

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

In the Matter of)	
)	
Competitive Bidding Procedures for)	AU Docket No. 14-252
Broadcast Incentive Auction 1000,)	
Including Auction 1001 and 1002)	
)	
Expanding the Economic and Innovation)	GN Docket No. 12-268
Opportunities of Spectrum Through)	
Incentive Auctions)	

COMMENTS OF UNITED STATES CELLULAR CORPORATION

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United States Cellular Corporation (“USCC”) submits these comments in response to the Public Notice released December 17, 2014 in the above-captioned proceeding.¹ In the Public Notice, the Commission seeks comment on the procedures that will be used to carry out the broadcast television spectrum incentive auction. In the underlying rulemaking proceeding, the Commission took several actions – *e.g.*, an interoperability requirement and service areas licensed on the basis of Partial Economic Areas (“PEAs”) – designed to provide small and regional carriers with a reasonable opportunity to acquire 600 MHz licenses and to put this spectrum to good use.² Moreover, in a separate proceeding, the Commission established a market-based spectrum reserve for the forward auction in order to prevent the excessive concentration of below-1-GHz spectrum.³

¹ See *Comment Sought on Competitive Bidding Procedures for Broadcast Incentive Auction 1000, Including Auctions 1001 and 1002*, Public Notice, 29 FCC Rcd 15750 (2014) (“*Public Notice*”).

² See *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Report and Order, 29 FCC Rcd 6567 (2014) (“*Incentive Auction Order*”). Unless otherwise noted, comments and reply comments cited herein are those filed on January 25, 2013 and March 12, 2013, respectively, in Docket No. 12-268.

³ See *Policies Regarding Mobile Spectrum Holdings*, Report and Order, 29 FCC Rcd 6133 (2014) (“*Mobile Spectrum Holdings Order*”).

USCC applauds those actions, and appreciates that the proposed procedures for the forward auction generally align with the Commission’s pro-competitive goals in those proceedings. However, as detailed herein, USCC believes certain revisions to the Commission’s proposals would better ensure that the incentive auction provides a level playing field for carriers of all sizes. Importantly, the propagation characteristics of the 600 MHz band are particularly well-suited to allow small and regional carriers to provide much-needed competition to the dominant nationwide carriers and to continue to expand and upgrade broadband service in rural and other underserved areas. But small and regional carriers will only be able to advance the public interest in these ways if the auction procedures provide them with a realistic opportunity to acquire 600 MHz licenses.

I. INTRODUCTION & SUMMARY

As the Commission recently noted, broadband Internet access has the potential to benefit Americans with respect to “every facet of daily life, from finding a job to finding a doctor, from connecting with family to making new friends, from becoming educated to being entertained.”⁴ Clearly, these “many benefits to the public demonstrate the necessity of ensuring that robust and affordable broadband is available to *all* Americans.”⁵ Unfortunately, however, an unacceptable number of Americans continue to lack access to broadband services, and thus continue to be deprived of the vast opportunities made possible by such services.⁶

⁴ *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment, GN Docket No. 14-126, FCC 15-10, ¶ 2 (Jan. 29, 2015); see FCC, *Connecting America: The National Broadband Plan*, p. xi (rel. Mar. 16, 2010) (“*Broadband Plan*”) (“[B]roadband is a foundation for economic growth, job creation, global competitiveness and a better way of life.”).

⁵ *Rural Broadband Report Published in FCC Record*, Public Notice, 24 FCC Rcd 12791, 12805 (2009).

⁶ See *Broadband Plan* at 129 (“[P]eople will not experience the promised benefits of broadband – increased earning potential, enhanced connections with friends and family, improved health and a superior education – without a connection.”).

Substantial public interest benefits also arise from robust competition amongst broadband service providers. For instance, the Commission recently noted how “[c]ompetition among mobile wireless providers leads to lower prices, more innovation, and greater investment.”⁷ Too many Americans, however, no longer realize the benefits of robust competition given that the “wireless industry has [] undergone significant consolidation during the past decade.”⁸ In fact, during that period, concentration in the wireless market has increased by more than 40%.⁹ Moreover, the wireless market has been classified as “highly concentrated” every year since 2005,¹⁰ and the level of concentration has increased during each of the last six years.¹¹

Fortunately, the incentive auction provides the Commission with a “once-in-a-lifetime opportunity” to increase broadband access in rural areas and to promote much-needed competition in the wireless industry.¹² USCC cautions, however, that this opportunity will be wasted, and the benefits of ubiquitous broadband access and robust competition will continue to be withheld from too many Americans, if the Commission fails to ensure that all bidders, including small and regional carriers, have a reasonable chance to acquire 600 MHz licenses. USCC therefore joins nearly every other carrier that participated in the underlying rulemaking proceeding in strongly urging the Commission to “ensure that its incentive auction rules are

⁷ *Mobile Spectrum Holdings Order*, 29 FCC Rcd at 6134.

⁸ *Id.* at 6146.

