

2. How is it being allocated

In this Chapter ...

- general information about the simultaneous ascending auction system
- information about how the auction process works

In this auction, applicants will compete for *spectrum licences*. Broadly speaking, instead of authorising the operation of a specific device or type of device, a spectrum licence authorises the use of *spectrum space* within a geographic area and frequency band, provided that the device complies with the engineering framework for spectrum licensing in the band.

This part explains how the ACA will use the simultaneous ascending auction system to allocate spectrum allocation lots (or lots). Lots are like “building blocks” of spectrum space. The auction process allocates lots to the applicants who value them most highly. These lots are aggregated after the auction by the ACA to form licences.

The spectrum allocation lots on offer in the auction are defined in the *Radiocommunications Spectrum Marketing Plan (2 GHz Band) 2000* (**Attachment 3**).

Overview

IMPORTANT WARNING

The following information is intended to provide only a general overview of the allocation scheme which is contained in the Radiocommunications (Spectrum Licence Allocation — 2 GHz band) Determination 2000 ('the Determination'). Potential applicants should not rely on this information, but should instead rely on the content of the Determination itself. Potential applicants are also urged to seek appropriate independent legal or other advice in relation to the Determination. A copy of the Determination is at Attachment 5.

In a simultaneous ascending auction, all bidders are able to bid on all elements of their preferred aggregations of lots at the *same time*. All the lots on offer are auctioned simultaneously, rather than in sequence. Bidders can bid on any lot, or any combination of lots, up to their own pre-declared limit and any limits imposed by the Minister. This limit is expressed as *eligibility*; a representation of the lots and their relative value that the bidder ultimately hopes to win.

Bidding is conducted over multiple rounds and the auction closes when there are no new bids on any of the lots in a round in the final stage of the auction (see **Auction Stages**). A

key feature of the auction is the application of *activity rules* that encourage active participation and ensure that the process does not stall. If a bidder fails to meet its activity requirements, the amount of spectrum that it is eligible to bid on reduces. Bidders may not bid on lots in such a way that their bidding activity would exceed their eligibility.

Applicants must pay an entry fee to participate in the auction that is intended to cover the ACA's costs in bringing the spectrum to market. The ACA has set this fee at \$50,000 (**Attachment 19**). This fee is not refundable.

Applicants must also pay an *eligibility payment* to register for the allocation process. The rate of eligibility payment has been set by the ACA as \$50,000 per lot rating for the eligibility nominated by the Applicant (**Attachment 19**). Lot ratings are a measure of the relative value of the lots. The eligibility payment will be calculated proportionally to the amount of eligibility nominated by the applicant. The eligibility payment will be held against bid withdrawal penalties in the auction. Any eligibility payment remaining after deduction of bid withdrawal penalties will be credited against the bid price of successful applicants. This eligibility payment is refundable at the end of the auction if there is any surplus after the deduction of bid withdrawal penalties, and after credit to the balance of the bid price (ie. winning bids plus bid withdrawal penalties minus the eligibility payment).

Each round of the auction will consist of:

- a bidding period when bidders make their bidding instructions; and
- a short period of time for the ACA to calculate the results and make them available for download by bidders, and for bidders to consider the results before the next round commences.

Due to the very large number of permutations of bidder preferences in an auction of this type, this auction will be run on a computer, and people will bid electronically. Bidders will submit their bids using a computer and modem, transmitting bids over the public telephone network or the internet. Bids will be encrypted for security and digitally signed for data integrity.

The ACA's auction bidding software provides for bidding and withdrawing bids in the auction, and for viewing the results of the auction. The software allows a bidder to view the whole database of lots on offer, or to select lots by area, or by frequency band, or by both.

The ACA will use "public key" encryption to seek to secure the privacy and integrity of each bidder's bid file as it is transmitted to the ACA. Public key encryption also offers scope to provide sophisticated digital authentication procedures for files that are mathematically improbable to compromise. For the auction, the ACA will provide all pairs of encryption keys. Each bidder will be given a copy of the ACA's public key and a copy of their own secret key. The ACA will retain a copy of all public and secret keys distributed in the auction, stored under appropriate security arrangements. In all cases, the bidder must provide a bidder identification number and certain authentication information for a bid to be accepted (see the Determination for details of the authentication required).

The ACA accepts that emergency situations may occur during the auction, and under these circumstances will accept telephone bids. Telephone bidding will be permitted only in circumstances which the ACA considers amount to an emergency. Telephone bidders may issue instructions by telephone to an operator who will be using the bidding software to prepare bids. The submitted bid will then be returned by fax to the bidder as confirmation.

