



Submission in response to
ACMA Draft Instruments

**Draft allocation and
technical instruments for
the 26 GHz (25.1-27.5 GHz)
metropolitan and regional
lots auction**

Public Version

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Section 1. EXECUTIVE SUMMARY

- 1.1 Optus welcomes the opportunity to respond to the Australian Communications and Media Authority's (ACMA) Consultation Paper on the draft allocation and technical instruments for 26 GHz metropolitan and regional lots auction (Consultation Paper).
- 1.2 In general, Optus supports the ACMA's proposal to conduct an auction for the allocation of spectrum lots in the 26 GHz band but has concerns regarding the introduction of instalment payment arrangements, as well as the introduction and application of new auction parameters – such as the ACMA's discretion to change the starting round prices after the initial application period has ended.
- 1.3 Optus' position on the indicative auction timeline; and other issues in the Consultation Paper are outlined below. Optus also provides comment on various aspects of the draft technical instruments, noting that we support the detailed technical comments provided in the Australian Mobile Telecommunications Association's (AMTA) response to this consultation.

Indicative timeline

- 1.4 The ACMA has proposed a tight indicative timeframe for this auction process, with the auction application process to commence in mid-December 2020 to meet the proposed auction start in late March 2021.
- 1.5 Optus is concerned that this proposed auction start date will likely lead to foreseeable interruptions during the auction period. In particular, the auction timeline should take into account national public holidays.
- 1.6 Optus also submits the ACMA should:
 - (a) Ensure there is minimum six-week period between the eligibility deadline and the start of the first round. This will allow bidders to ensure that all appropriate internal procedures and auction protocols can be established.
 - (b) Schedule mock auctions to be conducted no later than two weeks prior to the auction start date. Access to all bidder training guide and auction file formats should also be provided as soon as practicable following the close of the eligibility deadline.

Draft Marketing Plan and Draft Allocation Determination

- 1.7 Optus broadly supports the ACMA's proposed auction format to use the enhanced simultaneous multi-round ascending (ESMRA) methodology. However, we consider changes are required to address some underlying concerns with the nature of the binding R0 bid. In general, we support an auction methodology which comprises both an allocation and assignment stage.
- 1.8 Optus' views on the parameters in relation to the auction procedures are set out below, while further comments are also provided in Section 2 and Section 3.

Licence term

- 1.9 Optus supports the ACMA's proposal to set a licence term of 15 years, with licences to commence following the receipt of payment of the balance of the final winning price.

Specifically, Optus considers that licence commencement should only begin following the end of the reallocation period, i.e. 15 November 2022. Optus also considers that it is important that a common expiry is retained to ensure that any future renewals or associated band activities can be efficiently managed.

Lot configuration

- 1.10 While Optus considers the ACMA's proposal to auction the 26 GHz spectrum in the form of 200 MHz generic lots is an improvement on earlier considerations, we consider the allocation of 400 MHz lots would be more appropriate and offer greater utility for the high-bandwidth, long-term investment and customer expectations of services to be deployed in this band. In addition, we also consider the proposed 27 defined geographic areas could be further aggregated to reduce the number to 12 geographic areas.
- 1.11 A less complex lot configuration will enhance substitutability, simplify bidding strategy and encourage competition. Optus considers that adopting the ACMA's lot configuration with the aggregated areas will therefore reduce the number of available lots from 324 to 144.

Application and registration process

- 1.12 In general, Optus supports the two-stage application and registration process. However, Optus does not support the discretion for the ACMA to vary the application or registration deadlines, starting prices, and related requirements after the publication of the Applicant Information Package. Notably, there should be no variation after the application deadline, or ability to restart either stages in the application and registration processes.
- 1.13 In addition, we do not agree that the demand expressed in the eligibility nomination form should represent the binding first round bid in the auction. All bidders should be given the opportunity to submit their preferred bid in the first round of the auction.
- 1.14 Optus also strongly recommends there should be a minimum of six-weeks between the eligibility deadline and the start of the first round.

Auction format

- 1.15 Optus supports the use of a two-stage auction with generic lots. That is,
 - (a) Uniform pricing for generic lots during the allocation stage. This ensures price transparency since all bidders will acquire lots at the same price point.
 - (b) Providing an assignment round for bidders to submit any incremental bids for assignment of contiguous lots within the band. This reduces the exposure risk from non-contiguous spectrum and the need for a subsequent restack.
- 1.16 However, Optus recommends changes to the method proposed to address the underlying concerns of exposure risk due to the nature of the binding R0 bid. In summary, the auction format should encourage the following auction outcomes:
 - (a) Bidders are able to express their true bid commitment in the first round without penalty and do not need to submit their binding first-round bid in advance of the first round of the auction. This requires no change to the current process for bidders to secure their eligibility by the registration deadline.

- (b) Bidders can bid on the spectrum they wish and are not constrained by the auction methodology. Importantly, the processing of partial bids should not undermine the calculation for the loss of eligibility points during the auction.
 - (c) Uniform pricing for generic lots during the allocation stage. Bidders retain the opportunity to participate in rational and transparent price discovery to ensure the efficient allocation of lots amongst all active bidding participants.
 - (d) Award of contiguous lots during the assignment stage limits exposure risk of gaining non-contiguous allocation within a specified geographic area. This will ensure greater spectrum efficiency for future deployments and limits the requirement for retack activities to be undertaken in the band.
- 1.17 To be clear, Optus considers that the proposed auction rules be amended to ensure that the first round bid reflects the bidder's first committed bid in the auction. This would address any changes in internal governance and strategic decisions that may occur between registration and the start of the first round, while ensuring that bidders can only win their true desired combination of lots

Payment arrangements

- 1.18 Optus supports the proposed use of the bank guarantee in lieu of a deposit for the eligibility payment. This is in line with arrangements adopted in previous spectrum auctions conducted by the ACMA.
- 1.19 In addition, spectrum licences should continue to be awarded only after the payment of winning high bids and that this payment date should be tied to licence commencement which should only commence following the end of the reallocation period, i.e. 15 November 2022.
- 1.20 Optus reiterates its previous views outlined in the 700 residual lots auction of 2017, that we do not support deferred or instalment payment options for spectrum licences if that means that a spectrum licence can be issued to a licensee without that licensee having paid in full for that licence. Spectrum licences should be paid in full at a time as close as possible, and prior to, the date of issue and commencement for that licence.