⁹ See *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Seventeenth Report, 29 FCC Rcd 15311, 15327 (2014) (“*Seventeenth Competition Report*”) (noting that, at the end of 2013, the weighted average of the Herfindahl-Hirschman Index (“HHI”) was 3,027); *Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Sixteenth Report, 28 FCC Rcd 3700, 3857 (2013) (“*Sixteenth Competition Report*”) (noting that, at the end of 2003, the weighted average of the HHI was 2,151).

¹⁰ See *Sixteenth Competition Report*, 28 FCC Rcd at 3858; *Seventeenth Competition Report*, 29 FCC Rcd at 15327.

¹¹ See *Seventeenth Competition Report*, 29 FCC Rcd at 15327.

¹² See *Incentive Auction Order*, 29 FCC Rcd at 7031 (Statement of Chairman Tom Wheeler); see also *Mobile Spectrum Holdings Order*, 29 FCC Rcd at 6158 (describing the incentive auction as a “once-in-a-generation opportunity to promote competition as specifically required by Section 309(j)”).

procompetitive and give all carriers, in particular competitive carriers, a meaningful opportunity to acquire spectrum where needed.”¹³

Due to the propagation characteristics of the 600 MHz band, the need for pro-competitive auction procedures is even more pronounced here than in many auctions. For instance, because this spectrum will allow “larger geographic areas [to] be served more cost effectively through use of fewer transmitters,”¹⁴ it is particularly well suited for network deployments in the high-cost rural areas typically served by small and regional carriers.¹⁵ Moreover, while a carrier of any size seeking to serve a rural area would benefit from these propagation characteristics, smaller carriers have an even greater need for these efficiencies “because they are less able to subsidize their deployment costs by revenues accrued in more densely populated areas where a nationwide subscriber base provides them with greater scale economies.”¹⁶

The current concentration of low-band spectrum in the hands of the two largest carriers also demonstrates the necessity of ensuring that a variety of bidders, including small and regional carriers, have an opportunity to acquire 600 MHz licenses. As the Commission recently explained, this concentration of low-band spectrum “makes it difficult for rural consumers to have access to the competition and choice that would be available if more wireless competitors also had access to low-band spectrum.”¹⁷ USCC also notes that, if the auction procedures make it overly difficult for small and regional carriers to acquire 600 MHz licenses, it would be highly

¹³ Comments of Competitive Carriers Association (“CCA”) at 3; *see also* Reply Comments of Cellular South, Inc. at 2 (“[T]he Commission’s incentive auction rules should foster wireless industry competition by enabling competitive operators and new entrants a meaningful opportunity to access low band spectrum.”); Reply Comments of T-Mobile USA, Inc. at 7 (“[T]he Commission should adopt rules and policies in this proceeding that promote competition during and after the auction.”); Reply Comments of Leap Wireless International, Inc. and Cricket Communications, Inc. (“Leap/Cricket”) at 2 (urging the Commission to ensure that “small, midsize, and regional wireless carriers have the opportunity to acquire scarce spectrum”); Comments of MetroPCS Communications, Inc. at 9 (“[T]he forward auction [] must be conducted in a manner intended to ensure a wide distribution of licenses among competitors, as is the Commission’s charge from Congress.”).

¹⁴ *Mobile Spectrum Holdings Order*, 29 FCC Rcd at 6162.

¹⁵ *See id.* at 6161 (“[L]ow-band spectrum is particularly well suited to deployment in rural areas.”).

¹⁶ *Id.* at 6206.

¹⁷ *Id.* at 6161.

unlikely that these carriers ever gain access to this spectrum. While small and regional carriers theoretically could acquire 600 MHz spectrum rights in the secondary market, such divestitures have been, and likely will continue to be, the exception rather than the rule.¹⁸

As USCC details in these comments, the design of certain auction procedures in particular will be critical for ensuring that small and regional carriers have a reasonable opportunity to acquire 600 MHz licenses and to subsequently use this spectrum to provide broadband access to rural residents and to become more viable competitors. First, USCC strongly urges the Commission not to incorporate bidding procedures into the assignment phase because this would create a significant risk that smaller bidders will be saddled with the most impaired, and thus least valuable, licenses in each PEA. The Commission's proposed discounts for impairments simply would not provide sufficient relief to these bidders.

Accordingly, the Commission should instead adopt a quasi-random assignment process that would honor bidders' preference for contiguous blocks to the extent possible, and then randomly determine the remaining frequency assignments. In addition to removing the bias that smaller bidders would encounter under the current proposal, a quasi-random approach likely would lead to increased revenue from the clock phase of the auction, which would help to ensure that the auction maximizes the amount of reallocated broadcast spectrum. Alternatively, if the Commission insists on incorporating bidding into the assignment phase, it should revise its current proposals in order to minimize the disadvantages such bidding likely would create for smaller bidders. Specifically, the Commission should: (1) add a fourth efficiency objective which minimizes the difference in the average level of impairment of the same-category license(s) assigned to any two bidders; (2) process assignment round bids on a per-license basis

¹⁸ See *id.* at 6166 (noting that the “secondary market for spectrum licenses in any geographic area has very few buyers and sellers” because “[p]roviders often hold onto spectrum for decades for a number of reasons, including the value they may assign to keeping spectrum out of the hands of potential competitors”).

by apportioning each bid among the number of licenses to which it relates; and (3) sequence the assignment rounds on a random basis.

