preferences for particular frequency assignments from the options presented by the auction manager. These options will be set by the auction manager, in accordance with Part 4 of Schedule 1 to the allocation determination, to ensure the frequency contiguity of the lots of each product that were allocated to each bidder in the allocation stage, and also the frequency contiguity of the lots of each product that were unallocated at the end of the allocation stage (see examples in Figure 10).

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| Figure 10 Example frequency range options for a bidder who won two lots of the 700 MHz band product |
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|  | **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **I** |
| **Option 1** |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| **Option 2** |  |  |  |  |  |  |  |  |  |
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| **Option 3** |  |  |  |  |  |  |  |  |  |
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| **Option 4** |  |  |  |  |  |  |  |  |  |
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| **Option 5** |  |  |  |  |  |  |  |  |  |
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| **Option 6** |  |  |  |  |  |  |  |  |  |
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| **Option 7** |  |  |  |  |  |  |  |  |  |
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| **Option 8** |  |  |  |  |  |  |  |  |  |

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 At the start of each assignment round, the auction manager will (via the auction system) provide each bidder with the list of frequency options available to the bidder in the round.

The assignment stage will consist of two or more assignment rounds. The 700 MHz band will be assigned in a single round. In the 2.5 GHz band, one or more products may be the subject of a given round. The number of assignment rounds held will depend on the number of winning bidders for each product and the number of lots won by each winning bidder.

Assignment round bids must specify the additional amount (if any), over and above the bidder’s allocation stage price, the bidder is willing to pay to be allocated a specific frequency range. Assignment round bids are subject to all of the following constraints:

* bidding for a product in an assignment round is only open to bidders who won lots of the product in the allocation stage
* bidders can bid only on the frequency range options presented to them by the auction manager
* bids must be received between the start and end time of the assignment round for the relevant product
* bids must be a single amount that is a whole multiple of the minimum increment set by the auction manager for assignment round bids (for example, if the minimum increment set by the auction manager is $1,000, then the bid must be a multiple of $1,000).

A valid assignment round bid is binding. Bidders may change, delete or replace their bid on each frequency range option as often as they wish within an assignment round—the last valid set of bids in the auction system at the end of the round will be treated as binding. It is intended that the auction manager will, through the auction system, notify bidders immediately if the auction manager becomes aware that a bid they are attempting to make is invalid.

The options set by the auction manager will only ensure the frequency contiguity of lots *within* the geographic area covered by each product. This means that bidders who win lots of more than one product in the 2.5 GHz band, and who wish for their lots to be contiguous *across* the geographic areas covered by the products, will need to bid in the assignment rounds with the objective of being allocated the same frequency ranges in each product. The ACMA does not intend to undertake a further process after the end of the assignment stage to aggregate the spectrum allocated to winning bidders as a result of the auction.

Determining winning assignment stage bids and prices

The winning assignment bids and prices will be calculated using the auction system in accordance with the procedures set out in the allocation determination.

The winning assignment bids for each product will be the combination of bids that maximises the sum of the bid prices—subject to there being no overlap between the frequency ranges included in any two winning bids, and exactly one bid being accepted from each bidder. If more than one combination of bids meets these criteria, the winning combination of bids will be selected by pseudorandom selection.[[26]](#footnote-26)

For example, if there were three blocks available (X, Y and Z), and two winners from the allocation stage—in which the first bidder has won one lot and the second bidder has won two lots—they would each have two options on which to bid.[[27]](#footnote-27) In this example, the bidders placed the following bids:

* bidder 1—Option 1 (X only) = $20, Option 2 (Z only) = $12
* bidder 2—Option 1 (X&Y) = $25, Option 2 (Y&Z) = $15.

In the example, bidder 1 would receive Z and bidder 2 would receive X&Y. This is because the combined bid for these options is $12 + 25 ($37), which is higher than the alternative of $20 + $15 ($35).

If there is only one bidder for the product(s) in an assignment round, the assignment price for the product(s) (which is payable in addition to the allocation price) will be zero. Otherwise, the assignment price for each winning bid in each assignment round will be calculated using the same pricing rule employed in the allocation stage (Nearest-Vickrey Core pricing). Under this rule, the assignment price for each winning bidder will be an amount that is sufficient to ensure there is no other bidder or group of bidders prepared to pay more for the frequency range options, and is no greater than the amount offered by the winning bidder for the specific frequency range option it has been assigned.

The balance of the winning price payable by each winning bidder will be the total of the allocation price and assignment price for the lots they won, less any eligibility payment they made. Arrangements to issue invoices, lodge payments, pay refunds and issue licences are discussed at 3.2.11 (with reference to 4.6.1) and 3.2.12.

## Other key auction procedures

### Bidder registration

Parties wishing to participate in the auction will need to register as a bidder. The registration process is performed in three stages—A, B and C. Details about the procedures involved at each stage (including information about the relevant payments, forms and deadlines) are provided in Step 3 in the step-by-step guide in Chapter 4.

Only parties who have fulfilled all requirements in each of the three stages (including the completion and lodgement of all relevant deeds and other forms) within the applicable deadlines will be entitled to participate in the auction.

Subject to the requirements of each stage being met, the ACMA will contact registered bidders after the eligibility deadline to confirm their registration and provide them with material (including information about how to access and use the online auction system) to enable them to participate in the auction. A full list of the material that will be given to registered bidders at this point is provided at 4.3.4. Bidders will be required to keep this material secure during the auction period and to notify the ACMA immediately of any relevant disclosure, loss or theft.[[28]](#footnote-28) If the ACMA is satisfied that a bidder breached these requirements, and that the breach affected or may have affected the auction outcome, it may take action under the breach provisions discussed at 3.2.8.

### Withdrawal from the auction

A person who has applied for registration as a bidder may only withdraw from the auction *before* the eligibility deadline by written notice given to the ACMA. An applicant may not withdraw after the eligibility deadline. An applicant who has withdrawn will not be readmitted to the auction.

Applicants who withdraw from the auction will remain subject to the confidentiality provisions in the allocation determination until after the end of the auction period (see 3.2.7). The ACMA will notify withdrawn applicants as soon as practicable after the end of the auction period that their confidentiality obligations have ended. Withdrawn applicants will not be refunded their application fee, but will be refunded any eligibility payment they have made to the ACMA (see 3.2.12).

### Lot ratings

The ACMA will set a lot rating for the lots of each product on offer. The ACMA will publish the lot ratings on its website no later than 70 days after it advertises the auction in accordance with subsection 4.4(1) of the allocation determination. Consistent with the notion that, up to the end of the allocation stage all lots of a product are good substitutes for each other, all lots in a given product will have the same lot rating.

Lot ratings provide the basis for the eligibility and activity rules during the clock rounds (see 3.1.2). Each lot is ascribed a lot rating, expressed in eligibility points.

In Stage C of the bidder registration process, applicants are required to nominate their initial eligibility points by giving the ACMA a completed eligibility nomination form. As set out in that form, an applicant’s initial eligibility points can be worked out by identifying which lots the applicant is interested in acquiring and summing up the total of the lot ratings ascribed to the lots. This determines:

* a bidder’s maximum eligibility to bid in the first clock round
* the amount of the eligibility payment, deed of financial security or combination of the two, they must make or give to the ACMA (see 4.3.3).

The auction will be more efficient if the lot ratings reflect the relative value of the different lots on offer. Appropriate lot ratings will enable bidders to bid on their most profitable package of lots in each round and, where they consider appropriate, substitute different lots in response to changes in their relative price. The lot ratings may, for example, increase the ease with which bidders can switch bids between lots in the two bands being auctioned (that is, between lots in the 700 MHz and 2.5 GHz band) and between the regional lots on offer in the 2.5 GHz band.

Factors considered by the ACMA in setting the lot ratings include, but are not limited to:

* results of similar spectrum auctions overseas
* the populations of the geographic regions covered by the lots of each product in the 2.5 GHz band category (see 2.2.2)
* the shorter duration of spectrum licences for the Metro Perth and Regional Western Australia regions, relative to other regions in the 2.5 GHz band (see 2.3.3).

### Initial (reserve) prices

The ACMA will set an initial (or reserve) price for the lots of each product on offer. The initial price for the lots of each product will signify the price of the lots in the first clock round. It is expected that all lots in a given product will have the same initial price. The initial prices reflect the minimum price below which the seller would prefer to leave the lots unallocated in the auction. The auction system is designed to prevent bidders from submitting bids for packages at an amount below the initial price for the package.

The minister has directed the ACMA on matters related to initial prices for the auction. The direction requires the ACMA not to set the initial prices until the earlier of:

* the day after a further ministerial direction is given to the ACMA on initial prices, or
* 60 days after the ACMA advertises the auction by publishing a notice in accordance with subsection 4.4(1) of the allocation determination.

As set out in the explanatory statement to the minister’s direction, it is intended that the minister will direct the ACMA as to the specific amount it must set for the initial prices. If no such further direction is made, then the ACMA may set the initial prices 60 days after it advertises the auction in accordance with subsection 4.4(1) of the allocation determination.

A copy of the minister’s direction to the ACMA, and the associated explanatory statement, is provided at Attachment P.

The ACMA will publish the initial prices on its website as soon as practicable after it sets them—and no later than 70 days after it advertises the auction.

### Allocation limits

Under subsection 60(5) of the Act, an allocation determination may impose limits on the aggregate amount of spectrum that can be used by a bidder. However, under subsection 60(9), such limits can only be imposed if the minister directs the ACMA to do so.

The minister has directed the ACMA to impose such limits on the amount of spectrum that may be allocated to any one bidder and its associates in the 700 MHz and 2.5 GHz bands. Copies of the minister’s directions to the ACMA, and the associated explanatory statements, are provided at Attachment L and M (for the 700 MHz band) and Attachment N and O (for the 2.5 GHz band).

These allocation limits, also referred to as ‘competition limits’ or ‘spectrum caps,’ have the effect of capping the total amount of spectrum that a single bidder can acquire in each band as a result of the auction.

In the digital dividend auction, bidders will be able to acquire a maximum of:

* 25 MHz paired (50 MHz in total) in the 700 MHz band
* 40 MHz paired (80 MHz in total) in the 2.5 GHz band.

The term ‘paired’ refers to the paired lot configuration of each band discussed at 2.2. Under this configuration, each frequency lot in each band consists of 10 MHz of spectrum (2x5 MHz), comprising a block of 5 MHz in the *lower* part of the band and 5 MHz in the *upper* part of the band.

Bidders must not bid in a way that could place them in contravention of the allocation limits if their bid was successful. The auction system is designed to prevent bidders from bidding in a way that contravenes the allocation limits.

### Affiliations

Applicants and bidders who are ‘affiliated’ will not be permitted to participate in the auction as separate bidding entities. The affiliated applicant rules in Part 2 of the allocation determination are in place to ensure compliance with the allocation limits, prevent (in conjunction with the confidentiality provisions discussed below) the movement of confidential information between bidders, and deliver a fair and competitive auction. Two applicants or bidders will be considered affiliated if one is an ‘associate’ of the other, or if they have an associate in common.[[29]](#footnote-29)

There are rules in place to identify and respond to affiliations formed before, during and after the auction.

At Stage A of the bidder registration process, applicants will be required to provide information about the identity of their associates. At Stage B of the process, the ACMA will give each applicant details about the identity of all other applicants and their associates. Applicants will then be required to provide a statutory declaration stating whether they are affiliated with another applicant—and, if so, providing details of the affiliation. If an affiliation is identified at this stage, the affiliated applicants will have the option of withdrawing all of their applications and submitting a new application as a single applicant, or withdrawing all but one of their applications (see 4.3.2).

A bidder must not be affiliated with another bidder during the auction period (from the eligibility deadline to the completion of the assignment stage). If during the auction period a bidder believes it may be affiliated with another bidder, the bidder must report the matter to the ACMA. If the ACMA is satisfied that one bidder was affiliated with another during the auction period, and the affiliation affected or may have affected the auction outcome, it may take action under the breach provisions discussed at 3.2.8.

As soon as practicable after the end of the auction period, the ACMA will give each winning bidder details about the identity of all other winning bidders. Each winning bidder will then be required to provide to the ACMA a statement about whether they are affiliated with another winning bidder—and, if so, providing details of the affiliation. If an affiliation commences at this stage, the allocation limits will cap the amount of spectrum issued to the affiliated bidders. Regardless of whether the bidders are consequently issued licences for fewer lots than they won in the auction, each of them will remain liable to pay the full balance of the winning price for all of the lots they won (see 4.6.1).