Bidders should note that telephone bidding takes time, and bidders should try to avoid using such a facility when a round is near to closing. In placing a telephone bid, bidders should allow sufficient time for the bid to be entered by the ACA operator.

Restrictions on use of software overseas

The ACA auction software contains high-level encryption systems that may be illegal in other countries and which cannot be exported from Australia without a permit. The ACA therefore provides two versions of its auction software. One is for bidders in Australia. The second type is for applicants who wish to bid from outside Australia. For these applicants, the ACA will provide an 'Export Only' version of the software which will not contain the restricted encryption components.

Applicants intending to bid from overseas will need to obtain their own copy of the encryption software from a supplier. They should then insert the encryption software into the working directory of the ACA software.

The auction computer system works with the PGP 2.6.x encryption software. Details about some potential sources for PGP 2.6.x can be found on the internet at:

<http://www.pgpi.com/download>

Deed of Financial Security or Performance Payment

Deeds of Financial Security must be provided by *all* applicants (including individuals) other than those referred to in paragraphs 2.8(1)(a)-(c) of the Determination. The Deed must be in the ACA approved form which is provided to potential applicants as part of this Applicant Information Package.

The promissors under the Deed undertake to pay the ACA, on demand, an amount calculated as the financial security amount set by the ACA under paragraph 2.1(c) of the Determination multiplied by the number of units of eligibility nominated by the applicant. The ACA has set the financial security amount as \$50,000 for each unit of eligibility nominated by the applicant. For example, if an applicant nominates its initial eligibility as 1,500, the Deed of Financial Security that the applicant must provide will be for \$50,000 times 1,500 or \$75 million.

The Deeds must be provided by banks licensed to operate in Australia, by a person authorised to carry on a business in Australia as an insurer under the *Insurance Act 1973* or, if Part VII of that Act has not ceased to have effect, a Lloyds underwriter.

Applicants who do not wish to obtain a Deed of Financial Security from a financial institution may, as an alternative, deposit funds equivalent to the value of the required Deed of Financial Security with the ACA as a performance payment. The performance payment will be held in trust by the ACA and will be used to meet any undischarged financial liability of an applicant to the ACA under the Determination.

At the conclusion of the auction, and after all financial obligations to the ACA have been discharged, Deeds of Financial Security will be discharged by letter, or the performance payment will be refunded to the extent of any balance not required to meet any financial obligations to the ACA.

Simultaneous ascending auctions

Simultaneous ascending auctions take place in a number of stages, each of which will comprise a number of rounds. The number of rounds in each stage is not fixed and bidding continues until the level of new bids decreases. Bidding is possible on all lots in all rounds. The auction manager will decide when the auction should move from one stage to the next, based on the overall level of bidding activity.

Each stage of the auction will require applicants to make active bids in each round on a higher percentage of their eligibility than the previous stage. Applicants will be told the number of stages for the auction and the activity percentage applying to each stage before the auction commences.

The auction continues from round to round until such time as a round passes, in the final stage, in which no new bid is made on any lot in that round, and no bidder exercises a waiver. The auction can also be brought to an end by the auction manager at a specified round (s.4.27 of the Determination.)

Each round has two discrete components, and these follow a schedule, which is published in advance for every round. There is:

- a bidding period, when bidders may lodge their bidding instructions; and
- a calculation period, when the ACA calculates the highest bid on every lot on offer, based on these bidding instructions, and makes results available. Bidders can review the results and consider their strategy for the next round.

After considering the results for one round, bidders bid again on their preferred lots, or make a different set of bids in the next round.

Once all bidding has stopped the auction manager will declare the auction closed and will advise all registered applicants of the closure. The applicant who has the highest bid on each lot at the end of the auction wins the lot at the price the applicant bid.

The auction manager has discretion to stop the auction at a specified round, but must advise all registered applicants of this before the proposed closure.

The ACA will arrange for people who register to participate in the auction by the closing date to be given an opportunity for training and to participate in a trial auction. Training will not be provided to bidders overseas. Applicants should not, however, rely solely on the training given by the ACA. That training will be concerned only with the “mechanics” of the auction system. The ACA will not provide training or advice on bidding strategies, or on all the possible effects of the actions of bidders during the auction process. Applicants should seek such legal and other advice as they consider necessary in relation to the auction system.

Bidding in the Auction

Starting Bids

Every lot will be subject to a starting bid. Starting bids act like a reserve price, but they are disclosed at the start of the auction. The starting bid on all lots will be set by the ACA after the closing date for applications.

