

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Expanding the Economic and Innovation) GN Docket No. 12-268
Opportunities of Spectrum Through Incentive)
Auctions)

COMMENTS OF T-MOBILE USA, INC.

I. INTRODUCTION AND SUMMARY

The Wireless Telecommunications Bureau (“Bureau”) recently sought comment on whether the Commission should offer package bidding in the context of the incentive auction and on how package bidding may affect auction design.¹ The Bureau also sought comment on Competitive Carriers Association’s (“CCA”) proposal to issue licenses based on a new geographic area size: Partial Economic Areas (“PEAs”).²

Package bidding entails risks and complications that, depending on the precise design of the package bidding system, may render the mechanism both impractical and unnecessary in the context of the incentive auction. First, when a bidder stops bidding on a package, it can create an excess supply of licenses in some of the areas composing that package, and the incentive auction design appears ill-equipped to resolve problems of excess supply. Second, because package bidding presumably implies that a package bidder would be allowed to stop bidding on a

¹ *Wireless Telecommunications Bureau Seeks Comment on a Proposal to License the 600 MHz Band Using Partial Economic Areas*, Public Notice, DA 13-2351 (Wireless Telecom. Bur., rel. Dec. 11, 2013) (“*Public Notice*”).

² *Id.* at 2.

package as long as there is excess demand for at least one license in the package, package bidders would be given the option to effectively withdraw their bids with less risk of consequence than individual license bidders. This feature would create opportunities for strategic bidding that could be anti-competitive and induce inefficiency in the auction outcome. Third, package bidding is not the best mechanism in the context of the incentive auction to limit the exposure risk that large-area bidders face from having to assemble a license footprint from numerous small licenses. Instead, reasonable spectrum-aggregation limits can reduce exposure risk substantially without the complexity and manipulation risk associated with package bidding.

With respect to geographic licensing areas, while CCA's proposed licensing scheme is not optimal, it may represent a reasonable compromise. A larger geographic unit would best serve the incentive auction, but using PEAs or other similarly-sized geographic licensing areas may also be workable, provided that the Commission does not overlay package bidding on the proposed auction design and, instead, uses reasonable spectrum-aggregation limits to constrain exposure risk.

II. PACKAGE BIDDING

Designing a package bidding mechanism poses a challenging auction design problem even for relatively straightforward auctions. As reported to the Commission more than a decade ago, successful package bidding must simultaneously manage three problems. It must: (1) limit exposure risk for large bidders; (2) prevent free riders from thwarting efficient bids from collections of small bidders; and (3) manage computational complexity for everyone involved.³ While the Bureau's proposal takes several desirable steps to limit computational challenges,

³ See Charles River Associates Incorporated and Market Design, Inc., *Simultaneous Ascending Auctions with Package Bidding* (March 1998), available at <http://fcc.us/19OHWkB>.

including capping the number of package bidding combinations to just one combination,⁴ the risk of excessive complexity as well as an intrinsic bias against non-dominant bidders remains substantial. Just as important, other, more readily administered solutions to managing exposure risk exist. Absent additional information about the auction design and the adoption of numerous safeguards to protect non-dominant bidders, therefore, package bidding should not be adopted.

One of the primary challenges of package bidding is that it adds significant complexity to an auction, which is only magnified in the context of the incentive auction's existing complexity. In particular, when a participant decides not to continue bidding on a package, it can generate an excess supply of available licenses in market areas where the package bidder would be the standing high bidder, and it is challenging to account for this excess supply. To illustrate this problem, suppose that a participant bids on a package encompassing eight market areas. As the clock auction ascends, all other bidders drop out in six of the eight areas, and the package bidder becomes the only standing high bidder in these six markets, which stops the clocks. Suppose too that, as bidding continues in the remaining two areas of the package, the package price becomes too high and the package bidder stops bidding on the package. As a result, in the six markets where the other bidders had dropped out, there would be an excess supply of licenses. Such excess supply may be highly inefficient. It could also lead to a large drop in revenues and, consequently, reduce the amount of spectrum cleared at auction.

To eliminate the excess supply, the auction process must have a mechanism to reassign these over-supplied licenses. An obvious possibility, awarding them to the next highest bidder, seems impractical. Since several rounds may have passed without any activity on one or more of

⁴ See *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Notice of Proposed Rulemaking, 27 FCC Rcd 12357 ¶ 62 (2012).

the component licenses in the package, the next highest bidder may have moved its eligibility and budget elsewhere and, as a result, be unable or unwilling to add the newly available license unless it is given additional eligibility, the price is sufficiently reduced, or both. In addition, the second highest bidder would have only bid up to that level in response to the package bidder's activity. Hence, if it expects to be offered that license back at the last price it bid, it would have incentives to bid less aggressively.