### Confidentiality

Applicants, bidders and ‘related persons’[[30]](#footnote-30) who have knowledge of an applicant’s or bidder’s confidential information will be prohibited from disclosing confidential informationabout the auction to any person, except in specified circumstances. The confidentiality rules, in conjunction with the affiliations provisions discussed above, are in place to protect the integrity of the auction process by prohibiting communications that could influence the auction outcome. The rules are intended to guard against anti-competitive behaviour in the auction and to complement the prohibition on cartel conduct contained in the *Competition and Consumer Act 2010*.

The general prohibition on disclosing confidential information does not apply where the disclosure is made either:

* to obtain advice on the auction from a person in their professional capacity
* to obtain finance to purchase spectrum licences in the auction
* to the ACMA
* to another related person of that applicant or bidder
* as authorised by the allocation determination or otherwise required by law
* because the information is publicly available and was not made available because of a breach of the confidentiality rules.

Confidential information includes any information that, if disclosed, could be reasonably expected to affect another applicant’s or bidder’s behaviour in the auction, or the auction outcome. This includes information about an applicant’s or a bidder’s bids or proposed bids, bidding strategy or lot valuations.[[31]](#footnote-31)

Applicants are required to complete a deed of confidentiality as part of Stage A of the bidder registration process. Each ‘related person’ who has knowledge of the applicant’s or bidder’s confidential information will (if they are an employee of the applicant or bidder, or of a related body corporate of the applicant or bidder that provides services to it) be also required to complete a deed of confidentiality. By completing the deed, applicants and their related persons will be agreeing not to disclose confidential information before their confidentiality obligations have ceased to apply. The precise point at which the rules cease to apply to an applicant, bidder or their related persons will depend on whether the applicant or bidder is a winning bidder, is not a winning bidder or withdraws from the auction (see 4.6).

Applicants, bidders and their related persons are required to notify the ACMA in writing about any breach of the confidentiality rules of which they become aware. The notification must be made as soon as possible, and no later than two working days after they become aware the breach has occurred. If the auction manager is satisfied that the auction has been affected by a breach of the confidentiality rules, they may take steps to, among other options, stop the auction or wind the auction back to an earlier point (see 3.2.14). Applicants or bidders who breach the confidentiality rules will be subject to the breach provisions discussed at 3.2.8.

### Breaches of the auction procedures

Enforcement provisions set out in section 7.6 of the allocation determination will apply in cases where the ACMA is satisfied that an applicant or bidder (or, where applicable, a related person) has breached a provision of the allocation determination. Under the enforcement provisions:

* the ACMA may retain an eligibility payment made, or enforce a deed of financial security given, by the applicant or bidder
* a winning bidder may not, regardless of whether they have paid their winning price, be issued a licence for any spectrum they won in the auction.

For example, the ACMA may apply these sanctions if it is satisfied that an applicant or bidder (or one of their related persons) breached the confidentiality rules or was affiliated with another bidder, during the auction period in a way that affected the outcome of the auction. They may also be applied if, after the end of the auction period, a winning bidder (or one of their related persons) breaches the confidentiality rules before their confidentiality obligations come to an end, or fails to provide a statement about whether they are affiliated with another winning bidder. These examples do not limit the circumstances in which the ACMA may take enforcement action.

Section 7.8 of the allocation determination provides that, where the ACMA applies the sanctions, the affected applicant or bidder may, within a year of being notified by the ACMA about the breach, apply to the Federal Court for the return of all or part of any amount retained by the ACMA.

### Procedures if there is only one bidder

If there is only one registered bidder (for example, if only one party applies to participate, or a group of affiliated applicants is taken to have withdrawn), the auction will proceed under an abbreviated set of procedures. The abbreviated procedures avoid unnecessary delay by bypassing a number of steps that would otherwise have been necessary in a multiple bidder scenario.

The abbreviated procedures are set out in section 5.2 of the allocation determination. Under the procedures:

* as soon as practicable after the eligibility deadline, the ACMA will notify the bidder that they are the only bidder, and that the procedures in section 5.2 will apply
* there will be only one clock round, in which the one bidder can bid at the initial prices set by the ACMA
* there will be no supplementary round
* the assignment stage will be conducted as soon as possible after the clock round to enable the bidder to indicate the frequency ranges they wish to be assigned—although the assignment prices will be zero.

### Publication of auction results

Following completion of the independent verification process discussed at 3.3.4, and after the end of the auction period, the ACMA will announce or publish:

* the names of the winning bidders
* the spectrum allocated to each winning bidder
* the total sum paid, or to be paid, by each winning bidder—that is, the total of the allocation price and the assignment prices for the lots won by the bidder.

### Payment of winning prices and issue of licences

After the end of the auction period, the ACMA will apply the procedures set out in Part 6 of the allocation determination for the calculation and payment of the balance of the winning price payable by each winning bidder. After paying the balance of their winning price in accordance with those procedures, winning bidders will be entitled to be issued a spectrum licence for each part of the spectrum they won. A summary of the procedures is provided at 4.6.1. GST is not payable on the ACMA’s spectrum access charges (for example, the winning price payable by a bidder) imposed before 1 July 2013.

### Refunds

An application fee paid at Stage A of the bidder registration process will not be refunded in any circumstances, including if an applicant or bidder withdraws before the auction or is excluded from the auction.

All or part of an eligibility payment paid at Stage C of the bidder registration process will be refunded:

* to applicants who withdraw from the auction before the eligibility deadline
* to bidders who do not win any spectrum in the auction
* to winning bidders whose eligibility payment exceeds the total of the allocation price and assignment prices for the lots they won in the auction. In this case, the amount of the eligibility payment, less the total of the allocation and assignment prices, will be refunded.

### Unallocated spectrum

Any spectrum lots that are left unallocated (for example, due to insufficient bidder demand, the operation of the affiliation rules or the operation of the breach provisions) may be later offered for allocation by a procedure to be determined by the ACMA.

Prospective bidders should not assume that unallocated lots will be offered for allocation soon after the auction, or that they will be offered for allocation at less than the initial prices set by the ACMA for the auction (see 3.2.4).

### Auction manager

Pursuant to section 4.1 of the allocation determination, the ACMA has appointed the Manager, Major Spectrum Allocations Section, ACMA, as the auction manager for the digital dividend auction. A copy of the instrument of appointment is provided at Attachment Q.

The auction manager has a number of specific responsibilities and discretionary powers under the allocation determination. These include:

* notifying bidders of the start date and time of the first clock round
* scheduling the clock rounds and supplementary round, subject to the parameters discussed at 3.1.2
* setting the prices that will apply to the lots of each product in each clock round
* announcing the conclusion of the clock rounds
* scheduling the start and end time of each assignment round and the product or products that will be the subject of each assignment round
* determining the set of frequency range options available to each bidder, and the frequency range options assigned to unallocated lots, for each product in each assignment round, subject to the parameters discussed at 3.1.2
* determining the winning bids and prices from the allocation and assignment stages, in accordance with the procedures discussed at 3.1.2.

The auction manager’s discretionary powers under sections 5.7 and 5.8 of the allocation determination include:

* permitting a bidder to submit a bid by a method other than the auction system, if he or she is satisfied that the bidder is unable to submit a bid using the auction system
* permitting a bidder to submit a bid for a round after the end of the round (but not after information about the outcome of the round has been given to bidders), if he or she is satisfied that the bidder could not submit the bid during the round because of technical or communication problems
* taking any of the following actions if he or she is satisfied that the auction is affected by exceptional circumstances (for example, a significant technical difficulty with the auction system or a breach of the confidentiality rules):
* restart the current round
* cancel the results of one or more rounds and restart the auction from the point before those rounds
* restart the auction from the first clock round
* stop the auction.

The auction manager may delegate any of his or her functions under the allocation determination to another person.

### Communicating with the auction manager

Prior to the start of the auction period (that is, prior to the eligibility deadline), all contact with the auction manager should in the first instance occur through the Allocation Liaison Officer using the contact details provided at 6.2.

During the auction period, contact with the auction manager should occur through either the electronic messaging facility within the auction system, or the email address, telephone number or fax number that will be provided to registered bidders after the eligibility deadline (see 4.3.4).

## Online auction system

The auction will be conducted over the internet using auction system software developed for the ACMA by [Power Auctions LLC](http://www.powerauctions.com/). Subject to the user system requirements discussed below, the online auction system is designed to allow bidders to participate in the auction from their normal office locations, or any other location of their choosing.

Bidders will use the auction system to bid in all rounds of the auction. It will also be the primary mode of communication between the ACMA and bidders during the auction period (see the introduction to Chapter 4).

Backup bidding and communication arrangements will be in place in the event that technical or other problems prevent use of the auction system for a period.

Procedures conducted before the beginning of the auction period (that is, all steps other than Step 4 in Chapter 4) will be performed independently of the auction system, in accordance with the processes set out in Chapter 4.

### Accessing and using the auction system

Bidders will use the auction system from their own computers connected to the internet, by accessing the auction system internet site. The system has been designed to minimise the requirements on bidders’ equipment and to make the bid submission process as straightforward as possible. The auction system internet site will use secure sockets layer (SSL) technology to ensure all transmissions are secure.

After the eligibility deadline, the ACMA will give registered bidders further information to explain how they can participate in the auction (see 4.3.4). This will include the following material about how to access and use the auction system:

* An auction system user manual—providing instructions about how to access and log in to the auction system internet site; participate in the clock, supplementary and assignment rounds; view round schedules and results; and communicate with the auction manager using the auction system.
* A username, password and security token for each of the ‘authorised persons’ identified on the bidder’s application form as requiring access to the auction system.
* Instructions about how to use the backup bidding arrangements that will apply in the event that a bidder is unable to submit a bid using the auction system.

This information will be supplemented by the other bidder training and support material discussed at 3.4.

Bidders may access and use the auction system only in accordance with the applicable rules in the allocation determination. They must not attempt to interfere with the auction system or use it in an unlawful way. Bidders will also be required to keep the items above secure during the auction period, and to notify the ACMA immediately of any relevant disclosure, loss or theft. If the ACMA is satisfied that a bidder has breached these requirements, and that the breach affected or may have affected the auction outcome, the ACMA may take action under the breach provisions discussed at 3.2.8.

### User system requirements

The auction system will be accessible using a standard, internet-connected personal computer (PC) with an internet browser with a minimum of 128-bit SSL security. The auction system user manual will contain details of the recommended configuration for user equipment.

The auction system may run on PC configurations other than the one recommended in the user manual. However, it is the bidder’s responsibility to check they can use the system on another configuration—preferably by testing the other configuration during the mock auctions discussed at 3.4. It is recommended that bidders use the same configuration for the mock auctions as they intend to use for the live auction. Bidders are encouraged to install the latest updates for their operating system and browser to maximise protection against potential security vulnerabilities.

Bidders are discouraged from using web browsers containing third-party modifications such as search bars, tool bars or other third-party browser extensions. Third-party browser extensions may cause problems for users of interactive websites—such as the auction system—and in principle may render bidders’ computers more vulnerable to hacker attacks. If in doubt, bidders should seek their own expert advice to disable third-party browser extensions or, if necessary, obtain clean installations of a recommended web browser.

Bidders are encouraged to establish a backup means of connecting to the internet for use during the auction in the event that their primary internet connection fails. For example, bidders could arrange to have a mobile internet service available for use if their normal cable or ADSL broadband service is disrupted; or a backup bid team, with its own power and communications services and authorisation to access the auction system, at a separate location from the primary bid team.

### Development of the auction system

In September 2011, the ACMA announced Power Auctions LLC as the successful tenderer for provision of the spectrum auction capability, implementation and related advisory services for the digital dividend auction. Power Auctions, based in the US, is a leading international provider of expert auction design advice, auction implementation services and web-based auction software for spectrum auctions and other high-stakes auctions. The company has extensive experience in providing auction designs, implementation services and software in the electricity, natural gas, resources and telecommunications sectors. Power Auctions and its principals have worked extensively with overseas spectrum regulators, including the US Federal Communications Commission, Industry Canada and the UK’s Ofcom, and are leaders in CCA design.

The ACMA has worked closely with Power Auctions to develop the auction system and bidder support and training materials so they reflect the CCA procedures set out in the allocation determination. Power Auctions has, and will continue to be, involved in the bidder training activities discussed at 3.4 and will be present in the ACMA’s auction room during the live auction.