Minimum Bids

After the starting bid has been made on a lot, new bids on that lot will be subject to a minimum bid. This is the amount that a person wishing to bid on that lot must bid in order to make a *valid* bid in that round. This amount is calculated by adding an increment to the current high bid. The minimum bid value is updated for every lot and every round, based on a formula.

The formula for calculating the minimum bid on a lot in the next round takes the current high bid and adds the *higher of*:

- a percentage of the current high bid; or
- a price per lot rating.

The auction manager will set these two amounts after the closing date for the auction.

During the auction, the auction manager can vary these amounts after consulting with bidders. In the early stages of the auction, larger increments are likely to be set, but as the auction matures, smaller and more conservative increments might be chosen to allow for more marginal adjustments to pricing. Adjusting the level of the minimum bid increment may also be used to influence the speed at which the auction closes.

When a bidder withdraws a bid on a lot, and if no-one else bids on that lot in the same round, the lot will appear in the results for that round with a high bid as the next highest bid that has been made on that lot from previous rounds. The minimum bid will be set to the same amount. If there has been no other bid made on the lot in previous rounds, the high bid will be shown as zero, and the minimum bid will be the initial starting bid.

Automatic Re-bidding

The ACA auction system provides a facility for automatic re-bidding. This facility is being provided to speed the auction process.

In simple terms, a person may nominate to automatically re-bid on a lot. They may do this so that if another bidder also bids on that lot, or makes a higher bid on that lot, they can be sure to counter that bid, up to a limit which they nominate. There is no obligation on any applicant to use the automatic re-bid facility. Applicants using the facility, however, may speed the auction along because it effectively allows a number of bidding actions on a lot to be compressed into a single round.

Automatic re-bids are calculated to raise the high bid value on a lot by one bid increment at a time, up to a limit set by each bidder nominating to automatically re-bid (the ***automatic re-bid limit***).

To use the automatic re-bid facility, applicants will nominate an automatic re-bid limit for each of the lots they want to win. The automatic re-bid limit must be greater than the minimum bid set by the ACA for the lot. It can be as far over the minimum bid as the applicant is prepared to risk.

When processing bid instructions, the auction system will identify the high bidder on each lot. If any of the other applicants have nominated an automatic re-bid limit higher than this amount, the system will identify the person with the highest re-bid limit as the high bidder on the lot. The amount recorded as their bid will be one bid increment higher than the next highest automatic re-bid limit, or the high bid. If their automatic re-bid limit is not enough to cover a full increment, then the high bid shown will be set to the amount of their automatic re-bid limit.

While the ACA believes this is a useful facility, we advise that it be used with some caution. With automatic re-bidding, it would be possible for bidding on one lot to escalate very quickly, while adjacent identical or nearly substitutable lots remain comparatively low priced. Re-assessing the best bid on a range of options after each round is a less risky strategy.

Eligibility Limit

An applicant may bid on any lot or any combination of lots, provided that the total of the lot ratings of the lots on which they are ***active*** never exceeds their eligibility. Bidders are not restricted to bidding on the particular lots that they considered when nominating their eligibility.

The ACA's auction software provides information to bidders during the auction to assist them to manage their bidding within this limit.

Minister's Bidding Limits

As set out in Chapter 1 under **Competition/Bidding Limits**, the Minister has directed the ACA to apply limits on the spectrum which any bidder can acquire at the auction. The Minister has also directed the ACA to apply these limits to associated persons (in order to prevent the intention of the limits being undermined).

IMPORTANT NOTE

The ACA has implemented the Minister's directions by effectively placing limits on bidding, referred to in this information package as 'bidding limits'. In summary, the limits do not permit a bidder to acquire more than 2x15+5 MHz in State and Territory capital cities, and 2x10 MHz in designated regional areas.

The ACA software may detect and prevent some types of breaches of the bidding limits but not others, and so it is the bidder's responsibility to always ensure that it bids in a way that does not breach the caps imposed.

Associated Persons

To ensure compliance with the limits on associates, it is necessary for the ACA to implement procedures enabling associated applicants to be identified, and to ensure that bids from these associated persons do not jointly exceed the Minister's limits. The procedures for identifying associated persons are described in **Chapter 3 - How to Get a Licence**. Briefly, the provisions involve the ACA checking before the auction whether any applicants are associated. The provisions require persons identified as associates to either submit a single application or, if they choose to maintain separate applications, to be treated as if they were a single bidder in the auction.

At the end of the auction, the ACA will circulate to each successful applicant, details of all other successful applicants, and ask each successful applicant to sign a statutory declaration about whether or not they are an associate of any other successful applicant. If any applicants declare themselves to be, or are found to be associates, and if the total of all of the lots of all of the parties to an association exceeds the Minister's bidding limits, then the lots to be allocated to them will be reduced to the limit of the bidding limits. Any lots which remain unsold because of the operation of these provisions will be offered for allocation in a separate, later allocation.