Draft technical instruments

- 1.21 Optus broadly agrees with the principles employed by the ACMA and reiterates that the technical rules should allow for the deployment of terrestrial services such as fixed wireless access and mobile services, while maintaining the appropriate levels of protection to satellite services in the band.
- 1.22 Importantly, while Optus supports the ongoing protection of satellite services in the band, this should not come at the expense of setting a viable set of licence conditions to support the deployment of terrestrial services. As such, Optus considers that the upper limit of 45dBm/200MHz should be available in all spectrum licence areas
- 1.23 Further detailed technical comments are set out in the AMTA submission.
- 1.24 Finally, Optus remains concerned with the ACMA's continued push to grant AWLs or apparatus licences which afford adjacent band equal rights for interference protection. We maintain that the licence hierarchy and property rights associated with each licence type – spectrum licences, followed by AWL or apparatus licences, then class licences – should be adhered to for interference resolution between licensees.

Section 2. DRAFT MARKETING PLAN

2.1 This section provides Optus' comments on the Draft Marketing Plan.

Licence commencement and duration

- 2.2 Optus supports the issue of 15 year licence terms for spectrum licences. However licences should commence only after the spectrum area is unencumbered (i.e. after the end of the reallocation period) and after full payment for the licence has been received.
- 2.3 Specifically, Optus submits that licences commence on a fixed date, that is no earlier than the end of the reallocation period, i.e. 15 November 2022. Optus also submits that this has two important flow through implications:
- (a) First, payment arrangements should be deferred to a date closer to the licence commencement date; and
 - (b) Second, this necessitates the introduction of an early access regime so that spectrum acquired at auction may be accessed in any unencumbered areas during the intervening period before licence commencement.
- 2.4 Optus similarly notes that to more closely align with established commercial asset acquisition processes, it is recommended that auction payment terms be aligned with the stated availability of unencumbered spectrum. Optus therefore considers that the payment date should only be required at a date closer to the licence commencement date, in this case 15 November 2022.
- 2.5 In line with the approach taken in past auctions, it is appropriate for the ACMA to accept security in the form of a bank guarantee for the full outstanding amount, until payment near licence start date is required. Optus submits that this approach is consistent with the overarching principle that spectrum licences are not issued until full payment has been received.
- 2.6 As a general principle for all market-based spectrum allocations, Optus firmly retains the view that while the issue of spectrum licences should be tied to receipt of payment for that licence, this remains conditional on:
- (a) The spectrum licence area to be fully unencumbered, i.e. following completion of any specified reallocation period. This should apply irrespective of whether some of the spectrum areas may be notionally vacant immediately after the auction is completed;
 - (b) Full payment for that licence should only be required at a date closer to the licence commencement date; and
 - (c) The licence commencement date to only be set immediately following the completion of any reallocation period that applies to the spectrum designation.
- 2.7 During the intervening period, it is appropriate for the ACMA to accept security in the form of a bank guarantee for the full outstanding amount, until full payment near licence start date is required. It would not be appropriate to commence licences and require licence payment at the time of licence commencement, for licences that remain encumbered.

- 2.8 Optus also considers that it is important that a common expiry for spectrum licences is retained to ensure that any future renewals or associated band activities can be efficiently managed.
- 2.9 Optus notes that even where spectrum licences in the same band have been offered in subsequent allocations, the ACMA has previously aligned the licence expiry to the same licence expiry as the original spectrum licences offered in that band (e.g. the 3.6 GHz auction). The practice of setting a common licence expiry should be continued to ensure that any future band changes can continue to be aligned.
- 2.10 Alternatively, where the ACMA can ensure that access to the spectrum will be unencumbered immediately following the auction, the ACMA should set a common licence commencement date that is no earlier than the specified reallocation deadline that applies to this band. This would similarly ensure that any future band changes can continue to be aligned, and also offer prospective applicants with the certainty of tenure for the development of any business cases for the auction.

Lot configuration

- 2.11 The 26 GHz auction will make 2400 MHz available in the 25.1–27.5 GHz range in major population centres. Within this context, there are two important aspects for lot configuration: frequency bandwidth and geographic regions.

Lot size

- 2.12 The ACMA proposes to set lot sizes based on 200 MHz. While this is an improvement on the 100 MHz considered during the draft reallocation consultation, Optus considers the allocation of 400 MHz lots is now more appropriate for this auction given the development of the commercial eco-system to support the efficient deployment of 400 MHz channels.
- 2.13 Should the ACMA retain 200 MHz lot sizes, it needs to ensure that auction rules allow bidders who do not value an odd number of lots to be able to move to their preferred number of allocated lots. We propose amendments below in relation to the minimum spectrum requirement to address the issue of dropping from two to zero.
- 2.14 Should the ACMA not make these changes, Optus submits that the use of 400 MHz generic lots in all geographic areas would be appropriate in mitigating the frequency-based exposure risk of smaller lot sizes as bidders are less likely to obtain uneconomical amounts of spectrum.
- 2.15 Optus also supports the auction rule that any lots won within a single category be awarded on a contiguous basis.

Geographic regions

- 2.16 The 26 GHz auction will make available spectrum in the 27 defined geographic areas in metropolitan and regional centres.
- 2.17 Optus supports the introduction of a Greater Perth product configuration, noting the additional infill area that exists between the 25.1-27.5 GHz frequency range to adjoin the previously distinct Perth and Bunbury geographic areas. If the proposed ACMA lot configuration is used, this means there will be 12 lots x 27 areas (i.e. 324 lots).
- 2.18 However, Optus submits that the ACMA should reconsider the use of 27 defined area lots, and instead select a geographic lot configuration option that adopts more

aggregated areas (even where there are some areas that do not share direct geographic boundaries). For example, the ACMA could consider areas that risk having co-channel interference and aggregate the remaining regional centres into regional lots – this would reduce the number of geographic regions from 27 to 12. This would also simplify the auction process, where reducing the number of defined areas means there will be 12 lots x 12 areas (i.e. 144 lots).

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2.20 A less complex lot configuration will enhance substitutability, simplify bidding strategy and encourage competition. This would allow all potential bidders to express their values for different frequency bandwidth packages (in MHz) as it applies to them during the primary stage; and leaves the assignment stage to resolve any differences in value for location in the frequency range.