### Independent verification of results produced by the auction system

The ACMA has engaged the [Smith Institute Ltd](http://www.smithinst.co.uk/) to provide auction outcome verification and related services for the auction. The Smith Institute, based in the UK, has extensive experience in supporting regulators in the auction of spectrum using the CCA format. Its work in this area includes providing auction verification services to the UK’s Ofcom, BAKOM in Switzerland and RTR in Austria.

During the lead-up to the auction, the Smith Institute will test the performance of the auction software designed by Power Auctions to verify that it correctly implements the auction procedures set out in the allocation determination. The Smith Institute will independently design its own test cases and methodology for this purpose.

For the auction itself, the Smith Institute will assess the actual bid data to verify that the results produced by the auction software accord with the procedures in the allocation determination. Information about the timing of the verification process, and the release of its outcome, is provided at 4.5.

## Bidder support and training

In addition to this *Auction guide*, and the instruments and explanatory statements attached, the ACMA has published a range of information to inform prospective bidders about the CCA format and the auction procedures more broadly. Information published to date includes:

* **CCA workshops**—the day-long workshops, held in Melbourne and Sydney in January 2012, included a series of presentations by the ACMA and Power Auctions about the CCA format and procedures, and an opportunity to ask questions. Copies of workshop presentations, and responses to questions raised at the workshops, are available on the ACMA’s *engage* website.[[32]](#footnote-32)
* **Briefing on draft legislative instruments**—the 90-minute briefing, held online in May 2012, provided an overview of the draft legislative instruments for the auction that were released for comment on 11 April 2012, and an opportunity to ask questions. A copy of the ACMA’s presentation is available on its *engage* website.[[33]](#footnote-33)

Further information will be made available in the lead-up to the auction. This will include:

* **Auction system user manual*—***to be made available to registered bidders after the eligibility deadline (see 3.3.1).
* **Two mock auctions**—expected to be held in March and April 2013. The mock (trial) auctions will give prospective bidders the opportunity to practise using the auction system, from their own location, in a simulated auction environment. The mock auctions will run through the entire auction process (a number of clock rounds, a supplementary round and a number of assignment rounds) under a compressed schedule—that is, the duration of rounds will be shorter, and the number of rounds fewer, than will be likely in the actual auction. The mock auctions will use fictitious lot ratings and reserve prices, and bidders will be free to bid as they wish. However, the ACMA may (for example, as a clearly identified participating bidder) intervene as appropriate to ensure the mock auctions progress in a timely and comprehensive manner. It is expected that each mock auction will span a full day.
* **A screencast demonstration**—to be made available to applicants prior to the first mock auction as an interactive user guide to the auction system. The screencast demonstration will provide examples of auction system screens, and animated demonstrations of how to use the system (for example, placing bids in each round, viewing round results or submitting a query to the auction manager).
* **A bidder tutorial**—to be made available to applicants prior to the first mock auction as a short step-by-step guide to the auction system, to supplement the more detailed user manual. The tutorial will give prospective bidders who may be less familiar with the CCA format concise, reader-friendly instructions about how to perform basic system functions (for example, place bids) during the mock auctions.

Announcements about the release of this information, including the final dates for the mock auctions, will be made during the lead-up to the auction through the sources listed at 6.1. It is the responsibility of applicants and registered bidders to ensure that they review those sources regularly in order to receive all such information for the purposes of preparing for the auction.

# How do I participate in the auction?

**On the basis of the auction procedures discussed in Chapter 3, this chapter provides practical information to guide participants through the auction process. It includes information about:**

* **steps that should be taken before applying to register as a bidder**
* **the bidder registration process – including relevant forms, payments and deadlines**
* **material the ACMA will provide to registered bidders after the eligibility deadline to help them access and use the auction system**
* **the announcement of round schedules and results during the auction**
* **post-auction processes.**

**Important warning: The information in this chapter is intended to provide a guide only to the steps required to participate in the auction process in accordance with the procedures contained in the Radiocommunications (Spectrum Licence Allocation — Combinatorial Clock Auction) Determination 2012. Potential applicants should *not* rely on this information, but should instead carefully review and understand the content of the allocation determination itself.**

This chapter provides practical information to guide participants through the key steps in the auction process (see Figure 11):

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| Figure 11 Summary of key steps in the auction process |
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Several of these steps require auction participants to lodge forms with the ACMA. Seven of the eight forms are available in the [*Auction forms* booklet](http://engage.acma.gov.au/digitaldividend/auction-forms). **Form 8—Eligibility nomination form** will be published on the ACMA website separately from the AIP (see 4.3.3).

Where an auction participant is required to lodge a form with, or make a payment to, the ACMA, they must do so in accordance with the relevant procedures in the allocation determination.[[34]](#footnote-34) A summary of the lodgement and payment procedures is provided at 6.3 and 6.4, respectively, and in the *Auction forms* booklet.

Several of the steps require the ACMA to provide auction participants with information or material:

* Prior to the start of the auction period, and after the end of the auction period, the ACMA will direct all such communication to the ‘contact person’ nominated by the auction participant in Part 2 of their application form, using the nominated contact details.
* During the auction period, the ACMA will, where practicable, direct communications to the ‘authorised persons’ nominated by the auction participant in Part 3 of their application form, using the electronic messaging facility in the auction system. Where an alternative mode of communication is required (for example, during the period before the authorised persons have access to the auction system, or if the ACMA is unable to communicate reliably using the auction system), the ACMA will direct communications to the contact person nominated by the auction participant in their application form, using the nominated contact details.

In addition to the information and material the ACMA will provide to auction participants under the steps below, updates about auction developments and events, including information about the TLAP development process and its potential impact on the availability of the spectrum in the 700 MHz band, will be released by the ACMA from time to time through the sources listed at 6.1. It is the responsibility of prospective applicants, applicants and registered bidders to ensure that they review the sources listed at 6.1 in order to receive all updated information.

## Step 1—Consider the AIP and monitor developments

Before applying to participate in the auction, prospective bidders should read and understand all of the material in the AIP, including this *Auction guide* and the instruments and explanatory statements at attachments A to R, and should seek their own advice on regulatory and other matters.

During the lead-up to the auction, prospective bidders should also regularly monitor the sources listed at 6.1 to remain informed about auction-related developments and events, including the:

* publication of the lot ratings and initial (reserve) prices set by the ACMA (see 3.2.3 and 3.2.4)
* progress of the TLAP development process.

## Step 2—Access bidder training

Prospective bidders are encouraged to access the bidder support and training information and events discussed at 3.4. During the lead-up to the auction, announcements about training and events will be made through the sources listed at 6.1.

## Step 3—Register as a bidder

People wishing to participate in the auction will need to register as a bidder. The registration process involves three stages—A, B and C (see Figure 12). Only parties who have fulfilled all requirements in each of the three stages (including the completion and lodgement of all relevant deeds and other forms) within the applicable deadlines will be entitled to participate in the auction.

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| --- |
| Figure 12 Summary of stages in the bidder registration process |
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### Stage A—Lodge an application

Prospective bidders will need to lodge an application by:

* Paying the non-refundable application fee of $25,000.[[35]](#footnote-35)
* Lodging a completed application form (Form 1)—providing information about:
* the applicant and any associates (information about the applicant’s associates is required for the purposes of the ‘affiliation’ rules discussed at 3.2.6)
* up to three ‘authorised persons’ (for example, individual staff of the applicant) who require login details for the auction system.[[36]](#footnote-36)
* Lodging a completed deed of acknowledgement form (Form 2)—containing, among other things, provisions to the effect that:
* the applicant understands and agrees to be bound by the provisions of the allocation determination
* the applicant agrees to indemnify the ACMA and the Commonwealth against any liability, damages, losses, costs or expenses arising from the actions of the applicant or its associates in relation to the auction, or from any breach by the applicant of the allocation determination or deed of acknowledgement
* the liability of the ACMA, the auction manager, the Commonwealth, and their officers, employees, agents, contractors, subcontractors, associates and delegates in connection with the auction process or delays in access to spectrum caused by the restack is excluded
* the applicant agrees not to bring a claim of any kind against Broadcast Australia in respect of any delays in the restack process.
* Lodging a completed deed of confidentiality form (Form 3)—containing provisions to the effect that the applicant agrees not to disclose confidential information before their confidentiality obligations cease to apply (see ‘confidentiality rules’ discussed at 3.2.7).

Applications must be lodged by the application deadline of **24 January 2013**.

Under the confidentiality rules, a ‘related person’ of an applicant or bidder who has knowledge of the applicant’s or bidder’s ‘confidential information’ must also lodge a completed deed of confidentiality form (see 3.2.7). Where the related person receives knowledge of the applicant’s confidential information *before* the application deadline, the person must lodge a completed deed before the application deadline. Otherwise, they must lodge a completed deed as soon as reasonably practicable after receiving knowledge of an applicant’s or bidder’s confidential information.

The ACMA will contact applicants as soon as practicable after receiving the material above to confirm receipt and, if necessary and possible, resolve cases where an element of the application is missing, incomplete or unclear. Applicants are encouraged to lodge their applications as early as possible. This will enable the ACMA to resolve such cases, and applicants to update their application if they wish, *before* the application deadline.

### Stage B—Provide statutory declaration about affiliations with other applicants

After the application deadline, the ACMA will:

* give each applicant details about the identity of all other applicants, and the persons identified (by each applicant in their application form) as the associates of other applicants
* ask each applicant to make a statutory declaration for the purposes of section 4.9 of the allocation determination (Form 4) stating whether the applicant is affiliated with another applicant and, if so, identifying the other applicant and giving details of the affiliation.

Statutory declarations made for the purposes of section 4.9 of the allocation determination must be lodged by the deadline stated in the ACMA’s request. The deadline will be at least five working days after the date of the request.

If an applicant does not give the ACMA a statutory declaration as requested, they will be taken to have withdrawn their application. The implications of this are discussed at 3.2.2.

If the ACMA is satisfied that two or more applicants are affiliated, it will, in writing:

* notify the applicants and tell them the basis on which it is satisfied they are affiliated
* notify the affiliated applicants that to participate in the auction they must either:
1. withdraw all of their applications and submit a new application as a single applicant
2. withdraw all but one of their applications.

Within 10 working days of being notified about the affiliation, the affiliated applicants must notify the ACMA in writing about which of the two options they wish to take. If they do not do so, they will be taken to have withdrawn their applications. If some of the affiliated applicants withdraw their applications, but more than one of them does not, *all* of the affiliated applicants will be taken to have withdrawn their applications. Where an applicant is taken to have withdrawn its application in such circumstances, the ACMA will tell it in writing that this is the case.

A new application submitted under option (a) must comply with the procedures set out in section 4.12 of the allocation determination. Among other things, section 4.12 requires that the new applicant must:

* be a body corporate whose only members are one or more of the affiliated applicants
* within 10 working days of being notified about the affiliation, lodge a completed application form (Form 1) and pay the application fee of $25,000
* within three working days of the ACMA providing updated details about the identity of all other applicants and their associates—including any new applicants arising from option (a)—lodge:
* a completed deed of acknowledgement form (Form 2)
* a completed deed of confidentiality form (Form 3)
* a statutory declaration for the purposes of subsection 4.12(5) of the allocation determination that the new applicant is not affiliated with any other applicant in the updated list (Form 5).

The ACMA will not accept a new application under section 4.12 unless it is satisfied that the new applicant is not affiliated with any applicant who has not withdrawn, including another new applicant.

### Stage C—Nominate and secure initial eligibility points

To complete the registration process, applicants will need to:

* Lodge a completed eligibility nomination form (Form 8)—nominating their initial eligibility points, which will determine their maximum eligibility to bid in the first clock round (see 3.1.2).
* Secure their initial eligibility points by making an eligibility payment to the ACMA, giving the ACMA a deed of financial security (Form 6), or a combination of both, for an amount.

The eligibility nomination form is *not* included in the *Auction forms* booklet provided in this AIP. The ACMA will publish the eligibility nomination form on its website— together with the lot ratings and dollar value of initial eligibility points set by the ACMA under paragraphs 4.6(1)(a) and (b) of the allocation determination—no later than 70 days after it advertises the auction in accordance with subsection 4.4(1) of the allocation determination. The form will, among other things, contain:

* a guide to calculating initial eligibility points
* a guide to calculating the amount required to secure the nominated initial eligibility points (the guide will explain that the amount is calculated by multiplying the nominated number of points by the dollar value of initial eligibility points set by the ACMA).

GST is not payable on an amount required to secure initial eligibility points.

The completed eligibility nomination form, and eligibility payment and/or deed of financial security, must be given to the ACMA by the eligibility deadline of **28** **March 2013**.