IMPORTANT NOTE

Prospective applicants should note that there may be serious consequences if they are found to be associated after the commencement of the auction, and if the total of the lots of the parties to the association exceeds the Minister's bidding limits. In particular, prospective applicants should note that they may be liable to pay the bid price for lots which they may not be entitled to have incorporated within a spectrum licence.

Prospective applicants should also note that failure to notify the ACA of an association may give rise to both civil and criminal liability.

For further information on the procedures relating to associated persons, see Associated Persons Procedures in Chapter 3 - How to get a licence.

Activity

Activity Targets

To prevent the auction stalling, bidders will have to be **active** on lots with a lot rating that exceeds the relevant activity target set by the auction manager for the stage in which they are bidding. **Active** means they must either:

- be recorded as the highest bidder on a lot in the previous round's results **and** not withdraw that bid in the current round;
- **or** make a new valid bid on a lot (which need not be the highest bid made during the round) in the current round.

For new bids made in a round, any valid bid will count, not just those bids that are the highest for the round. When the number of new bids at one level of activity declines, the auction manager may decide to move to the next stage of the auction with a higher activity level (see below). The auction manager will ask all applicants to comment on this and take their comments into account before taking a decision to make the stage transition. When the new bid activity level declines at this higher activity target, the ACA may again raise the target to the next level, following the same process. Once the activity target is set at the final level, it will remain at that level until no new bids are made on any lot in a round, and the auction then closes, or until the auction manager otherwise closes the auction.

Auction Stages

Simultaneous ascending auctions may be conducted over several stages with each stage having an unspecified number of rounds. Each successive stage requires a higher level of bidder activity, and the auction manager will move the auction from one stage to the next (and so a higher level of activity) when a decline in bidding activity indicates that an equilibrium is near.

The level of bidder activity required in each stage is expressed as a percentage of applicant's eligibility. For example, the auction manager **could** set activity targets as follows:

- 60 per cent of eligibility in the first stage;
- 85 per cent of eligibility in the second stage; and
- 95 per cent of eligibility in the third stage.

These amounts will not be set until after applications close, when the likely competitive environment can be considered. There is no requirement that there be three stages.

Eligibility Reductions

Bidders not complying with activity requirements will have their eligibility for licences reduced unless they use a waiver (see below). Bidders who lose eligibility for under-activity will, in future rounds, only be able to bid in accordance with their reduced eligibility level. **Once lost, eligibility cannot be recovered.**

The ACA's auction bidding software incorporates a facility to give bidders a running total of their activity during the auction. The system provides notification if a bid file does not contain enough activity to meet the current activity target.

Additional Performance Payment/Deed of Financial Security

If an applicant's bidding takes the value of their high bids to more than ten times the value of the performance payment or Deed of Financial Security held by the ACA, the ACA will issue a notice requiring the applicant to lodge an additional payment, or a new Deed of Financial Security, equal to the amount already held. The applicant must submit the additional payment within three working days of the date of the notice. If the applicant chooses not to make the payment, then the applicant will be excluded from participating further in the auction. All the applicant's high bids will be treated as withdrawn bids and bid withdrawal penalties will be calculated for those withdrawn bids at the end of the auction. Bid withdrawal penalties will be deducted from the eligibility payment held.

To illustrate how this would work in practice, if an applicant had lodged a performance payment of \$1 million, and in a round made bids that exceeded \$10 million, the ACA would issue a notice to that client asking that they either pay another \$1 million in performance payment, or provide an additional Deed of Financial Security for that amount. That would bring their total performance payments, or the total covered by the applicant's Deeds of Financial Security, to \$2 million. If at some later time in the auction, the same applicant's bids exceeded \$20 million, the ACA would issue another notice requiring deposit of a further \$2 million, or the provision of a further Deed of Financial Security, bringing the total amounts held or secured to \$4 million.

Through this process, an applicant's performance payment on deposit (or Deed of Financial Security) with the ACA will always fall in the range of 10 per cent to 20 per cent of the value of their bids.

High Bids

Applicants do not have to raise their own high bids but they may do so if they wish. If they raise, the act of raising the bid will not add to their activity (they will already be regarded as active on the lot by having been the high bidder from the previous round).

If two or more identical bids are received, the applicant whose bid is the first recorded on the auction computer system will be regarded as the high bidder for that round. Telephone bids will be timed when they are entered onto the computer system by the ACA. If there are any disputes in this area, the auction manager will make the final decision.