Another option is to give the licenses to the second highest bidder at the third highest bid price. But the same questions of available resources and auction uncertainty would apply. For example, requiring the second-highest bidder to always be ready to pay the third-highest price in case a package bidder drops out (*i.e.*, keeping all the component bids always live), makes it very hard for this bidder to form a bidding strategy or manage its bidding budget. Once bidders lose out on a desired license, they must craft a new bidding strategy, particularly with the auction's activity requirement. When a bidder forms a new strategy, it may no longer desire the license at the price it previously bid. Similarly, the bidder may not have sufficient auction eligibility to revert to its previous bid. Perhaps most problematically, the alternate bidder itself may have become a standing high bidder in other markets and, if required to drop out from its standing high bid to stand in the shoes of the exiting package bidder, the replacement winner would cause its own sort of chain reaction of excess supply. Not only are these threats real, but also the very prospect of these problems generally undermine certainty and pricing in the auction.

Even if allowing package bidding would not result in excess supply, the process nonetheless creates opportunities for gaming and other forms of strategic behavior that the *Public Notice* does not address. For example, package bidding allows participants to circumvent the auction's activity rule by "parking" eligibility. Participants bidding on individual component

markets face a substantial risk that they will submit the "provisionally winning" bid (*i.e.*, that within the round demand will drop to the level of supply, restricting future demand reductions). But, for participants submitting package bids to become "provisionally winning," the demand would have to drop to the level of supply for the package and *all component licenses* in the same round. Therefore, they can bid with little risk as long as bidding is still active on some component of the package. Through simple diversification of risk (by selecting a package bid comprising several markets), package bidders are able to effectively create a unilateral right to withdraw bids and thus avoid the Commission's activity rule, which promotes vigorous bidding and is important to a successful auction.

Beyond the problem of "parking" eligibility to avoid the Commission's activity rule, the ability to withdraw bids invites gaming, and the Commission has recognized as much.⁵ While the Commission traditionally allows bidders to withdraw bids in an effort to reduce potential financial exposure, the Commission has, in addition to charging a penalty for withdrawal, specifically limited the total number of withdrawals available to prevent bid-signaling, market-division, and other gaming strategies.⁶

These types of problems (excess complication and gaming) will be endemic if participants are allowed to place package bids and individual bids on the same licenses. If, however, package bidding is allowed for some set of predefined packages and no participant can bid on individual licenses within these predefined packages, then these problems will not occur.⁷

⁵ See, *e.g.*, Peter Cramton and Jesse A. Schwartz, *Collusive Bidding: Lessons from the FCC Spectrum Auctions* at 11-13 (May 2000), <http://www.cramton.umd.edu/papers2000-2004/00jre-collusive-bidding-lessons.pdf>.

⁶ See *id.*; see also 47 C.F.R. § 1.2104(g).

⁷ Effectively, a predefined set of licenses limited only to package bids is akin to a larger license area for the licenses that are the subject of the package.

This license assembly, which need not be geographically contiguous, eliminates the problems present with package bidding. But, so long as package bidders compete against individual bidders for the same licenses, auction complexity and gaming will be challenges that threaten the integrity of the incentive auction.

Meanwhile, the benefits of package bidding in this auction can be achieved through other, less complicated rules: namely, spectrum-aggregation limits. The primary benefit of package bidding is limitation of exposure risk. A carrier that intends to compete nationally using 600 MHz spectrum will likely need to acquire 600 MHz licenses across a large portion of the country. But, without a mechanism to aggregate an economically efficient minimum set of licenses, the carrier's winnings could fall short of what is needed to effectuate its plans. As a result, the carrier may restrict its bidding to account for this possibility that it may not be able to acquire sufficient spectrum. Package bidding helps reduce this risk by allowing carriers to commit to purchasing a license only if it can be obtained with complementary licenses.