The ACMA will set the supplementary bid limit (see 3.1.2) after the application deadline, and will notify applicants about the limit at least five working days before the eligibility deadline.

### ACMA confirms registration and provides information

Subject to the requirements of stages A, B and C of the registration process having been met, the ACMA will contact registered bidders after the eligibility deadline to confirm that they have been registered to participate in the auction, and provide them with the following:

* a copy of the information about the bidder recorded on the register of bidders maintained by the ACMA under section 4.18 of the allocation determination
* the ACMA’s email address and telephone and fax numbers available for registered bidders to use
* as discussed at 3.3.1, information about accessing and using the auction system—for example, a user manual for the auction system; the URL for accessing the auction system internet site; and a username, password and security token for each of the ‘authorised persons’ nominated in the bidder’s application form at Stage A
* information about how to bid by alternative means if the bidder is unable to submit a bid using the auction system.

A set of this material will be provided for each authorised person nominated in the bidder’s application form. The ACMA will give the sets of material for all of the bidder’s authorised persons to the contact person nominated in the bidder’s application form. The contact person will then be responsible for giving the sets of material to the authorised persons.

## Step 4—Bid in the auction

The auction will be conducted over the internet using auction system software (see 3.3).

Information about how to access and use the auction system, including an ‘auction system user manual’, will be provided to registered bidders after the eligibility deadline (see 4.3.4). That information will be supplemented by other bidder training and support material (see 3.4).

This section of the *Auction guide* outlines how the auction rounds will be scheduled, and how the schedules and other relevant information (for example, round results and the conclusion of the clock rounds) will be announced to bidders during the auction period. **Detailed instructions about how to use the auction system to participate in each stage of the auction (for example, how to log in to the auction system and submit bids and view results at each stage) will be provided in the auction system user manual.**

During the auction period, bidders and their ‘related persons’ should remain aware of their reporting obligations under the allocation determination. Under these obligations:

* if at any time during the auction period, a bidder believes they may be an affiliate of another bidder, they must immediately tell the ACMA in writing the identity of the other bidder and give details of the affiliation (see 3.2.6)
* a bidder, or a related person of a bidder, who discloses confidential information, or who receives the confidential information of another applicant or bidder must report the matter to the ACMA in writing as soon as possible, but no later than two working days after becoming aware the disclosure or receipt has occurred (see 3.2.7)[[37]](#footnote-37)
* if any item provided by the ACMA to a bidder for the purpose of accessing the auction system is lost or stolen during the auction period, the bidder must notify the ACMA immediately (see 3.3.1).

### Allocation stage (clock and supplementary rounds)

The auction (that is, the first clock round) is scheduled to commence on 23 April 2013. The ACMA will contact registered bidders after the eligibility deadline, and at least 10 working days before the day of the first clock round, to confirm the starting date and time for the first clock round.

Subsequent clock rounds will be scheduled at the auction manager’s discretion. At least one hour before the start time of the first clock round on each day, the auction manager will announce (via the auction system) the expected schedule of clock rounds for the day. It is the responsibility of bidders to ensure that they monitor the auction system as necessary to receive all announcements. While there is no minimum or maximum length for a clock round, it is expected that each clock round will run for approximately 30 minutes. All clock rounds will start and end between 9 am and 5 pm on working days in Victoria, Australia.

The auction manager may vary the schedule of clock rounds at any time, as required—for example, if it becomes apparent following the initial few clock rounds that a longer or shorter duration for each clock round or interval may enhance the auction’s efficiency. Any variations to the schedule will be announced to bidders via the auction system as soon as practicable.

Before the start of each clock round, each bidder will be notified (via the auction system) of:

* the start and end time for the coming round
* the prices that will apply to the lots of each product in the coming round
* the bidder’s eligibility points in the coming round
* for clock rounds other than the first clock round:
* for each product, the total number of lots that were bid for in the clock round that just ended
* the package and price of the bidder’s own bid in the clock round that just ended.

Bidders will not be informed of other bidders’ individual bids, or other bidders’ eligibility to bid in the next clock round.

When there is no excess demand for any product, the auction manager will announce to bidders that the clock rounds have concluded and that the auction will progress to the supplementary round. After the final clock round, and before the supplementary round, each bidder will be notified of:

* for each product, the total number of lots that were bid for in the final clock round
* the package and price of the bidder’s own bid in the final clock round.

Subject to there being at least one clear working day between the end of the final clock round and the start of the supplementary round, the supplementary round will be scheduled at the auction manager’s discretion. At least one hour before the start time of the supplementary round, the auction manager will announce its start and end times. While there is no minimum or maximum length for the supplementary round, it is expected that the round will take place on a single business day and run, without interval, for between four and eight hours.

Following the end of the supplementary round, and after the winning allocation stage bids and prices have been determined, the auction manager will notify:

* all bidders about the number of winning bidders and the total number of lots of each product that have been allocated to winning bidders
* each bidder about the number of lots of each product they have won and the allocation price for their package of lots.

There will be at least one clear working day between the completion of the allocation stage and the first assignment round.

### Assignment stage

Assignment rounds will be scheduled at the auction manager’s discretion, subject to the following constraints. After the completion of the allocation stage, the auction manager will announce the anticipated start and end time of each assignment round and the product/s that will be the subject of each round. The start and end time of each assignment round will be confirmed, via the auction system, at least one hour before the round starts. If an assignment round is held for the one ‘national’ product in the 700 MHz band category, the round will not include any of the 2.5 GHz band products and will be the first assignment round held.

While there is no minimum or maximum length for an assignment round or an interval between assignment rounds, each assignment round will start no earlier than 9 am and end no later than 5 pm on working days in Victoria, Australia. It is expected that several assignment rounds may be completed, in sequence, on a single day.

At the start of each assignment round, the auction manager will provide each bidder with the list of frequency options available to the bidder in that round.

After the winning bids and prices have been determined for an assignment round, the auction manager will notify each winning bidder about the frequency ranges assigned to the lots they won, and any associated assignment price.

The assignment stage is complete when the auction manager has notified bidders about the results of every round. The completion of the assignment stage marks the end of the auction period.

## Step 5—Verification and publication of auction results

Before announcing or publishing the results of the auction, or issuing invoices to winning bidders, the ACMA will obtain independent verification that the winning bidders and winning prices calculated by the auction system accord with the auction procedures set out in the allocation determination (see 3.3.4).

Following completion of the verification process, and after the end of the auction period, the ACMA will:

* announce or publish:
* the names of winning bidders
* the spectrum allocated to each winning bidder
* the total sum paid, or to be paid, by each winning bidder (see 4.6.1)
* provide bidders with information about the outcome of the verification process.

## Step 6—Post-auction procedures

The steps to be followed after the end of the auction period will be different for:

* bidders who won lots of a product in the auction
* bidders who did not win lots of a product in the auction
* applicants who withdrew from the auction before the eligibility deadline.

### Winning bidders

After the auction results have been verified and published (see 4.5), the ACMA will:

* give each winning bidder details about the identity of all other winning bidders
* ask the bidder to make a statement for the purposes of section 6.3 of the allocation determination (Form 7), stating whether the bidder is an affiliate of another winning bidder and, if so, identifying the other bidder and giving details of the affiliation.

Statements for the purposes of section 6.3 of the allocation determination must be lodged by the deadline stated in the ACMA’s request. The deadline will be at least five working days after the date of the request. A winning bidder’s confidentiality obligations (see 3.2.7) will end when they give the statement to the ACMA. Winning bidders who fail to give the ACMA a statement as requested will be subject to the breach provisions discussed at 3.2.8.

Where the ACMA is satisfied that two or more winning bidders have become affiliated after, but were not affiliated *during*, the auction period, it will notify bidders in writing and tell them the reasons why it is satisfied that this is so. If the issue of spectrum licences to the affiliated bidders for all the lots of a product the bidders won at auction would exceed the allocation limits (see 3.2.5), the bidders may give the ACMA a direction specifying how the spectrum is to be allocated between them up to the allocation limits. Any such direction must be given jointly by the bidders within five working days of receiving the notification from the ACMA.

If the ACMA does not receive a direction within five working days, it may, for any part of the spectrum where the lots won by the bidders exceed the allocation limits, choose at its discretion how to allocate spectrum to each bidder up to the allocation limits. In such cases, a frequency range can be assigned to a bidder from any of the frequency ranges assigned to the lots won at auction by any of the affiliated bidders. Regardless of whether the affiliated bidders are consequently issued licences for fewer lots than they won in the auction, each of them will remain liable to pay the full balance of the winning price for all of the lots they won.

Following Step 5 above, the ACMA will notify each winning bidder, via an invoice delivered by registered mail, of the amount payable for the lots they won. The balance of the price payable by a winning bidder will be the total of the allocation price and assignment prices for the lots they won, *less* any eligibility payment they made at Stage B of the bidder registration process (see 4.3.2):

* Where the balance of the winning price for a bidder is an amount **greater than zero**, the ACMA will notify the bidder by registered mail of the balance—which must be paid by the winning bidder to the ACMA on behalf of the Commonwealth no later than 20 working days after the date of the notice. Once the balance has been paid, the bidder is entitled to be issued a spectrum licence for each part of the spectrum allocated to the bidder. The minister has directed the ACMA on the time when bidders must pay the balance of their winning price. The direction requires the ACMA to *not* notify winning bidders of the balance of their winning price before 1 October 2014. An exception to this requirement is where any of the spectrum licences to be issued for the part of the spectrum allocated to a particular bidder has a commencement date of 1 October 2014—for any such bidder, the direction requires the ACMA to not notify the bidder of the balance of their winning price before 19 August 2014. A copy of the minister’s direction to the ACMA, the Australian Communications and Media Authority (Spectrum Licence Allocation–Combinatorial Clock Auction—Eligibility Deadline and Payment Terms) Direction 2013, is available at [www.comlaw.gov.au](http://www.comlaw.gov.au).
* Where the balance of the winning price for a bidder is an amount **less than or equal to zero**, the amount of any excess eligibility payment will be refunded to the winning bidder—and the bidder will be entitled to be issued a licence for each of the lots they won in the auction without further payment.

### Unsuccessful bidders

As soon as practicable after the end of the auction period, the ACMA will notify each bidder that did not win lots of a product in the auction that:

* the bidder was unsuccessful in the auction
* the bidder’s confidentiality obligations (see 3.2.7) have ended.

Subject to any decision by the ACMA to retain the bidder’s eligibility payment (see 3.2.8), the unsuccessful bidder will be refunded any eligibility payment they made at Stage B of the bidder registration process (see 4.3.2).

### Withdrawn applicants

As soon as practicable after the end of the auction period, the ACMA will notify each withdrawn applicant that their confidentiality obligations (see 3.2.7) have ended.

Subject to any decision by the ACMA to retain the applicant’s eligibility payment (see 3.2.8), the withdrawn applicant will be refunded any eligibility payment they made at Stage B of the bidder registration process (see 4.3.2).

Part three—
Understanding spectrum licences

# Spectrum licensing and technical framework

**This chapter provides information about:**

* **spectrum licensing**
* **the technical framework applicable to spectrum licences for the 700 MHz and 2.5 GHz bands**
* **other important issues affecting spectrum licensees.**

**Important warning: The information in this chapter is intended to provide a general overview of, and does not purport to contain all information regarding, rights and obligations in respect of spectrum licences issued under the Act and associated legislative instruments. Potential applicants should *not* rely on this information, but should instead make their own investigation.**

This chapter provides a brief introduction to spectrum licensing and the technical framework applicable to the spectrum licences to be allocated in the 700 MHz and 2.5 GHz band. It provides:

* an overview of spectrum licensing—more detailed information about the key obligations placed on spectrum licensees is available in the ACMA publication [*Know your obligations—Spectrum licensees*](http://engage.acma.gov.au/know-your-obligations-help-for-spectrum-licensees/)
* an explanation of the technical framework underpinning spectrum licensing in the 700 MHz and 2.5 GHz bands—more detailed information on the development of the technical framework for each band can be found on the [spectrum licence technical liaison groups](http://www.acma.gov.au/WEB/STANDARD/pc%3DPC_410046) page on the ACMA website
* other important information.

Copies of the legislative instruments referred to in this chapter are available as attachments to the *Auction guide*:

* the marketing plan and legislative instruments implementing the technical framework for the 700 MHz band are available at attachments B to E
* the marketing plan and legislative instruments implementing the technical framework for the 2.5 GHz band are available at attachments F to I.