Waivers

The ACA recognises that there will be times when bidders need to take “time out” from the auction, perhaps to consider an alternative bidding strategy. All bidders, therefore, will have a number of waivers which exempt them from the reduction of eligibility described above. The number of waivers is set by the auction manager.

Applicants can either:

- nominate to exercise a waiver in a round (a “pro-active waiver”), **or**
- if they do not exercise one, the Auction Manager will automatically apply one of their waivers (an “automatic waiver”) rather than reduce eligibility; **unless**
- the applicant asks the auction manager **not** to do this (an “automatic waiver override”).

A difference between a pro-active waiver and an automatic waiver is that a bidder can use a pro-active waiver to keep the auction open for one more round if there are no new bids made.

The auction manager will set the number of waivers after applications close, and registered applicants will be informed as to how many waivers they will have.

Bid Withdrawal

This form of auction allows bidders to change their bidding strategies and the lots they hope to win. To do this they may need to withdraw their high bids on some lots or they may just want to withdraw.

When a high bid is withdrawn, and if no other bidder bids on the lot during the round, the lot will be shown in the next results file at the second highest price that has been bid by another bidder during the auction, but without that price being attributed to that bidder. This is because the second highest bidder, acting on the knowledge that it is no longer the highest bidder, may have already decided to deploy its eligibility elsewhere, in which case attributing the lot to that bidder may cause them to exceed their eligibility.

The second highest bid price, therefore, will be attributed in the results to the default bidder [BIN 9999], which is the ACA. In this situation, the ACA will not apply a minimum bid increment to the amount in the next round. Instead, the minimum bid on the lot will be set equal to the bid attributed to the ACA. In this way, if the bidder who made the second

highest bid is still interested in the lot, it may bid on the lot and confirm its interest without further financial commitment.

If no other bid has been made on the lot in previous rounds, the high bid will be shown as zero and the minimum bid will be the initial starting bid amount.

If a bidder withdraws a high bid, the lot rating of that lot will be deducted from the bidder's activity in the round. The bidder will need to consider whether, by withdrawing a bid on a lot, it fails to meet the activity target for that round.

Bid Withdrawal Penalties

To discourage bidders making frivolous bids and then withdrawing them, each bid withdrawal may be subject to a bid withdrawal penalty.

The penalty works like this: a “bid” is like a promise of a certain amount of money for the lot. If the bid is withdrawn, and the lot is ultimately sold for less, the promise is broken.

Unless a lot is eventually sold for more than a withdrawn bid, a person who withdraws a bid will always be liable to the ACA for at least 10%, and in some circumstances may be liable for as much as 100%, of the amount of the withdrawn bid. Applicants who have incurred a withdrawal penalty will be informed of their obligations at the end of the auction.

Close of Auction

The auction will be closed when a round passes in the final stage with no new bids being made, and no “pro-active waivers” being exercised. It is also possible for the auction manager to bring the auction to a close on two rounds notice.

The auction manager must advise all registered bidders of the close of auction. Applicants who made the highest bids on lots at the close will be issued with a notice of payment due.

Payment Process

When the auction closes, each successful applicant will be issued with a notice confirming the results of the auction and setting out the amount owing on each lot on which it was successful, plus any bid withdrawal penalties, less the initial eligibility payment (this is called the “balance of bid price” in the auction rules — see section 5.2).

This notice will be sent by receipted mail to the address of the applicant.

Successful bidders will have 10 working days from the date of the notice in which to pay 10 per cent of the “balance of the bid price”. Successful bidders will then have a further 20 working days to pay the remainder, making a total of 30 working days from the date of the notice for the balance of the bid price to be paid.

Prospective applicants should note that they will be required to pay the balance of the bid price on all lots on which they are successful, even if one or more of those lots cannot be incorporated within a spectrum licence by virtue of the Minister's bidding limits (see Associated Persons Procedures in **Chapter 3 - How to Get a Licence.**)

Default

If any payment due to the ACA is missed on its due date, the applicant will be in default.

In the case of default, all bids made by the defaulting applicant will be treated as withdrawn bids and the bid withdrawal penalty calculated accordingly. The eligibility payment will be credited against this penalty, but if there is still an outstanding penalty, this will become a debt due to the ACA.

Any other monies paid by the applicant (for example, the first 10 per cent payment) will be forfeited. Any successful bidder defaulting on payment of a lot will not be entitled to a spectrum licence for that lot or any other lot on offer in the auction.

Unallocated Lots

Any unsold or defaulted lots may be allocated by the ACA by another auction, by tender, or by a pre-determined or negotiated price.

Licence start dates

Licence start dates will be 12 October 2002. Licences will be issued after all payments have been made.