2.21 In summary, the combination of 200 MHz lot size (12 lots) and Optus' proposed geographic aggregation (12 lots) will result in the offering of 144 lots in the auction. The adoption of 400 MHz lot size would further reduce this complexity, and ensures:

- (a) The risk of extreme fragmentation in the 26 GHz band will be minimised. For example, the regional 1800 MHz auction offered lots in 13 geographic areas and continues to remain one of the most fragmented bands as a result.
- (b) Aggregating regional centres within a state into a single product (e.g. Margaret River and Albany into Regional WA) will not deter bidders seeking to deploy services throughout the various regional centres that have been aggregated into the single product.
- (c) The likelihood of regional centres within a single state being denied services as a result of geographic aggregation is low. Rather, the converse may be more likely given that the business case for an aggregated regional lot may be enhanced with the presence of more than one regional centre.
- (d) Reduced fragmentation across regions, not just individual discrete regional centres, offers prospective licensees greater flexibility in deployment options and ability to evolve use cases as rollout and consumer demand increases.

Section 3. DRAFT ALLOCATION INSTRUMENTS

3.1 This section provides Optus' comments on the Draft Allocation Determination.

Auction procedures

- 3.2 Optus broadly supports the ACMA's proposed auction format to use the enhanced simultaneous multi-round ascending (ESMRA) methodology, which is comprised of both a primary stage and an assignment stage. However, there are issues with this methodology, which Optus has addressed in previous submissions, and which still need to be addressed.
- 3.3 Optus does not support the:
- (a) Use of the demand expressed in the completed eligibility nomination form to represent a bidder's binding first round bid.
 - (b) Nomination of demand to be provided approximately three weeks before the start of the first round in the auction, where it is to be interpreted as the bidder's committed first round bid.
- 3.4 These are separate auction concepts and should be decoupled as they have been in previous ESMRA spectrum auctions. The committed first bid should be on day one in round one of the auction.
- 3.5 Optus also retains concerns that the partial processing of bid instructions continues to be a feature of this auction format. While this may mean that bidders may end up winning an excess lot they no longer desire, we support the auction rule that this does not impact on the calculation for the loss of eligibility points.
- 3.6 Finally, we understand the ACMA is proposing that the eligibility deadline is effectively only three weeks prior to the first round on the first day of the auction. This does not allow for the usual auction preparatory activities that have been undertaken in previous auctions. To ensure that bidders and the ACMA are able to efficiently participate, Optus supports a minimum six-week period between the eligibility deadline and the start of the first round.

The nomination of demand should not equate to bidders binding first round bid

- 3.7 Optus does not support the use of the eligibility nomination form to represent the binding first round bid. While bidders are given the opportunity to apply for eligibility subject to any competition limits, the provision of a binding first round bid in advance to the start of the first round should not be allowed.
- 3.8 While we understand that the auction system may benefit from the inclusion of the bidder's initial demand to be included in the system for the first round, we do not consider this is necessarily reflective of the bidder's intent at the first round. The potential downside would be larger than any operational benefit that may accrue.
- 3.9 Bid valuations and strategies may continue to change up to the time that the auction commences; and the first bid is placed. It would not be appropriate that this information be provided and considered to be binding prior to the start of the first round – this undermines the purpose of the eligibility nomination form which is to secure the bidder's initial eligibility for the purposes of the auction.

- 3.10 We also reiterate that the requirement to lock in the first round bid at time of registration is a shortcoming in the ESMRA format as it does not give bidders the flexibility to refine any bidding strategies prior to the start of the first round. While previous auctions all required eligibility forms (for both the calculation of eligibility points and determination of eligibility payments), these did not necessarily reflect any binding bids at the start of the live auction. This feature of the ESMRA has meant that nominated demand approved by the potential bidder at time of registration risks being superseded by the first round bid approved by the bidder at the commencement of the auction.
- 3.11 To address this, Optus considers that:
- (a) A bidder's start demand should not be pre-loaded into the auction system prior to the first round. The competition limit and the bidder's secured eligibility at registration already provide sufficient constraints on the bidder's ability to place and commit to bids. Initial demand should only be made by the bidder on day one and the first round of the auction. The auction methodology should not detract or limit a bidder's ability to submit their 'true' bid (combination of lots) in the first round of the auction.
 - (b) Where a start demand must be included prior to the first round, bidders should be provided the opportunity to place a complete withdrawal bid (i.e. decrease bid) with no penalty in the first round, irrespective of whether demand is less than supply. Alternatively, initial demand should be nominated (or confirmed) closer to commencement of bidding, e.g. initial demand could be confirmed one day prior to the auction commencing to provide greater corporate governance flexibility. For clarity, this is intended to give effect to the same outcome noted above (i.e. any demand reduction to only be confirmed during the first round) and should not be tied to any eligibility amount that was determined for the purposes of completing the registration process.
 - (c) Importantly, there should be a clear statement to ensure that the eligibility secured at registration is not tied to the bidder's first round bid. These are two very distinct auction mechanics that serve very different purposes – to secure interest in bidding *and* to actively commit to a bid (which may or may not be equal to the interest expressed at registration) – and therefore should be clearly decoupled.
- 3.12 This would provide potential bidders with the opportunity to only bid for the amount and/or location of spectrum lots to which they deem is required to meet their business needs. A key rationale for using price-based allocation is to ensure that spectrum will be allocated to its highest value use. This may not eventuate should bidders end up with an allocation at the start of the auction which they no longer deem necessary.
- 3.13 We similarly note that a binding demand nomination does not eliminate the risk of unsold lots in the auction, if that is the rationale for including this auction mechanism.