## Spectrum licensing

A spectrum licence authorises the operation of radiocommunications devices for a fixed period, of up to 15 years, within a specified frequency band, within a particular geographic area. Licensees choose how they deploy devices within their spectrum space, the nature of the services they wish to deliver and the technology they use—as long as the operation of devices is within the parameters of the conditions of the spectrum licence.

A licensee’s use of spectrum allocated to it under a spectrum licence is subject to several constraints, including:

* compliance with the Act
* compliance with a set of core licence conditions required under subsection 66(1) of the Act
* compliance with statutory licence conditions made under sections 67, 68, 69 and 69A of the Act
* compliance with other conditions that the ACMA may include under section 71 of the Act
* management of interference issues with reference to technical instruments established for the band under subsection 145(4) and section 262 of the Act.

Licensees are also permitted to make agreements with affected adjacent licensees to change emission limits within the parameters of the technical framework. The agreed limit cannot exceed any absolute limit specified in the technical framework, in limits outside the designated spectrum space or at the boundary of other licensees not subject to the agreement.

The spectrum licensing arrangement is a technology-flexible, market-oriented approach to managing the radiofrequency spectrum. The spectrum space may be subdivided and traded in standard trading units (STUs). The ability to trade and the flexibility of the technology that may be used in line with the technical framework allows licensees to change their service over time in response to commercial realities, and respond to technological innovation within the flexibility of the framework.

Information specific to the spectrum licences on offer for the 700 MHz and 2.5 GHz bands is available in Part 3 of the marketing plan for each band. This includes, at Schedule 6 to each marketing plan, a sample licence containing the conditions that may be included in a spectrum licence for the band.

## The technical framework

The technical framework for a spectrum-licensed band is the set of technical rules made by the ACMA in consultation with industry applicable to the operation of radiocommunications devices within the given band. The primary purpose of the technical framework is to specify the relevant technical conditions that licensees should comply with to effectively manage interference between users of the spectrum.

The technical framework is crafted using three interlocking regulatory elements:

* the core conditions of the licence, which are mandatory requirements included pursuant to section 66 of the Act
* a determination of unacceptable levels of interference for the purposes of device registration, made under subsection 145(4) of the Act (the subsection 145(4) determination)
* radiocommunications advisory guidelines, made under section 262 of the Act.

Information on each of the regulatory elements and how a technical framework is developed is provided in [*Know your obligations*](http://engage.acma.gov.au/know-your-obligations-help-for-spectrum-licensees/).

The interference mechanisms that the technical frameworks for the 700 MHz and the 2.5 GHz bands seek to manage are those caused by:

* unwanted in-band emissions
* emissions falling outside the frequency band of the licence
* transient emissions such as those caused by switching a transmitter on and off
* intermodulation effects.

All four of these mechanisms are dealt with by a combination of the core licence conditions relating to outside-the-area and outside-the-band emissions, and those parts of the registration process that give effect to those conditions at the point of registering devices before their operation. The device registration process is discussed at 5.4.3.

The 700 MHz and 2.5 GHz technical frameworks were developed in consultation with industry through technical liaison groups. The frameworks have been optimised to support 4G mobile telephony technologies.

The 700 MHz spectrum licence technical framework has been developed by the ACMA with industry in parallel with the ACMA’s involvement in developing internationally harmonised band planning arrangements in the Asia–Pacific region to support mobile broadband or wireless access services (WAS) in the band. The 700 MHz band previously supported television broadcasting services.

The 2.5 GHz spectrum licence technical framework provides conditions that are suitable to support internationally harmonised arrangements for the use of the band for mobile broadband or WAS. Previously, the band was used nationwide for television outside broadcasting (TOB). To enable the operation of WAS in the band, the technical framework has adopted International Telecommunication Union Radiocommunication Sector band arrangements to support frequency division duplex (FDD) operation and emission limits developed in Europe.

While the technical frameworks for both the 700 MHz and 2.5 GHz bands have been designed to support FDD WAS services, this does not explicitly exclude other uses. For example, the spectrum may be deployed to provide a wide range of services including broadband wireless access (BWA) services, data transfer, machine-to-machine (M2M) remote control links between plant and equipment, or video surveillance.

## Core conditions

The core conditions of a spectrum licence are mandatory technical requirements that form the basis of the licence as required under section 66 of the Act. The core conditions specify the geographic area and frequency range of the licence, as well as the maximum permitted emission levels at the frequency and geographic boundaries of the licence. The core conditions of a spectrum licence include:

* the area of operation
* the frequency bandwidth of operation
* the permissible outside-the-area emission limits
* the permissible outside-the-band emission limits.

Further information and explanation on each of these core conditions is available in [*Know your obligations*](http://engage.acma.gov.au/know-your-obligations-help-for-spectrum-licensees/). The following information refers specifically to how each of the core conditions is applied in the context of the 700 MHz and 2.5 GHz bands.

### Area of operation

The geographic areas subject to allocation via the issue of a spectrum licence in the 700 MHz and 2.5 GHz bands are described in Schedule 3 of the respective marketing plans.

The geographic area or aggregate of areas within which the operation of radiocommunications devices is authorised by the spectrum licence is described in Part 3 of Licence Schedule 1 in the form of HCIS identifiers. Links to Google Earth and Google Map placemarks for the geographic areas to which the lots of each product in the 700 MHz and 2.5 GHz bands relate, are available at 2.2.

### Frequency band of operation

Spectrum in both the 700 MHz and 2.5 GHz bands is being offered in the auction on a paired basis to support FDD operation. The frequency band segments available for operation of devices in the 700 MHz and 2.5 GHz bands are described in Schedule 1 of the respective marketing plans.

The paired frequency bands within the 700 MHz band and the 2.5 GHz band can be found in Part 2 of Licence Schedule 1 in the sample licence available in Schedule 6 of the respective marketing plans.

### Outside-the-area emission limits

This limit is listed in Schedule 4 of the respective marketing plans, and is set out in Licence Schedule 2 in the sample licence provided in Schedule 6 of the respective marketing plans.

The definition of the core condition outside the area limit for terrestrial transmitters effectively places a cap on the horizontally radiated power of transmitters anywhere in the area of the licence.[[38]](#footnote-38)

An additional layer of outside-the-area emission management is imposed at the point of registration of devices by the respective subsection 145(4) determination. This point is discussed in detail at 5.4.

### Outside-the-band emission limits

The outside-the-band emission limits, sometimes referred to as emission masks, for the 700 MHz and 2.5 GHz bands are listed in Schedule 5 of the respective marketing plans.

Outside-the-band emission limits have been expressed in the form of absolute levels, rather than levels relative to the transmitter output power, to allow licensees to operate transmitters with an optimised balance between transmit power and outside-the-band emission suppression. The emission limits specific to licences for the 700 MHz and 2.5 GHz bands are set out in Licence Schedule 2 in the sample licence provided at Schedule 6 of the respective marketing plans. These levels may be varied through negotiated agreement with affected adjacent licensees (see 5.4.5).

## The unacceptable levels of interference determination (subsection 145(4))

Before a transmitter can be operated under a spectrum licence, its details must be recorded in the Register (known as the Register of Radiocommunications Licences, or RRL), unless it is exempted from registration. Section 145 of the Act gives the ACMA the power to refuse to register a device that could cause an unacceptable level of interference to the operation of other radiocommunications devices when operated. The ACMA has determined under subsection 145(4) of the Act what constitutes unacceptable interference in the 700 MHz and 2.5 GHz bands.

The subsection 145(4) determination that defines what will be taken to be unacceptable levels of interference for spectrum licences in the 700 MHz band is the Radiocommunications (Unacceptable Interference – 700 MHz Band) Determination 2012 (Attachment C).

The subsection 145(4) determination that defines what will be taken to be the unacceptable levels of interference for spectrum licences in the 2.5 GHz band is the Radiocommunications (Unacceptable Interference – 2.5 GHz Band) Determination 2012 (Attachment G).

The subsection 145(4) determinations set out the following basic requirements to manage unacceptable levels of interference for the 700 MHz and 2.5 GHz bands:

* that the core conditions of the licence are met (see 5.3)
* that specified device boundary criteria are met (see 5.4.1)
* that deployment constraints applicable to the band are adhered to (see 5.4.2)
* that full details of the transmitter are provided for inclusion in the RRL (see 5.4.3).

More information about device registration options and procedures is available on the [ACMA website](http://www.acma.gov.au/WEB/STANDARD/pc%3DPC_310738).

### Device boundary criteria

Subsection 145(3) of the Act allows the ACMA to require that a certificate be presented to the ACMA, issued by a person accredited under section 263 of the Act, stating that operation of the device under the licence satisfies any conditions that are required to be satisfied in relation to the issue of such a certificate (under a determination made pursuant to section 266A of the Act).

Before issuing a certificate in accordance with subsection 145(3) of the Act, an accredited person may be required to calculate the device boundary of the transmitter to ensure that an unacceptable level of interference does not occur. This ensures that the core conditions set out in section 3.5 of the respective marketing plan, and in the relevant spectrum licence, are maintained and that the level of interference is in accordance with the requirements of the relevant subsection 145(4) determination.

Calculating a device boundary involves mathematical calculations to determine whether the device boundary is contained within the geographic boundary of the spectrum licence.

If the device boundary falls outside the geographic area of the relevant spectrum licence, the ACMA will generally refuse to register the device because the levels of emission outside the licence that it would cause will be ‘unacceptable interference’ within the meaning of a relevant determination made under subsection 145(4) of the Act. An exception to this is where the part of the device boundary that exceeds the geographic area of the spectrum licence meets the criteria in subsection 8(2) of the subsection 145(4) determinations for the 700 MHz and 2.5 GHz bands—for example, the part of the device boundary lies outside the boundary of the Australian spectrum map grid.[[39]](#footnote-39) An exception can also be made where there is an agreement of the type discussed at 5.4.5*.* In these circumstances, the agreement provides that a device boundary may exceed the licence boundary of a licensee because the adjacent licensee has specifically agreed to that and accepts any interference caused to its use of the spectrum.

Under the subsection 145(4) determinations, in determining ‘unacceptable levels of interference’ the following matters also apply:

* if the device boundary of a fixed transmitter cannot be calculated in accordance with Part 1 of Schedule 2 of the subsection 145(4) determination, the transmitter is taken to cause unacceptable interference
* in respect of the subsection 145(4) determination for the 2.5 GHz band, a transmitter with emissions above the horizon greater than the limit specified for the horizontally radiated power is taken to cause unacceptable interference
* a transmitter that operates in the 2.5 GHz lower band or the 700 MHz lower band is taken to cause unacceptable interference if it has an effective antenna height greater than 10 metres, such as transmitters located on an airship or a balloon (see section 8(3) of the subsection 145(4) determination for the 700 MHz band and subsection 8(4) of the subsection 145(4) determination for the 2.5 GHz band).

### Deployment constraints

Deployment constraints in the subsection 145(4) determination for the 700 MHz and 2.5 GHz bands limit transmitter antenna heights in the lower band. There are similar constraints on receiver antenna heights in the radiocommunications advisory guidelines dealing with the notional receiver developed as part of the technical framework. The advisory guidelines are discussed at 5.5.

### Registration of devices

It is a condition of all spectrum licences issued in the 700 MHz and 2.5 GHz bands that licensees must not operate transmitters under those licences unless they are registered by the ACMA or are exempt from the registration requirements.

Although the ACMA will generally refuse to register a device where the requirements of the subsection 145(4) determination cannot be met, registration may still occur if either:

* there is sufficient internal spectrum guard space
* the accredited person is satisfied that all licensees who, in the opinion of the accredited person, may be affected by the interference have given consent in writing to interference from the transmitter
* there is a core condition agreement for emissions outside the area.

The consequence of this is that spectrum licensees must expect that certain levels of emission will legitimately cross their geographic (and spectrum) boundaries from points within other spectrum-licensed areas. These emissions may radiate power into the spectrum licensee’s area at any level up to that allowed under the relevant subsection 145(4) determination, or levels otherwise negotiated with the relevant spectrum licensees.

Additional information on the registration of radiocommunications devices under a spectrum licence is available in the ACMA publication [*Registration of radiocommunications devices under spectrum licences*](http://www.acma.gov.au/webwr/_assets/main/lib410188/registration-rcomms_devices_under_spectrum_licences.docx).