If, however, the Bureau adopts reasonable spectrum-aggregation limits, exposure risk will be reduced to manageable levels and package bidding would be superfluous. With reasonable spectrum-aggregation limits, the threat of any bidder losing a substantial number of key market areas (*i.e.*, the exposure risk) is greatly reduced. For instance, should multiple paired blocks of spectrum come to market with reasonable aggregation limits, every carrier should be able to acquire licenses over all or substantially all of their desired footprint. Because aggregation limitations would prevent one or two carriers from dominating the auction, licenses will be available for a greater number of carriers, and as a result, there is correspondingly less need to adopt other mechanisms to protect against exposure risk.

III. ALTERNATIVE GEOGRAPHIC AREAS

The hybrid licensing scheme proposed by CCA would divide Economic Areas (“EAs”) into PEAs that are larger than CEAs and neatly “nest” into the EAs.⁸ According to CCA, such an approach should appeal to larger carriers while maintaining some of the benefits of smaller license areas.⁹ In particular, it would allow smaller and rural carriers to obtain spectrum licenses that they can afford and that cover areas they can efficiently serve.¹⁰ In addition, the approach could attract a variety of bidders to the incentive auction because the PEAs would consist of a mix of large population centers and less populous areas.¹¹

As explained in comments and reply comments, the Commission should license the 600 MHz spectrum by Major Economic Area (“MEA”).¹² National and regional carriers desire a large regional or nationwide footprint, and, as the Commission has recognized, “the use of large geographic service areas helps reduce transaction costs for both auction participants seeking to aggregate adjoining smaller geographic at auction and licensees seeking to consolidate such areas post auction.”¹³ Additionally, using large geographic service areas helps reduce the exposure risk for carriers that wish to provide service over a larger area. Generally speaking, the

⁸ Letter from CCA, GN Docket No. 12-268, at 2 (filed Nov. 27, 2013) (“CCA Ex Parte Letter”).

⁹ *Id.*

¹⁰ *See id.* at 1-2.

¹¹ *Id.*

¹² *See, e.g.*, Comments of T-Mobile, WT Docket No. 12-268, at 15-17 (filed Jan. 25, 2013) (“T-Mobile Comments”); Reply Comments of T-Mobile, WT Docket No. 12-269, at 58-62 (filed Mar. 12, 2013) (“T-Mobile Reply Comments”).

¹³ *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Second Report and Order, 22 FCC Rcd 15289, ¶ 81 (2007).

smaller the license size, the greater the risk that a carrier might win some, but not all, of the licenses it needs to provide service over a large area.¹⁴

Nevertheless, T-Mobile is sensitive to the needs of smaller and rural carriers and would support CCA's proposed scheme if: (1) it is combined with reasonable spectrum-aggregation limits; (2) and package bidding is either not allowed, or is allowed only for a group or groups of licenses where *à la carte* bidding on each license that is part of a package is not also permitted.

Larger and smaller carriers tend to be fundamentally at odds when it comes to license size. Larger carriers prefer larger licenses that help reduce exposure risk and administrative costs.¹⁵ Smaller carriers, meanwhile, prefer smaller licenses that cover areas they can efficiently serve and that they can afford to bid on.¹⁶

CCA's proposal seems to be a reasonable compromise between these two positions. As CCA points out, a PEA approach would blend the different license size approaches and promote participation in the auction by a variety of carriers.¹⁷ In addition, PEAs do not represent a wholly new geographic licensing scheme, as they track CMA boundaries in many cases and nest within existing Economic Areas ("EAs").¹⁸

Although a PEA-based approach may create significant exposure risk, this risk could be mitigated with reasonable spectrum-aggregation limits or a limited set of predetermined packages without *à la carte* bidding. As explained above, the threat that bidders will lose key market areas is reduced by reasonable spectrum-aggregation limits, which would deter carriers

¹⁴ See, e.g., T-Mobile Reply Comments at 58-59.

¹⁵ See, e.g., T-Mobile Comments at 15-16.

¹⁶ See, e.g., CCA Ex Parte Letter at 1.

¹⁷ See *id.* at 2.

¹⁸ See *id.*

from dominating the auction or acquiring licenses to thwart another carrier's plans to build a particular footprint. Thus, with spectrum reasonable aggregation limits, there would be no need for package bidding even under a PEA-based approach.

IV. CONCLUSION

Package bidding may unnecessarily complicate the auction and grant preference to some bidders over others. Additionally, although larger geographic areas are the optimal license size, CCA's proposed licensing scheme could be a workable compromise. This assumes, however, that it is combined with reasonable spectrum-aggregation limits, and that package bidding is either not allowed or only allowed for pre-defined packages of licenses in which *à la carte* bidding is not permitted.

Respectfully submitted,

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