There should be a minimum of six-weeks between the eligibility deadline and the start of the first round

- 3.14 Optus does not consider that three weeks is sufficient period to undertake all the bid preparation activities, including the provision of auction system user guide and file formats, development of any internal governance processes associated with these documents, ACMA training for the auction methodology and system and the conducting of Mock Auctions, prior to the start of the first round. We would strongly recommend that all Mock auction are completed and any bugs/errors in the EAS system are identified prior to the two week notice period for the auction commencement

- 3.15 As noted by the ACMA, a three-week period is well below that offered in past auctions, with the regional 1800 MHz auction being given six weeks; and even the most recent 3.6 GHz auction given just over seven weeks. Optus strongly recommends that a three-week period is not appropriate and that a minimum six-week period between the eligibility deadline and the start of the first round should be reinstated for this auction.
- 3.16 Following the close of the eligibility deadline, the ACMA must inform a bidder in writing that their registration has been successful and may participate in the auction. It is also at this time that bidders will be first provided the relevant auction system user guide and any items required for access to the auction system. Information on alternative methods to make a bid if the auction system is unavailable is also provided.
- 3.17 Optus considers that this information should be provided as early as possible, and as part of any contingency arrangements.
- 3.18 The issue of information on auction system access requirements and file formats will be important to potential bidders for their auction preparation. In particular, this information should be made available at least 10 working days before the start of the Mock Auction period so that it can be taken into account in the bidder's bidding strategy. Optus considers that clause 47 be amended to give effect to this concession.
- 3.19 The rules also confirm that all auction rounds must be scheduled; and that notification of the first and second clock rounds of the primary stage must be provided at least 10 working days before the start of the first clock round. Optus further reiterates that this should also take into account the need to maintain a minimum six week period between the eligibility deadline and the start of the first round.

Further clarity on contingency measures should be provided

- 3.20 In the context of the current pandemic environment, the need for alternative methods for providing information to the ACMA and bidding should also be considered. While clause 54(1) acknowledges the ACMA's discretion to accept bids "by a method other than the auction system", we would welcome further clarity on these alternative methods.
- 3.21 Optus would welcome early thinking on any contingency arrangements that may apply. These considerations would apply to both the ACMA and any prospective bidders. For example, in these unprecedented times, we wish to understand the ACMA's contingency plans for conducting a spectrum auction in a potential lock down or remote working situation, as part of our own business continuity planning.
- 3.22 Optus considers that the current environment also provides a good opportunity for the ACMA to further streamline processes and move to digital where possible. To facilitate this discussion, Optus proposes the following changes to the auction forms and procedures (changes as compared to previous auctions):
- (a) Acceptance for the use of digital signatures on auction forms/deeds
 - (i) For either generic or customised signatures to be accepted
 - (ii) For details of the ACMA's requirements to be provided with enough time for all persons who need to provide digital signatures to have been set up to do so.
 - (b) Original auction forms should not need to be required to be couriered/provided as the documents are all digital. We also note the specific exception for the requirements for a deed of financial security given by email as set out at clause 7(1).

- (c) For emergency procedures not to require bidding by faxes, as the team could be in multiple locations without a fax machine. Optus proposes an emergency bidding form should be accepted if sent by email or screenshot via a mobile.

Changes should be made to auction format to facilitate efficient auction outcome

- 3.23 Optus acknowledges the use of a two-stage auction with generic lots to be desirable auction features that should be retained. That is:
- (a) Uniform pricing for generic lots during the allocation stage. This ensures price transparency since all bidders will acquire lots at the same price point; and
 - (b) Providing an assignment round for bidders to submit any incremental bids for assignment of contiguous lots within the band. This reduces the exposure risk from non-contiguous spectrum and the need for a subsequent restack.
- 3.24 A two-stage auction with generic lots could be further enhanced to address the underlying concerns of exposure risk due to the nature of the binding R0 bid. Optus therefore submits there is merit in considering alternative auction formats or amendments to the proposed auction features for the 26 GHz auction, which encourage the following auction outcomes:
- (a) Bidders are able to express their true bid commitment in the first round without penalty and do not need to submit their binding first-round bid in advance of the first round of the auction. This requires no change to the current process for bidders to secure their eligibility by the registration deadline.
 - (b) Bidders can bid on the spectrum they wish and are not constrained by the auction methodology. Importantly, the processing of partial bids should not undermine the calculation for the loss of eligibility points during the auction.
 - (c) Uniform pricing for generic lots during the allocation stage. Bidders retain the opportunity to participate in rational and transparent price discovery to ensure the efficient allocation of lots amongst all active bidding participants.
 - (d) Award of contiguous lots during the assignment stage limits exposure risk of gaining non-contiguous allocation within a specified geographic area. This will ensure greater spectrum efficiency for future deployments and limits the requirement for restack activities to be undertaken in the band.
- 3.25 To be clear, Optus considers that the auction rules be amended to ensure that the first round bid reflects the bidder's first committed bid in the auction. This would address any changes in internal governance and strategic decisions that may occur between registration and the start of the first round, while ensuring that bidders can only win their true desired combination of lots.

Auction rules

- 3.26 Important elements applicable in an ascending auction such as the ESMRA, include:
- (a) Information policy;
 - (b) Activity rule;
 - (c) Minimum spectrum requirement; and
 - (d) Assignment Stage pricing rule.

- 3.27 Optus comments on these auction elements below. Optus further discusses the detailed auction rules in response to Schedule 1 and Schedule 2 later in this section.

Information policy

- 3.28 At the end of each round in the Primary Stage, bidders are typically provided information about the demand observed during the round. This facilitates price and allocation discovery, allowing auctions to operate in an open and transparent fashion.
- 3.29 As such, the ACMA proposes to provide excess demand information in all circumstances during the primary stage of the auction. This is largely based on the ACMA's view that the risk of demand reduction with lot sizes of 200 MHz is low. This is confirmed in subsection 8(1)(d) in Schedule 1 of the Draft Allocation Determination.
- 3.30 Optus supports this proposal and reiterates that revealing the exact level of demand at the end of each clock round should be provided. The provision of more information would enable bidders to make informed decisions on the more efficient allocation of its resources and to manage internal stakeholder expectations.

Activity rule

- 3.31 Optus supports the ACMA proposal to use a global activity rule for this auction, noting that the level of the activity rule will be consulted on with registered bidders after the close of applications.
- 3.32 Optus considers one of the main purposes of the activity rule is to ensure auction progress, as it provides one of the key triggers for an Eligibility-reducing round.
- 3.33 While Optus remains concerned on the ability for partial processing of bids to occur given the auction structure and the role of the bid processing algorithm, Optus supports the activity rule that an Eligibility-reducing round will not occur due to partial fulfilment of bids where a bidder has placed sufficient bids to meet their activity target (i.e. eligibility will be based on bids placed not on bids processed).