### Interference impact certificates

Before a device will be registered for use under a licence, the ACMA may need to be satisfied that its use has been properly planned and that it will not cause unacceptable interference to other spectrum users. The registration requirements may include a requirement that the licensee present an interference impact certificate (IIC) issued under subsection 145(3) of the Act by an accredited person.[[40]](#footnote-40)

The ACMA has made a determination pursuant to section 266A of the Act, which relevantly states conditions that must be satisfied under a licence before an accredited person may issue a certificate under subsection 145(3). The conditions require that before issuing a certificate the accredited person must be satisfied that either:

* the operation of the radiocommunications transmitter will not cause an unacceptable level of interference as set out in section 145 of the determination for the frequency band
* the use of guard space is sufficient to mitigate potential interference from the radiocommunications transmitter
* consent in writing to interference from the radiocommunications transmitter has been given by all licensees who, in the opinion of the accredited person, may be affected by the interference.

Further information on issuing an IIC and the role of accredited persons is provided in [*Know your obligations*](http://engage.acma.gov.au/know-your-obligations-help-for-spectrum-licensees/).

### Core condition agreements

Spectrum licensees can agree to accept emissions that would, in the absence of an agreement, exceed the core conditions of their spectrum licence(s) provided all affected licensees are in agreement. For example, spectrum licensees might agree to alternative arrangements with other licensees for higher levels of emissions outside the band of an individual licence within the band of the licensees making the agreement than would have otherwise been allowed.

### Registering groups of transmitters and receivers

Unless exempted, transmitters must always be registered as either an individual transmitter or as part of a group of transmitters. If two or more transmitters are operated for the purpose of communicating with the same receiver or same group of receivers and they have identical emission characteristics, then they may be treated as a group in order to simplify the registration process.

The subsection 145(4) determinations for the 700 MHz and 2.5 GHz bands set out the definition of a ‘group of radiocommunications transmitters’ and a ‘group of radiocommunications receivers’ for the purpose of simplifying registration of those devices. They specify how the registration details for a group of transmitters and receivers must be calculated.

Groups are defined to help minimise the work associated with the registration process of similar transmitters. Low-power fixed and mobile transmitters meeting the relevant criteria specified in the sample licence at Schedule 6 of the marketing plans for the 700 MHz and 2.5 GHz bands are exempt from device registration requirements. Licensees may decide whether to register receivers based on a risk assessment of the benefits achieved through coordination to manage outside-the-band interference.

### Registration exemptions

Certain kinds of low-power transmitters are exempt from registration. The conditions these devices need to meet to be exempt from registration will be specified in the spectrum licences issued as a result of the auction. Typical devices that are exempted from registration are cellular mobile telephone handsets, wireless modems, subscriber terminals and smart repeaters.

### Labelling requirements for transmitters

The ACMA requires that licensees label all transmitters with the registration number provided when the transmitter is registered. Exemptions may apply to devices that have low interference potential; for example, low-power transmitters.[[41]](#footnote-41)

## Radiocommunications advisory guidelines

Further guidance on device deployment and coordination is provided in radiocommunications advisory guidelines made under section 262 of the Act (the advisory guidelines). While the use and compliance methods set out in the advisory guidelines are not of themselves mandatory, they set out the ACMA’s policy approach and in certain instances will reflect requirements made mandatory by licence conditions or other instruments under the Act. This is the case for spectrum licences to be issued for the 700 MHz band. For further details, see the marketing plans and sample spectrum licence conditions in attachments B and F. The advisory guidelines include provisions to assist interference assessments between spectrum-licensed devices and services operating under apparatus or other licences. The ACMA may also use the advisory guidelines to assess interference and manage disputes between different spectrum-licensed services.

The advisory guidelines for both the 700 MHz and 2.5 GHz bands contain information for spectrum licensees on managing interference from frequency adjacent apparatus-, class- and spectrum-licensed services. The advisory guidelines also contain information for spectrum licensees on managing interference to non-spectrum-licensed receivers.

There are two band-specific advisory guidelines made under section 262 of the Act that are associated with spectrum licensing in the 700 MHz band. They are:

* the Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 700 MHz Band) 2012 (at Attachment D)
* the Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 700 MHz Band 2012 (at Attachment E).

Similarly, there are two band-specific advisory guidelines made under section 262 of the Act that are associated with spectrum licensing of the 2.5 GHz band. They are:

* the Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 2.5 GHz Band) 2012 (at Attachment H)
* the Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 2.5 GHz Band 2012 (at Attachment I).

Further information on the radiocommunications advisory guidelines is available in [*Know your obligations*](http://engage.acma.gov.au/know-your-obligations-help-for-spectrum-licensees/).

### Managing interference to spectrum-licensed receivers

The advisory guidelines set out a minimum performance level for receivers in the 700 MHz and 2.5 GHz bands. These criteria provide a basis from which licensees are able to develop procedures for managing interference between receivers and transmitters in adjacent frequency bands. When planning services and resolving interference cases, licensees (and accredited persons) should follow the advisory guidelines. The guidelines only apply to registered fixed receivers—they do not apply to mobile or nomadic receivers operated under a spectrum licence.

In the case of the 700 MHz band, the advisory guidelines also include advice about managing interference to 700 MHz band receivers from broadcast services prior to completion of the restack process (see 2.3.5).

While the receiver requirements in the guidelines are not mandatory, the guidelines will be used by the ACMA in resolving interference cases. To be afforded protection from interference in accordance with advisory guidelines, the receiver must meet the minimum level of receiver performance and the details of the receiver must be recorded in the RRL.

Licensees will need to take account of the emission limits permitted under the technical framework when deciding the level of performance they require for their receivers. It is for licensees to balance the cost of receiver performance against the risk of interference.

The framework provides for the operation of receivers that have interference susceptibility commensurate with that achieved by current technology, and for this level of performance to guide the interference settlement process. Receivers with poor interference susceptibility performance can be used, but in those cases licensees may have to use more of their own spectrum space as guard space.

### Managing interference from spectrum-licensed transmitters to other services

The advisory guidelines contain information for spectrum licensees about protection to be provided to receivers of services operating in or adjacent to the 700 MHz and 2.5 GHz bands.

In the case of the 700 MHz band this includes television broadcasting services.

In the case of the 2.5 GHz band, it includes:

* spectrum-licensed receivers operating in the mid-band gap
* fixed service receivers such as point-to-point links
* radioastronomy service receivers
* aeronautical radionavigation service receivers
* radio determination service receivers.

The guidelines also provide advice on the notification of sites to help protect radioastronomy services operating in the bands 2200–2550 MHz and 2655–2690 MHz and coordination with the Mid-west RQZ in Western Australia.

## Statutory licence conditions

Along with the core conditions of a licence, there are other conditions that the ACMA must include in a spectrum licence in accordance with the requirements of the Act. These conditions are referred to as ‘statutory conditions’ and a brief summary of the requirements of each is outlined below. Further information on each of the statutory conditions is available in [*Know your obligations*](http://engage.acma.gov.au/know-your-obligations-help-for-spectrum-licensees/).

### Payment of charges

Under section 67 of the Act, the ACMA must include a condition that the spectrum licensee meets all obligations to pay:

* charges fixed by the ACMA under section 60 of the ACMA Act
* any spectrum access charges fixed by a determination made under section 294 of the Act
* amounts of spectrum licence tax.

### Authorisation of third parties

Spectrum licence-holders may authorise third parties to use the licensed spectrum by negotiating a private agreement that allows a ‘third-party user’ to operate a radiocommunications device under the licensee’s licence.

Under section 68 of the Act, the ACMA must include a condition about third-party use of the spectrum licence. This condition is that the operation of devices by people other than the licensee must comply with any rules made by the ACMA about third-party use under paragraph 68(2)(a) of the Act. The licensee must notify any third-party user of their obligations under the Act.

### Registration of radiocommunications transmitters

Under section 69 of the Act, the ACMA must include a condition that radiocommunications transmitters must not be operated under the licence unless the relevant requirements under Part 3.5 of the Act for registration of transmitters are met (see 5.4).

### Residency

Under section 69A, the ACMA must include a condition that at all times when the licensee derives income, profits or gains from operating a radiocommunications device under the spectrum licence (or from authorising others to do so), the licensee must be an Australian resident or the income, profits or gains are to be attributable to a permanent business establishment in Australia.

## Licence conditions included by the ACMA

Under section 71 of the Act, the ACMA may include other licence conditions on spectrum licences. The ACMA has included further licence conditions in Licence Schedule 4 of the sample licence provided at Schedule 6 of the respective marketing plans. These conditions are sample conditions only and the conditions contained in actual spectrum licences issued by the ACMA may vary.

### Information for the RRL

The licensee must give the ACMA all information as required by the ACMA from time to time for inclusion in the RRL.

### International coordination

A licensee must ensure that operation of a radiocommunications device under the licence does not cause harmful interference to a receiver that operates in accordance with International Telecommunication Union Radio Regulations and is located in a country other than Australia.

### Electromagnetic energy requirements

A licensee is subject to section 4 of Part 1 and parts 2, 3 and 4 of the Radiocommunications Licence Conditions (Apparatus Licence) Determination 2003 as in force from time to time.

### Protection of the Mid-west RQZ

The ACMA established Australia’s first radio quiet zone on 11 April 2005. The Mid-west RQZ aims to maintain the current ‘radio-quietness’ of a site in remote Western Australia. The area has very low levels of radiofrequency energy because of its low population and lack of industrial development. The Mid-west RQZ is intended to facilitate the development and use of new radioastronomy technologies at that location.

Before seeking to register a radiocommunications transmitter for use in or around the Mid-west RQZ, as defined by the [Radiocommunications (Mid-West Radio Quiet Zone) Frequency Band Plan 2011](http://www.acma.gov.au/WEB/STANDARD/pc%3DPC_100628), the licensee must follow the procedures set out in Radiocommunications Assignment and Licensing Instruction (RALI) MS 32as in force from time to time. While MS 32, [Coordination of Apparatus Licences within the Mid-West Radio Quiet Zone](http://www.acma.gov.au/WEB/STANDARD/pc%3DPC_2708) applies directly to apparatus-licensed devices, the methods and procedures are also applicable to spectrum-licensed devices.

The band plan defines the RQZ and auxiliary RQZ zones for coordination purposes.

### Management of interference with broadcasting and retransmission services (700 MHz band only)

Spectrum licences for the 700 MHz band that are issued as a result of the auction will include a condition to manage potential interference to the reception of any broadcasting services or retransmission services operating lawfully in the frequency range 694 to 820 MHz after the licence commences. Further information about the interference management condition is provided at 2.3.5.

## Other information

There are a range of other important matters affecting spectrum licensees. This section outlines these matters for prospective auction participants. Further information about each issue is available in [*Know your obligations*](http://engage.acma.gov.au/know-your-obligations-help-for-spectrum-licensees/).

### Flexibility of a spectrum licence

The inherent flexibility of the spectrum licence technical framework allows winning bidders to choose how they deploy services in the spectrum they win, the nature of the services they deliver and the technology they employ. However, these decisions should be based on a careful technical and commercial assessment taking into account the harmonised generic emission limits, as well as the amount of spectrum available and purchased, for the performance of the equipment the bidder desires to operate.

The spectrum-licensed bands have a recommended minimum contiguous bandwidth (MCB) to minimise fragmentation of the band during spectrum trading. The MCB is the minimum bandwidth holding for issue of a licence. However, the ACMA will consider allowing licensees to hold smaller bandwidths where good reasons can be shown to exist in a particular case for holding the smaller bandwidth.

The 700 MHz and 2.5 GHz band spectrum available in the auction is also subject to the allocation limits (or ‘competition limits’) discussed at 3.2.5. The allocation limits effectively limit the maximum bandwidth holding of a licensee.

The spectrum lots and subsequently issued spectrum licences are not pre-designed to accommodate any particular equipment standard. However, they may accommodate the operation of a particular standard (or even non-standard equipment) at a particular location and frequency, depending on the bandwidth and area of the spectrum licence that a bidder has acquired.

### Spectrum trading

Current and prospective spectrum licensees are permitted to negotiate purchases of spectrum subject to rules determined by the ACMA. The rules allow spectrum licensees to subdivide and sell part of their licences to prospective licensees—or alternatively, to acquire additional spectrum to increase the size of the geographic space covered by the licence.

Pursuant to section 86 of the Act, where trading of licences takes place after the auction and new boundaries are formed, both parties to the trade must notify and provide relevant information to the ACMA as soon as practicable after the trade has been agreed, so the ACMA can amend the RRL and vary, issue or cancel licences as appropriate to give effect to the trade.