Minimum spectrum requirement

- 3.34 Optus notes that while the proposed ESMRA format does not facilitate the inclusion of a minimum spectrum requirement (MSR) for this auction, we consider that this feature should be reintroduced to provide some protection from winning "unusable" spectrum; and importantly to allow bidders to obtain a minimum of 400 MHz channels in each geographic area. For example, we consider an MSR could be set at two if the ACMA proceeds to adopt 200 MHz lot sizes.
- 3.35 Optus also notes that should the MSR be reintroduced for this auction, we consider it may be appropriate to reinstate a secondary clock stage (similarly to that adopted in the 3.6 GHz auction) for the allocation of any unsold lots. In this context, the same competition limits and starting eligibility less the eligibility for any lots won in the first stage would apply for each bidder.

Assignment stage pricing rule

- 3.36 Optus supports the ACMA proposal to use the nearest Vickrey core pricing algorithm for determining the winning prices in the assignment stage, noting the expectation that this will be a small fraction of the total bids for the auction.
- 3.37 The ACMA also notes that:

- (a) Unallocated lots will be assigned to the highest position in the band; and
 - (b) Prior to the start of the Assignment stage, that winning bidders will be provided with their feasible frequency options for each product at least 24 hours before commencement of the Assignment stage.
- 3.38 Optus welcomes this clarification and considers that the 'at least 24 hours' requirement should also include at least one full working day for winning bidders to consider their assignment round strategies.

Lot ratings and starting prices

- 3.39 The ACMA proposes to introduce a discretionary power for the ACMA to change the starting prices before the auction. If the starting price changes, then the lot ratings may also change, and the relevant administrative deadlines also amended accordingly.
- 3.40 Optus strongly opposes this discretion and considers that the clauses set out under Division 5 of the Draft Allocation Instrument be removed. In line with previous auctions, these parameters should not be changed after the release of the AIP.
- 3.41 Lot ratings provide an indication of the relative value of a spectrum lot, which is then used to determine the bidder's eligibility and ability to continue participating as the auction progresses. In contrast, the starting price sets out the initial lot price at the start of the auction, and from which any bid increments would be applied.
- 3.42 These are important auction parameters and should not be subsequently changed after the AIP has been published, but more significantly should not be changed after the application deadline has closed.

Application and registration process

- 3.43 In general, Optus supports the proposed processes and procedures on how the auction will be advertised with the clear exception that we do not agree with the proposed rules set out under Division 5 of the Draft Allocation Instrument. Optus also supports the proposed use of the bank guarantee in lieu of a deposit for the eligibility payment.

The application and registration deadlines should not be subject to change

- 3.44 Optus notes that the general procedures before the auction, including the two-stage application and eligibility requirement processes, are generally well understood and have been adopted in the past. The key deadlines and related requirements for the application and registration are provided to all prospective applicants with the understanding that the decisions and rules for participation are final. That is,
- (a) The ACMA advertises the auction, including release of the Applicant Information Package which sets out all relevant information such as the spectrum lots on offer, the allocation method, and payment terms.
 - (b) The Application Deadline sets out the *last day* that a potential applicant can enter the allocation process. This includes the payment of a non-refundable application fee proposed to be set at \$10,000. Only applicants who complete this stage will be able to proceed to the registration stage.
 - (c) The Eligibility Deadline sets out the *last day* that an applicant can submit their eligibility nomination form. This also includes the associated eligibility payment to secure the activity point required to place the relevant bid in the first round.

No new applicants can enter the process at this stage and a bidder is registered following the completion of this stage.

- 3.45 However, we are concerned with the ACMA discretion in clause 37 to vary starting prices, lot ratings and deadlines. As such, the rules propose to allow that 'No less than 5 working days before the eligibility deadline' the ACMA may vary the starting price and lot rating for the lots of each product in the auction. This should not be allowed.
- 3.46 In doing so, this will have the following effect on the application and registration process.
- (a) The Extended Eligibility Deadline must be set at least 20 working days after the original Eligibility Deadline; and
 - (b) A New Application Deadline must be set which must be at least 20 working days after the date the variation is made.
- 3.47 Optus submits that this introduces uncertainty into the process by both extending the eligibility deadline to accommodate any varied starting price and re-opening the application process to other prospective applicants who have already chosen to foreclose their opportunity to participate by not applying by the Application Deadline in the first place.
- 3.48 Specifically, the extension of these 'administrative' deadlines will create additional internal governance issues. For example,
- (a) Internal Executive and Board approvals to participate need to be planned well in advance. This will have flow-through implications for securing any bank guarantees associated with the Eligibility Payment.
 - (b) Executive and Board approvals should only need to be sought once for the decision to participate in the auction, and not revisited after it has been approved (i.e. should an auction parameter change).
 - (c) A change in starting price, irrespective of the size of the change, will require a new executive proposal to be submitted, and the internal governance process would effectively need to be restarted.
- 3.49 While this ACMA discretion is subject to a time constraint of 'no less than 5 working days before the eligibility deadline' and is only limited to varying a starting price and thereby lot ratings, it is unclear that the benefits of this discretion will outweigh the costs of the change that may be imposed on the applicants abiding by the original deadlines.
- 3.50 Optus likewise would not support the eligibility deadline only being extended 20 days based on a change of starting prices as typically we are provided at least six weeks, from when the auction is first advertised to the close of registration. This full period is required to complete internal governance processes, such as:
- (a) Executive approval sought *and* gained to approve the bank guarantee and the provisional approval of the R0 bid, which is not known until the starting prices are known and will not be committed to until the first round of the auction.
 - (b) Securing finance arrangements for participation, such as contacting the bank and formally requesting the bank guarantee. Where additional facilities may need to be established depending on the size of the guarantee, this would require bank credit approval which could take two weeks. Formal documentation will then need to be established before the guarantee can be

drawn on. We estimate that this process may take around four weeks, which is more than the additional 20 days any deadline extension would allow.

- (c) Further internal governance activities will then be required to ensure the appropriate executive approval is granted and the bank processes can be completed.

- 3.51 We do not consider the additional complexity caused by a change to the starting price will be commensurate with the potential to attract additional potential bidders or to increase the appetite for applicants to seek to acquire any additional lots.
- 3.52 Optus therefore submits that the ACMA reconsider the need for this discretion to be introduced into the Allocation Instruments.

Securing initial eligibility

- 3.53 The ACMA proposes to set the Amount required to secure initial eligibility points to be set at 10% of the sum of the aggregate start demand (expressed in lots) multiplied by the starting price for the lots of that product, as specified by the applicant in its completed eligibility nomination form.
- 3.54 Optus supports the initial eligibility amount to be set at this level.
- 3.55 However, as noted above, the ACMA should not have the discretion to vary the starting round prices and lot ratings after the AIP is released. A change in starting price will have implications for prospective applicants who chose to secure their initial eligibility by providing a deed of financial security.
- 3.56 First, there will internal governance processes to be managed to inform and assess for any changes to the auction terms. Additional approvals will be required to execute the new instructions, including the approval to secure a new deed of financial security.
- 3.57 Second, there will be costs associated with securing a deed of financial security. Any variation to this amount, including the need to secure a new deed of financial security will also be subject to cost.
- 3.58 In addition, the rules also require that a copy of the original deed must be received by the ACMA no later than 3 working days after the eligibility deadline for the application to be valid. As such, Optus notes that the deed of financial security will be prepared more than 5 working days prior to the eligibility deadline.
- 3.59 Optus therefore strongly recommends that the ACMA decouple the concept of securing initial eligibility with the binding nature of the first round bid.

Binding first round bid

- 3.60 The ACMA acknowledges that the demand nomination form submitted at eligibility deadline represents binding first round bid (i.e. bidder's start demand in first round).
- 3.61 Optus strongly disagrees with the proposed binding nature of the nominated demand at registration, even though this information is used to determine the amount required to secure the bidder's initial eligibility. Optus submits that the nominated demand should not represent a first bid or R0 bid and proposes that:
 - (a) There is no R0 bid and the first bid is R1 on the first day of the auction;

- (b) Bidders should be given the opportunity to place a valid decrease bid in the first round; or
 - (c) Bidders place a R0 bid much closer to the commencement of the auction e.g. after the eligibility deadline but around one week before the start of the first round.
- 3.62 The importance of these options available is to provide a clear demarcation and separation of the process of nominating demand as part of the eligibility process and the act of committing to a starting bid once the auction commences.
- 3.63 As noted above, there should be a clear statement to ensure that the eligibility secured at registration is not tied to the bidder's first round bid. These are two very distinct auction mechanics that serve very different purposes – to secure interest in bidding *and* to actively commit to a bid (which may or may not be equal to the interest expressed at registration) – and therefore should be clearly decoupled.

Allocation limits

- 3.64 Optus supports the ACMA's proposal to apply allocation limits for the purposes of this auction. We understand that this will be included in clause 12 of the Allocation Instrument with the setting of competition limits subject to Ministerial Determination.

Affiliated applicants

- 3.65 The affiliation rules apply where the Minister issues an allocation limit determination.
- 3.66 Optus acknowledges that these affiliation provisions will be conducted at various stages of the auction process, including following the close of applications, during the auction and following the conclusion of the auction.
- 3.67 For the avoidance of doubt, Optus also notes that the limited exception to the "members in common" definition for the 3.6 GHz auction, which was intended to provide that common outsourced company secretaries in offshore subsidiaries of bidders were not taken to be associates for the purposes of the allocation limits should again be considered. As such, we consider that any changes introduced in the Minister's Allocation Limits Direction should similarly be reflected in the final allocation instrument.

Payment terms

- 3.68 Optus supports the ACMA's proposal to only allow an upfront payment arrangement for the award of spectrum licences in the 26 GHz band.
- 3.69 Specifically, Optus considers spectrum licences should only be issued after payment of the winning high bids and that this payment date should be tied to licence commencement which should only commence following the end of the reallocation period, when the spectrum is clear of incumbents, i.e. 15 November 2022.
- 3.70 This is in line with the general principle that spectrum licences should not be issued until it is fully unencumbered, such as the date aligned with the end of any reallocation period. Aligning the payment arrangement to this licence start date will ensure that the spectrum can be used to its maximum utility.
- 3.71 Optus submits that to more closely align with established commercial asset acquisition processes, it is recommended that auction payment terms be aligned with the availability of unencumbered spectrum. It is inappropriate and commercially unreasonable that full

payment for an asset be required while the licence area remains subject to conditions that can mimic encumbered use, such as a reallocation period.

- 3.72 Full payment should therefore remain tied closed to the licence commencement date (after the reallocation period has ended) and the ability for the asset to be used to deliver commercial services.
- 3.73 We similarly acknowledge that during the intervening period (i.e. between the end of the auction and the end of the reallocation period), that it is appropriate for the ACMA to accept security in the form of a bank guarantee for the full outstanding amount, until full payment near licence start date is required.

Flexibility for instalment payments

- 3.74 The ACMA also seeks comment on the option for delayed payment arrangements (i.e. instalment payments) for the payment of winning high bids. However, Optus does not consider allowing for this flexibility is warranted for this auction.
- 3.75 In particular, the ACMA notes that should this option be included, the allocation instrument would be amended to reflect the flexibility for winning bidders to adopt either an upfront or delayed payment option.
- 3.76 Optus does not support deferred or instalment payment options for spectrum licences if that means that a spectrum licence can be issued to a licensee without that licensee having paid in full for that licence. Spectrum licences should be paid in full at a time as close as possible, and prior to, the date of commencement (after the end of any applicable reallocation period) for that licence.
- 3.77 Optus strongly reiterates that our position on the issue of instalment payment arrangements – as expressed during the unsold 700 MHz auction in 2017 and the 3.6 GHz auction in 2018 – remains largely unchanged.

Any refund of eligibility payments should be payable within 6 months

- 3.78 In addition, where a refund of the eligibility payment is payable to any unsuccessful bidder then the ACMA must refund this amount no later than 6 months after notice is given that their confidentiality obligations have ended.
- 3.79 Optus agrees that any refund be provided within 6 months of the auction results being confirmed.
- 3.80 For all other refund of eligibility payments, e.g. where a bidder has secured initial eligibility through the use of bank guarantees, we consider it is appropriate that this remains in place until the final payment has been made.

Section 4. DETAILED AUCTION RULES

- 4.1 Schedules 1 and 2 in the Draft Allocation Instrument sets out the detailed auction rules relating to each of the two stages to be carried out in the auction.
- 4.2 In general, Optus supports the proposed auction scheduling proposals, where
 - (a) The rounds of the auction are confined to working days other than recess days (that is, Monday to Friday between 9am and 5pm).
 - (b) There is a clear recess day between the end of the primary stage and the assignment stage.
- 4.3 Optus also considers that the auction rules be amended to introduce the ability for a minimum spectrum requirement to be allowed.