### Suspension and cancellation of spectrum licences

Division 3 of Part 3.2 of the Act provides that the ACMA may, by written notice giving the reasons, suspend or cancel a spectrum licence if it is satisfied that a licensee or authorised third party has either:

* breached a licence condition or the Act
* operated a radiocommunications device under the licence, or purportedly under the licence, either:
* in contravention of any other law (whether written or unwritten) of the Commonwealth, a state or a territory
* in the course of contravening such a law.

### Interference that the technical framework does not prevent

No matter how rigorous the engineering analysis of a device, there is always a possibility of actual interference when devices are deployed in the field. This is because the technical framework is designed according to certain levels of acceptable interference probability. Under the framework described in this chapter, assuming compliance with licence conditions and relevant obligations, it is anticipated that the risk of interference between spectrum-licensed devices is low. Such interference may be caused by emissions at frequencies either inside or outside the licensees’ spectrum space.

Before making an interference complaint, licensees are strongly advised to check the RRL in an attempt to locate the source of any interference. This may reveal the cause of the interference and it may be possible to settle the problem without the ACMA’s intervention. If the ACMA becomes involved, licensees may be charged for any work undertaken by or on behalf of the ACMA.

### International coordination

Potential spectrum licensees should note that the ACMA will impose such additional licence conditions on spectrum licences as may be necessary to meet its international obligations in accordance with the International Telecommunication Union Radio Regulations.

### Health and safety

There are some regulatory arrangements relevant to the occupational health and safety, electromagnetic exposure and the supply of equipment under a spectrum licence. Prospective bidders should ensure that they inform themselves about, and are familiar with, any relevant regulations.

### Environmental and other considerations

Antenna siting, height and construction may be regulated by state, territory or local government legislation. Prospective bidders should ensure that they inform themselves about, and are familiar with, any relevant regulations.

### Obtaining a permit to operate non-standard devices

Division 4 of Part 4.1 of the Act provides that a licensee who wishes to operate a non-standard device under a spectrum licence is required to seek permission from the ACMA.[[42]](#footnote-42)

Part four—
Communicating with the ACMA

# Updates, queries, lodgements and payments

**This chapter provides information about how:**

* **the ACMA will release updates and announcements about the auction**
* **to submit queries about the auction to the ACMA**
* **to lodge auction documents with the ACMA**
* **to make auction payments to the ACMA.**

## 6.1 Updates and announcements

Updates about auction developments and events will be released through the ACMA’s [*engage* website](http://engage.acma.gov.au/digitaldividend/).

The ACMA also publishes a monthly *Spectrum auction e-bulletin* to provide stakeholders with a summary about recent and upcoming developments. You can subscribe to the e-bulletin, and access past issues, through the *engage* website.

Information about the progress of the restack process, including copies of all draft and final TLAPs prepared by the ACMA, is available on the ACMA [website](http://engage.acma.gov.au/digitaldividend/category/restack/). This information, which will be updated from time to time throughout the course of the restack process, is relevant to the use of spectrum pursuant to spectrum licences issued for the 700 MHz band (see 1.2.5 to 1.2.7).

Information about the restack process, and the broader process of achieving the digital dividend, is also available on the DBCDE [website](http://www.dbcde.gov.au/television/achieving_the_digital_dividend_-_restack).

Several of the steps set out in Chapter 4 require the ACMA to provide information or material to auction participants directly. Arrangements for conducting such communications are discussed in the introduction to Chapter 4.

## 6.2 Queries

Queries about the auction process may be directed to the ACMA’s Allocations Liaison Officer, by:

**Email:**  majorspectrumallocations@acma.gov.au

**Telephone:** (03) 9963 6837

**Fax:** (03) 9663 7693

**Post:** Allocations Liaison Officer

 Major Spectrum Allocations Section

 Australian Communications and Media Authority

 Level 44, 360 Elizabeth St

 Melbourne VIC 3000

Following the eligibility deadline (28 March 2013), people who have registered as a bidder in the auction will be given alternative contact details (an email address, telephone number and fax number) they can use to communicate with the ACMA about the auction process (see 4.3.4).

## 6.3 Lodging documents

Auction documents (for example, application forms, deeds, statutory declarations) may be given to the ACMA by:

**Email:** ddauctionmanager@acma.gov.au\*

**Fax:** (03) 9663 7693\*

**Delivery to:** The Digital Dividend Auction Manager

 Major Spectrum Allocations Section

 Australian Communications and Media Authority

 Level 44, 360 Elizabeth St

 Melbourne Vic 3000

\*Subsections1.6(2)–(4) of the allocation determination set out procedures for lodging documents by email or fax. Under these procedures:

* where a document is lodged by email, the document must be included as an attachment and:
* if it is a statutory declaration, a statement under section 6.3 of the allocation determination or a deed—be in PDF format or another format approved by the auction manager
* if it is any other type of document—be in Word, RTF or PDF format, or another format approved by the auction manager
* where a document is lodged by fax, the document must be accompanied by a cover sheet that states:
* the sender’s name, postal address, telephone number and fax number
* the number of pages transmitted, including the cover sheet
* the type of document—if it is a completed application form, a completed eligibility form, a statutory declaration, a statement under section 6.3 of the allocation determination or a deed.

Subsections 4.7(3), 4.12(6), 4.13(4) and 4.14(6) of the allocation determination set out additional requirements for certain documents lodged by email or fax. Under these rules:

* where a completed application form, deed of acknowledgement form, or deed of confidentiality form is given to the ACMA by email or fax before the applicable deadline, the original document must be received by the ACMA no later than three working days after the applicable deadline (or, if the ACMA agrees to a later time, by the agreed time) for the application to be valid
* if an eligibility nomination form or a deed of financial security form is given to the ACMA by email or fax before the eligibility deadline, the original document must be received by the ACMA no later than three working days after the eligibility deadline (or, if the ACMA agrees to a later time, by the agreed time) for the nomination to be taken to have been made, or for the deed to be taken to have been given.

## 6.4 Making payments

All amounts payable to the ACMA for the auction (for example, application fees, eligibility payments and winning bid payments) must be paid in Australian currency by:

EFT

Bank: ANZ Bank

Branch: Belconnen branch

BSB: 012-951

Account no.: 8379 24272

Account name: ACMA Official Administered Receipts

Transfers should be labelled: ‘DDA/purpose of payment/name of auction participant’. Note: Because transfer labels are limited to 15 characters, abbreviations must be used. For example:

* ‘DDA/appfee/XCo’
* ‘DDA/elig/XCo’
* ‘DDA/win/XCo’.

Evidence of the electronic transfer (for example, a transfer receipt) should be emailed to ddauctionmanager@acma.gov.au as soon as practicable after the transfer is made.

Bank cheque (crossed ‘not negotiable’)

Made payable to: Collector of Public Moneys, Australian Communications and Media Authority

Delivered to: The Digital Dividend Auction Manager

 Major Spectrum Allocations Section

 Australian Communications and Media Authority

 Level 44, 360 Elizabeth St

 Melbourne Vic 3000

Subsection 1.7(4) of the allocation determination sets out rules about when an amount is taken to have been paid by a relevant deadline. Under these rules, an amount is taken to have been paid by a deadline if:

* the ACMA receives a bank cheque for the full amount on or before the deadline
* the ACMA receives evidence that an electronic transfer of the full amount was made on or before the deadline (for example, a transfer receipt) *and* the amount is received in the ACMA’s bank account no later than three working days after the deadline
* the ACMA receives other evidence that satisfies it that the person making the payment has taken all reasonable steps to pay the amount before the deadline.

An amount due under the allocation determination is not paid in full if bank charges or government duties imposed on a payment reduce the net payment to less than the amount due. An applicant or bidder must add the value of any bank charge or government duty to the amount of the payment.

GST is not payable on the application fee, an amount required to secure initial eligibility points or the ACMA’s spectrum access charges (for example, the winning price payable by a bidder) imposed before 1 July 2013.

# Auction documents—attachments A to R

Click to download

## Allocation determination

**Attachment A**—[Radiocommunications (Spectrum Licence Allocation – Combinatorial Clock Auction) Determination 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02548)

## Marketing plans and technical framework instruments

### Marketing plan and technical framework instruments for 700 MHz band

**Attachment B**—[Radiocommunications Spectrum Marketing Plan (700 MHz Band) 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02547)

**Attachment C**—[Radiocommunications (Unacceptable Levels of Interference – 700 MHz Band) Determination 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02543)

**Attachment D**—[Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 700 MHz Band) 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02546)

**Attachment E**—[Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 700 MHz Band) 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02544)

### Marketing plan and technical framework instruments for 2.5 GHz band

**Attachment F**—[Radiocommunications Spectrum Marketing Plan (2.5 GHz Band) 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02552)

**Attachment G**—[Radiocommunications (Unacceptable Levels of Interference – 2.5 GHz Band) Determination 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02545)

**Attachment H**—[Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 2.5 GHz Band) 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02550)

**Attachment I**—[Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 2.5 GHz Band) 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02549)

## Spectrum reallocation declarations

**Attachment J**—[Radiocommunications (Spectrum Re-allocation) Declaration No. 1 of 2011, and explanatory statement](http://www.comlaw.gov.au/Details/F2011L02180/Download)

**Attachment K**—[Radiocommunications (Spectrum Re-allocation) Declaration No. 2 of 2011, and explanatory statement](http://www.comlaw.gov.au/Details/F2011L02181/Download)

## Allocation limit directions

**Attachment L**—[Radiocommunications (Spectrum Licence Limits) Direction No. 1 of 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L00205)

**Attachment M—**[Radiocommunications (Spectrum Licence Limits) Direction No. 1 of 2012 (Amendment No. 1 of 2012) and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02470)

**Attachment N**—[Radiocommunications (Spectrum Licence Limits) Direction No. 2 of 2012, and explanatory statement](http://www.comlaw.gov.au/Details/F2012L00206)

**Attachment O—**[Radiocommunications (Spectrum Licence Limits) Direction No. 2 of 2012 (Amendment No. 1 of 2012) and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02473)

## Initial (reserve) prices direction

**Attachment P**—[Australian Communications and Media Authority (Allocation Procedures – Reserve Prices) Direction No. 1 of 2012 and explanatory statement](http://www.comlaw.gov.au/Details/F2012L02198)

## Auction matters determined by the ACMA

**Attachment Q**—[Appointment of auction manager](http://www.acma.gov.au/webwr/_assets/main/lib550055/Aptmnt_of_auction_manager-Spectrum_auctions.pdf)

**Attachment R**—[Setting of application fee](http://www.acma.gov.au/webwr/_assets/main/lib550055/Amt_of_application_fee-Spectrum_auctions.pdf)

# Auction forms

There are eight forms for the digital dividend auction:

* Form 1—Application form
* Form 2—Deed of acknowledgement form
* Form 3—Deed of confidentiality form
* Form 4—Statutory declaration form for the purposes of section 4.9 of the allocation determination
* Form 5—Statutory declaration form for the purposes of section 4.12 of the allocation determination
* Form 6—Deed of financial security form
* Form 7—Statement form for the purposes of section 6.3 of the allocation determination
* Form 8—Eligibility nomination form.
* Instructions on who needs to complete the forms, and when to do so, are provided in the step-by-step guide in Chapter 4 and at the start of each form.

Forms 1–7 are available in the *Auction forms* booklet, which you can download [here](http://engage.acma.gov.au/digitaldividend/auction-forms).

Pursuant to subsection 4.6(4) of the allocation determination, **Form 8—Eligibility nomination form**, discussed at 4.3.3, will be published on the ACMA website no later than 70 days after the auction is advertised.