Schedule 1 – Rules for the primary stage of the auction

Part 2 – Processing of bids

- 4.4 Under Schedule 1, the processing algorithm to be applied at the end of each clock round in the primary stage is a key feature of the auction format. These are contained in;
 - (a) Subsection 2A(1) sets out the bid queuing process;
 - (b) Subsection 2B describes how an increase bid may be applied; and
 - (c) Subsection 2C describes how a decrease bid may be applied.
- 4.5 Optus submits that a clear process diagram and illustrative example should be provided to ensure all bidders understand how this process works.
- 4.6 For example, in traditional auctions, a bidder's decision to decrease bids in one area is often correlated with the decision to increase bids in another area. Partial fulfilment of a decrease bid (or multiple decrease bids) may be insufficient to allow the fulfilment of an increase bid. Further, where a bidder places multiple increase bids within the same clock round, there is no option to allow one increase bid to be prioritised over the other.
- 4.7 Similarly, Optus considers there should be no accidental loss of eligibility points due to the bid processing algorithm and eligibility should be calculated based on the higher of the bids placed or the bids processed. We acknowledge that this issue has been addressed; and understand that this has been set out in clause 13.
- 4.8 In addition, Optus considers that a decrease bid should be allowed to be processed particularly in the first round (even where there may be excess supply) if the binding nature of the first round bid is not removed. The first round should establish the first committed bid applied by each individual bidder. Optus is concerned that auction outcomes are likely to be distorted where bidders cannot submit their 'true' starting demand (combination of the lots) in the first round in the auction.

Part 3 – Arrangements for the primary stage

Entries in the auction system before the first round (clause 3)

- 4.9 Optus acknowledges that the auction system includes information on the initial eligibility points, and allocation limits applicable to individual bidders prior to the start of the first round. However, we consider that the information on start demand should be removed as information on the applicable allocation limits already establishes the upper limit of a product that applies to each bidder.
- 4.10 Specifically, we do not support the condition that the start demand (based on the demand nominated at registration) represent the bidder's binding first round bid where excess demand is less than supply for a particular lot on offer.
- 4.11 Optus considers that information on the start demand should be removed and Bidders allowed to submit their 'true' starting demand without constraint in the first round.

Bid increment percentages and eligibility requirement percentage (clauses 4, 9, 10)

- 4.12 Optus acknowledges that both the bid increment and eligibility requirement percentages are required to be set for each clock round.
- 4.13 Optus similarly acknowledges that the starting level of the bid increment percentages and activity rule will be consulted on with registered bidders after the close of applications. We also support the requirement that any changes to these percentages are subject to consultation with bidders during the course of the auction, with a clear indication of when any such changes are expected to take effect.

Auction schedule (clause 5)

- 4.14 Optus supports the proposal that rounds of the auction be confined to working days other than recess days (that is, Monday to Friday between 9am and 5pm).
- 4.15 Given the ACMA's indicative timeframe, Optus considers that if a delay to the auction start date is not supported, recess days should be scheduled for the Easter and Anzac Day public holidays
- 4.16 Optus does not support the proposal that no minimum or maximum length be specified for each round. Optus proposes that each round be conducted for a minimum of 30 minutes. During this time, bidders will still need to place a bid, download and analyse results, report back to senior management, and prepare for next round bidding.
- 4.17 Optus proposes a maximum of 12 rounds per day, noting that this is four rounds more than the maximum used during the regional 1800 MHz auction.
- 4.18 In addition, Optus also proposes that a 30 minute break for morning and afternoon tea and a 60 minute break for lunch be scheduled as it is anticipated that the rounds will be of shorter duration than previous auctions.

Information policy (clause 8)

- 4.19 At the end of each (and before the start of any new) clock round, the ACMA will be required to provide the aggregate demand for each product lot.
- 4.20 Optus strongly supports the ACMA's proposal to provide the exact excess demand at the end of each round. Specifically, that the definition for excess demand in subsection

2(1) also notes that “The excess demand may be a positive number or a negative number or zero.” This information is important for both transparency and price discovery, it would not be appropriate for this information to be masked in the manner adopted during the 3.6 GHz auction.

Part 4 – Bidding in the primary stage

- 4.21 The auction rules governing the validity of bids is set out at subsection 15.
- 4.22 Bids associated with an increase bid or decrease bid option may be associated with a price level that falls within the range of the opening price and clock price for the relevant lot. The defined price point is then used as the determiner of where the bid sits within the queue for the purposes of the processing algorithm set out at 2A(1). A maintain bid is always applied in full and taken to be at the posted price for the clock round.
- 4.23 Bidding remains open for all lots in each product in every clock round, until the final clock round is reached.
- 4.24 Optus considers it is interesting that the rule set out at 15(2) implies that the auction system will always ‘place automatic decrease bids for the lots of the product in a clock round.’ This means that where applicable, a bid must be submitted for all active products at the end of each clock round, or a reduction in eligibility points will occur. Optus proposes that a maintain bid should be the default bid to ensure that eligibility is maintained unless a bidder deliberately places an increase or decrease bid.
- 4.25 In addition, where the bidder has placed a bid that is not a valid bid, then the auction system will automatically consider that the bidder has placed a decrease bid equal to a decrease in the total lots for that product from the start demand in that clock round.
- 4.26 The operation of subsection 15(2) therefore infers that a bidder is able to intentionally (or otherwise) place a bid to decrease a larger number of lots in a product in a single clock round. Optus considers that the risk of placing unintentional bids should be minimised.

Part 5 – Determining the primary winners and primary prices

- 4.27 The primary stage ends when there is a clock round in which excess demand is less than or equal to supply for lots of the product. After the final clock round, the auction system will determine the primary winners and primary prices for that round.

Part 6 – Bringing the primary stage to an end

- 4.28 At the end of the primary stage, the auction manager must tell each primary winner:
- (a) The total number of lots of each product allocated to the primary winner; and
 - (b) The total posted price for the allocated lots of each product and the primary price to be paid by the primary winner for those lots.
- 4.29 In terms of the allocated lots of each product awarded to other primary winners, subsection 18(2) does not require the auction manager to tell all bidders the total posted price (or total primary price) applicable to each primary winner. Instead, the auction manager is only required to disclose the total number of primary winners; and the total number of lots of each product that have been allocated to primary winners.

Schedule 2 – Rules for the assignment stage of the auction

Part 2 – Arrangements for assignment stage

- 4.30 During the rounds of the assignment stage, bidding is only open to bidders who have been allocated lots in the primary stage.
- 4.31 Optus also supports that the auction scheduling includes a clear recess day between the end of the primary stage and the assignment stage.

Part 3 – Bidding in the assignment stage

- 4.32 The auction rules governing the validity of bids is set out at subsection 6. Notably, that bidders can only submit a single bid for any (or all) of the frequency range option provided through the auction system for the relevant assignment round.

Part 4 – Determining winning assignment bids and prices

- 4.33 After each assignment round, the auction manager must determine the winning assignment bids for each product or group of products bid for in that round according to subsection 7. The determination of assignment prices is set out at subsection 8, and effectively reflect the application of a second price rule.

Part 5 – Bringing the assignment stage to an end

- 4.34 At the end of each assignment round, the auction manager must tell each winning assignment round bidder:
- (a) The frequency ranges assigned to lots of a product allocated to the bidder in the primary stage or secondary stage; and
 - (b) The assignment price for the frequency ranges assigned.
- 4.35 The auction manager must also disclose to all bidders the assignment price for each winning assignment bid in an assignment round.
- 4.36 This also infers that the result of each assignment round is provided prior to the start of the next assignment round.
- 4.37 The assignment stage ends when all available assignment rounds have concluded.

Section 5. DRAFT TECHNICAL INSTRUMENTS

- 5.1 Optus broadly agrees with the principles employed by the ACMA and reiterates that the technical rules should allow for the deployment of terrestrial services such as fixed wireless access and mobile services, while maintaining the appropriate levels of protection to satellite services in the band.
- 5.2 Optus is pleased to note that the ACMA has provided some flexibility in the core licence conditions regarding maximum TRP levels and the use of thresholding and EIRP masks only in the direction of the satellites to provide adequate protections to satellite systems. However, we believe that the ACMA could go further in supporting the deployment of terrestrial services while maintaining the necessary satellite protections.
- 5.3 Importantly, while Optus supports the ongoing protection of satellite services in the band, this should not come at the expense of setting a viable set of licence conditions to support the deployment of terrestrial services. As such, Optus considers that the upper limit of 45dBm/200MHz should apply to all geographies as long as the satellite protection criteria can be met by using antenna beam selectivity or by steering energy away from the satellite protection elevations and azimuths. Optus further believes it is not appropriate to impose unnecessary constraints on FWA or mobile deployments if the required satellite protections are complied with.
- 5.4 In support of this overarching set of principles, Optus also directs the ACMA to the AMTA submission to this consultation, where proposed changes to the core licence conditions, elevation masks and other mitigation criteria are discussed in detail.
- 5.5 Finally, Optus remains concerned with the ACMA's continued push to grant AWLs or apparatus licences which afford adjacent band equal rights for interference protection. We maintain that the licence hierarchy and property rights associated with each licence type – spectrum licences, followed by AWL or apparatus licences, then class licences – should be adhered to for interference resolution between licensees.
- 5.6 In addition to the AMTA submission, the remainder of this section sets out Optus' comments on various aspects of the draft technical instruments.

Draft Spectrum Marketing Plan

- 5.7 While Optus supports the ongoing protection of satellite services in the band, this should not come at the expense of setting a viable set of licence conditions to support the cost-effective and high utility deployment of network infrastructure for terrestrial services, such as FWA and mobile deployments in the band.
- 5.8 We believe that the upper limit of 45dBm/200MHz should be available in all spectrum licence areas as long as mechanisms are employed at the base station or UE transmitter to ensure that the satellite is sufficiently protected.
- 5.9 Further detailed technical comments and specific proposed changes are discussed in the AMTA submission.
- 5.10 In addition, Optus supports the adoption of the proposed synchronisation fallback uplink-downlink configuration to be detailed in RALI[new]. That is,

An uplink-downlink configuration which is consistent with the FR2.120-2 UL-DL pattern described in Table A.1.3-2 of 3GPP TS 38.101-4 V15.4.0, where:

- The period of the slot configuration pattern is 0.5 ms;
- The period of a slot is 0.125 ms; and
- There are 14 symbols within a slot.

Unacceptable Levels of Interference

- 5.11 In general, Optus agrees with the principles and values laid out in the draft RAG Tx.
- 5.12 However, there remain outstanding concerns regarding the mooted 500m x 500m HCIS blocks available for AWLs and how these will impact interference management over more than one AWL boundary into Spectrum Licence areas. We note that the draft instruments for AWLs were published on 20 August, therefore a full assessment of this has not taken place in time for this response.

RAG (Tx)

- 5.13 Optus remains concerned with the ACMA's continued push to grant AWL or apparatus licences in the band and which afford the adjacent band equal rights for interference protection. We maintain that the licence hierarchy and property rights associated with each licence type – spectrum licences, followed by AWL or apparatus licences, then class licences – should be adhered to for any interference resolution between licensees.
- 5.14 Optus similarly notes the persistence of the exemption of body scanners from the protections afforded class licences, whereby they are granted higher levels of protections from interference than Spectrum Licences. ACMA's assertion that the chances of interference are "extremely small" is untested and, in our opinion, unjustified.

RAG (Rx)

- 5.15 In general, Optus agrees with the following principles set out in the RAG (Rx):
- (a) The use of a medium area base station for determining baseline base station sensitivity.
 - (b) The calculated value of 'unwanted' signal using 10 dB NF and I/N of -6dB.
 - (c) The specification of relative values for ACS, blocking and receiver intermodulation rejection as per 3GPP.
- 5.16 However, Optus believes that the level of 'wanted' signal is set too low as this level translates to an SINR of only -1dB. The 50 MHz reference channel used for EISREFSENS_50M is G-FR2-A1-4 which implies a throughput of 10Mbps which Optus believes is too low for the types of use cases envisaged for actual deployments in a high capacity Spectrum Licenced band. Optus therefore suggests that the wanted level should be 3dB higher to provide an SNIR of 2dB. This would also mean an unwanted to wanted ratio of 8dB.
- 5.17 Finally, as per our feedback on the RAG (Tx), Optus notes the persistence of the exemption of body scanners from the protections afforded class licences, whereby they are granted higher levels of protections from interference than Spectrum Licences. ACMA's assertion that the chances of interference are "extremely small" is untested and, in our opinion, unjustified.