# Glossary

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| 4G | Fourth generation mobile telephony technologies |
| 700 MHz band | The frequency ranges 703–748 and 758–803 MHz |
| 2.5 GHz band | The frequency ranges 2500–2570 and 2620–2690 MHz |
| ACMA | Australian Communications and Media Authority |
| ACMA Act | [*Australian Communications and Media Authority Act 2005*](http://www.comlaw.gov.au/Details/C2012C00530) |
| Act | [*Radiocommunications Act 1992*](http://www.comlaw.gov.au/Details/C2012C00233) |
| AIP | Application information package (see 1.1) |
| allocation determination | Radiocommunications (Spectrum Licence Allocation — Combinatorial Clock Auction) Determination 2012, at Attachment A |
| allocation limits | Limits on the aggregate amount of spectrum that can be used by a bidder. The allocation limits have the effect of capping the total amount of spectrum that a single bidder can acquire in the auction (see 3.2.5) |
| auction period | Defined in subsection 1.4(1) of the allocation determination as:… the period from the eligibility deadline to the completion of the assignment stage under subsection 5.6(3) [of the allocation determination] |
| Broadcasting Services Act | [*Broadcasting Services Act 1992*](http://www.comlaw.gov.au/Details/C2012C00773) |
| CCA | Combinatorial clock auction—the auction format being employed for the digital dividend auction (see 3.1) |
| Competition and Consumer Act | [*Competition and Consumer Act 2010*](http://www.comlaw.gov.au/Details/C2012C00514) |
| DBCDE | Department of Broadband, Communications and the Digital Economy |
| DCP | Digital channel plan (see 1.2.5) |
| HCIS | Hierarchical cell identification scheme (see 2.2.1 and 2.2.2) |
| lot | Defined in subsection 1.5(1) of the allocation determination as:… a unit of a product that is offered in the auction |
| marketing plan | For the 700 MHz band: Radiocommunications Spectrum Marketing Plan (700 MHz Band) 2012, at Attachment BFor the 2.5 GHz band: Radiocommunications Spectrum Marketing Plan (2.5 GHz Band) 2012, at Attachment F |
| package | Defined in subsection 1.4(1) of the allocation determination as:… in relation to a bid, the group of lots that is the subject of the bid. |
| product | Defined in subsection 1.5(1) of the allocation determination as:… a part of the spectrum identified as a product in one of the marketing plans, characterised by frequency ranges and a geographic region |
| radiocommunications advisory guidelines | For the 700 MHz band:* Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 700 MHz Band) 2012, at Attachment D
* Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 700 MHz Band) 2012, at Attachment E

For the 2.5 GHz band:* Radiocommunications Advisory Guidelines (Managing Interference from Transmitters – 2.5 GHz Band) 2012, at Attachment H
* Radiocommunications Advisory Guidelines (Managing Interference to Receivers – 2.5 GHz Band) 2012, at Attachment I
 |
| reallocation declaration | For the 700 MHz band: Radiocommunications (Spectrum Re-allocation) Declaration No.1 of 2011, at Attachment JFor the 2.5 GHz band: Radiocommunications (Spectrum Re-allocation) Declaration No.2 of 2011, at Attachment K |
| reallocation period | Sets the time frame during which the reallocation process is to be completed. Under section 153B(4) of the Act, the reallocation period must begin within 28 days of the spectrum reallocation declaration being made and must run for at least two years (see 1.2.2)  |
| RQZ | Mid-west Radio Quiet Zone. Australia’s first radio quiet zone, established by the ACMA in remote Western Australia in April 2005 to maintain the region’s existing ‘radio-quietness’ (see 1.2.1 and 5.7.4) |
| subsection 145(4) determination | For the 700 MHz band: Radiocommunications (Unacceptable Levels of Interference – 700 MHz Band) Determination 2012, at Attachment CFor the 2.5 GHz band: Radiocommunications (Unacceptable Levels of Interference – 2.5 GHz Band) Determination 2012, at Attachment G |
| Telecommunications Act | *Telecommunications Act 1997* |
| TLAP | Television Licence Area Plan prepared by the ACMA under subsection 26(1B) of the *Broadcasting Services Act 1992* (see 1.2.5 and 1.2.6) |

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1. Further information about the ACMA’s recommendations, including the May 2011 information paper *Draft spectrum reallocation recommendations for the 700 MHz digital dividend and 2.5 GHz bands* is available on the ACMA [website](http://acact01nctt1/scripts/nc.dll?WEBEDIT.262334:STANDARD::pc=PC_312542). [↑](#footnote-ref-1)
2. See Ministerial direction, Australian Communications and Media Authority (Realising the Digital Dividend) Direction 2010, and associated explanatory statement, on the Comlaw [website](http://www.comlaw.gov.au/Details/F2010L01990). [↑](#footnote-ref-2)
3. See *Digital Dividend Green Paper,* and submissions received in response to the paper, on the Department of Broadband, Communications and the Digital Economy [website](http://www.dbcde.gov.au/consultation_and_submissions/digital_dividend/digital_dividend_green_paper). [↑](#footnote-ref-3)
4. Further information about the review, including the January 2010 discussion paper Review of the 2.5 GHz band and long-term arrangements for ENG and the ACMA’s response to submissions to that paper, is on the ACMA [website](http://www.acma.gov.au/WEB/STANDARD/pc%3DPC_312013). [↑](#footnote-ref-4)
5. See subsection 153H(2) of the Act. [↑](#footnote-ref-5)
6. ‘Perth Area’ is defined in the 2.5 GHz spectrum reallocation declaration at Attachment K. [↑](#footnote-ref-6)
7. The broadcasting services bands are the parts of the spectrum that the minister, acting in accordance with section 31 of the Act, has: designated as being primarily for broadcasting purposes or restricted datacasting services; and referred to the ACMA for planning under Part 3 of the Broadcasting Services Act. [↑](#footnote-ref-7)
8. Section 26AA of the Broadcasting Services Act provides for compliance with TLAPs. [↑](#footnote-ref-8)
9. DCPs are temporary planning instruments made under the *Commercial Television Conversion Scheme 1999* and the *National Television Conversion Scheme 1999*. They determine which channels are to be allotted to each area, the assignment of channels to each commercial and national broadcaster and the technical characteristics of those channels. [↑](#footnote-ref-9)
10. See Australian Government Budget 2012-13, Budget Paper No. 2 – Budget Measures 2012-13, [Part 2: Expense Measures](http://www.budget.gov.au/2012-13/content/bp2/html/index.htm), p. 94. [↑](#footnote-ref-10)
11. See the Radiocommunications (Low Interference Potential Devices) Class Licence 2000 on the Comlaw [website](http://www.comlaw.gov.au/Details/F2011C00543). [↑](#footnote-ref-11)
12. See section 27 of the Broadcasting Services Act and section 17 of the *Legislative Instruments Act 2003*. [↑](#footnote-ref-12)
13. Subsection 31(1AA) of the Act provides that the minister may vary the broadcasting services bands designation so as to enlarge or reduce the part of the spectrum covered by the designation. [↑](#footnote-ref-13)
14. The *Digital dividend auction tune-up* held in November 2011 marked a key milestone in the ACMA’s auction preparations. Copies of the ACMA’s presentations at the event, including a ‘consultation roadmap’, are available on the ACMA’s [engage website](http://engage.acma.gov.au/digitaldividend/presentations/). [↑](#footnote-ref-14)
15. The Mid-west RQZ is an area in remote Western Australia that was excluded from the ‘National Area’ defined in the minister’s spectrum reallocation declarations for the 700 MHz and 2.5 GHz bands, at Attachments J and K, respectively (see 1.2.1). [↑](#footnote-ref-15)
16. The ‘Google Map’ link will display ACMA spatial data on the Google Maps web service. Clicking on this link will take you to the Google Maps website. The ACMA is not responsible for the quality, currency or accuracy of any information or any content found on this website. These links are provided for the convenience of readers of this auction guide and do not constitute endorsement of the material at the Google Maps website, or any associated organisation, product or service. The linked website may not share the privacy and copyright policies of the ACMA website. The linked website may have its own terms and conditions applicable to its use and by accessing these links you may become bound to comply with those terms and conditions. [↑](#footnote-ref-16)
17. To view the Google Earth version of the image, you will need to install software capable of displaying data in Keyhole Markup Language (KML) format, such as [Google Earth](http://www.google.com/earth) or [NASA World Wind](http://www.worldwindcentral.com/wiki/Main_page). [↑](#footnote-ref-17)
18. The ‘Google Map’ link will display ACMA spatial data on the Google Maps web service. Clicking on this link will take you to the Google Maps website. The ACMA is not responsible for the quality, currency or accuracy of any information or any content found on this website. These links are provided for the convenience of readers of this auction guide and do not constitute endorsement of the material at the Google Maps website, or any associated organisation, product or service. The linked website may not share the privacy and copyright policies of the ACMA website. The linked website may have its own terms and conditions applicable to its use and by accessing these links you may become bound to comply with those terms and conditions. [↑](#footnote-ref-18)
19. To view the Google Earth version of the image, you will need to install software capable of displaying data in Keyhole Markup Language (KML) format, such as [Google Earth](http://www.google.com/earth) or [NASA World Wind](http://www.worldwindcentral.com/wiki/Main_page). [↑](#footnote-ref-19)
20. ‘National Area’ and ‘Perth Area’ are defined in the 2.5 GHz spectrum reallocation declaration, at Attachment K. [↑](#footnote-ref-20)
21. See section 153P of the Act. Paragraph 153P(2)(e) allows the ACMA to consider, on a case-by-case basis, whether there are special circumstances that justify the issuing of an apparatus licence notwithstanding the general prohibition under subsection 153P(2). [↑](#footnote-ref-21)
22. See condition 8 in Licence Schedule 4 (‘Other Conditions’) in the draft sample licence for the 700 MHz band. [↑](#footnote-ref-22)
23. See subsection 153H(2) of the Act. [↑](#footnote-ref-23)
24. The ‘supplementary bid limit’ (the maximum number of bids that a bidder is permitted to make in the supplementary round) will, in accordance with s. 4.16 of the allocation determination, be set by the ACMA after the application deadline, and disclosed to applicants at least five working days before the eligibility deadline. [↑](#footnote-ref-24)
25. Under ‘revealed preference’, a bidder can bid for a package that has not become relatively more expensive than packages that the bidder bid for in certain prior rounds. [↑](#footnote-ref-25)
26. ‘Pseudorandom selection’ is defined in section 1.4 of the allocation determination. [↑](#footnote-ref-26)
27. ‘Y only’ is not an option because it would result in the other bidder being awarded non-contiguous frequency ranges. [↑](#footnote-ref-27)
28. ‘Auction period’ is defined in section 1.4 of the allocation determination, and means the period from the eligibility deadline to the completion of the assignment stage under subsection 5.6(3) of the allocation determination. [↑](#footnote-ref-28)
29. ‘Associate’ is defined in section 2.2 of the allocation determination. [↑](#footnote-ref-29)
30. ‘Related person’ is defined in section 1.4 of the allocation determination. [↑](#footnote-ref-30)
31. ‘Confidential information’ is defined in section 3.1 of the allocation determination. [↑](#footnote-ref-31)
32. Presentations made by the ACMA and Power Auctions at the workshops are available [here](http://engage.acma.gov.au/digitaldividend/experts-explain-the-spectrum-auction-process/). Answers to questions raised at the workshops are available [here](http://engage.acma.gov.au/digitaldividend/cca-workshops-qa/). [↑](#footnote-ref-32)
33. The presentation made by the ACMA at the industry briefing is available [here](http://engage.acma.gov.au/digitaldividend/industry-briefing-presentation-now-available/). [↑](#footnote-ref-33)
34. Procedures for ‘lodgement of documents’ and ‘payment of amounts’ are set out in sections 1.6 and 1.7 of the allocation determination, respectively. [↑](#footnote-ref-34)
35. Section 4.2 of the allocation determination provides that before the ACMA publishes a notice inviting applications for the auction, it must set the amount of the application fee (see instrument at Attachment R). GST is not payable on the application fee. [↑](#footnote-ref-35)
36. In the interests of operational efficiency and security, applicants are encouraged to nominate no more than three authorised persons. However, applicants can nominate an additional two authorised persons (i.e., a total of up to five persons) if they wish. Instructions for nominating authorised persons are provided in the application form. [↑](#footnote-ref-36)
37. As well as applying to bidders and their related persons during the auction period, this obligation also applies to applicants, bidders, and the related persons of applicants and bidders, *before and after* the auction period (see 3.2.7). [↑](#footnote-ref-37)
38. Horizontal radiated power is the power limit radiated from an antenna in the horizontal plane. A full description can be found in the sample licence provided at Schedule 6 in the marketing plan for each band. [↑](#footnote-ref-38)
39. ‘Australian spectrum map grid’ is defined in section 4 of the respective subsection 145(4) determinations. [↑](#footnote-ref-39)
40. The [Radiocommunications (section 145(3) Certificates) Determination 2012](http://www.comlaw.gov.au/Details/F2012L01719) sets out the conditions that apply to accredited persons when issuing IICs. Contact details for all current accredited persons who have consented to the release of those details are on the ACMA [website](http://www.acma.gov.au/WEB/STANDARD/pc%3DPC_496). [↑](#footnote-ref-40)
41. Requirements for the labelling of radiocommunications transmitters, including exemptions to the general labelling requirement, are set out in the [Radiocommunications (Labelling) Determination 1997](http://www.comlaw.gov.au/Details/F2007B00114). [↑](#footnote-ref-41)
42. ‘Non-standard device’ is defined in section 5 of the Act. [↑](#footnote-ref-42)