Second, USCC strongly supports the Commission's tentative conclusion not to permit any form of package bidding in the forward auction. Package bidding biases an auction in favor of the package bid, disadvantaging all but the largest bidders and likely excluding smaller bidders from any meaningful auction participation. Package bidding also would add another layer of complexity to what will already be the most complicated spectrum auction ever conducted by the Commission. At the same time, large bidders do not require package bidding procedures in order to attain the efficiencies associated with expansive service areas.

Third, USCC supports the Commission's proposal to set the price benchmark for the first component of the final stage rule equal to \$1.25 per MHz-pop, and to determine whether forward auction bidding has satisfied this average price per MHz-pop based only on the current clock prices for the Category 1 licenses in the 40 largest PEAs. Because USCC believes this represents a reasonable price benchmark, it urges the Commission not to establish a higher benchmark based on the results of Auction 97 because doing so would delay the implementation of the spectrum reserve, which could allow the largest bidders to engage in the anti-competitive strategies that led the Commission to conclude that a spectrum reserve is necessary component of the forward auction.

Finally, USCC proposes that the Commission briefly "pause" forward auction bidding both before and after the first round following any increase to the activity requirement for the forward auction. As a result of the Commission's understandable proposal not to provide activity rule waivers, bidders require this small amount of additional time (*e.g.*, one to two hours) so that they do not lose eligibility as a result of delays associated with the bidding surges, including their own, that result when the Commission increases the activity requirement during the course of an auction.

II. AS PROPOSED, THE ASSIGNMENT PHASE WOULD DISADVANTAGE SMALLER BIDDERS AND RISK RELEGATING THEM TO THE MOST IMPAIRED LICENSES IN EACH PEA

USCC is concerned that the Commission's proposal to permit winning bidders from the clock phase to subsequently bid for specific frequency blocks during the assignment phase could seriously disadvantage smaller bidders, who could not outbid a nationwide carrier focused on acquiring particular blocks in a PEA.¹⁹ As a result, these smaller bidders, who will have already committed to acquiring licenses in the PEA during the clock phase, could be relegated to the most impaired licenses included in the particular category of generic licenses. Although the generic license categories would restrict to some extent the level of impairment in these "leftover" licenses, the value of an unimpaired license greatly exceeds that of a license with, for example, impairments that affect 15% of its population. And, with respect to Category 2 licenses, there would be a far greater disparity in the amount of impairment between the "best" and "worst" licenses in a PEA. Moreover, although bidders undoubtedly will need to pay a premium in the clock phase in order to acquire Category 1 licenses, as a result of the nationwide carriers' assignment round bids, a bidder could find itself saddled with a Category 1 license that is impaired to nearly the same extent as the Category 2 licenses in the same PEA. As CTIA previously stressed to the Commission, "[w]hen bidding on a 'generic' license, a bidder must not end up acquiring spectrum that is more encumbered and thus much less valuable than what that bidder anticipated."²⁰

Although the Commission proposes "to discount the final clock price by one percent for each one percent of predicted impairment,"²¹ such a discount would not sufficiently remedy the systematic assignment of the most impaired licenses to smaller bidders that would likely result

¹⁹ See, e.g., Comments of AT&T Inc. at 47 ("[M]ost bidders will attribute far greater value to blocks cleared in all markets than in only a few.").

²⁰ Comments of CTIA – The Wireless Association at 16.

²¹ *Public Notice*, 29 FCC Rcd at 15798.

from bidding in this phase of the auction. This is particularly so if the impaired areas are those most critical for a particular bidder's business plan. While USCC believes PEAs represent a reasonable compromise between the desires of small and large carriers, and appreciates the Commission's decision to license the 600 MHz band on the basis of PEAs, these license areas are not ideal for many smaller carriers. Specifically, because PEAs "nest" into EAs,²² the boundaries of these license areas do not necessarily align with the existing service areas of many smaller carriers, including USCC, which consist primarily of CMA-based licenses. As a result, even if a 600 MHz license has a minimal level of impairment in relation to the PEA's total population, the areas subject to inter-service interference could be concentrated in the portions of the PEA that encompass a carrier's current service area, and thus have the greatest value to the carrier. Clearly, in this situation, a discount proportionate to the percentage of impairment would be inadequate.

Due to these potential harms to smaller bidders, rather than incorporate bidding into the assignment phase procedures, USCC agrees with T-Mobile that the "Commission should use a quasi-random assignment process..."²³ Notably, nearly every commenter that addressed this issue in the underlying rulemaking proceeding urged the Commission to rely on random or quasi-random, rather than bidding, procedures in the assignment phase.²⁴ For instance, Verizon proposed that the assignment phase "be accomplished through rules and policies that enable the Commission to coordinate assignments among the winning bidders in a sensible manner."²⁵ Moreover, even AT&T, which was the only commenter whose preferred assignment procedures

²² See *Incentive Auction Order*, 29 FCC Rcd at 6600.

²³ Comments of T-Mobile USA, Inc. at 21.

²⁴ See Reply Comments of T-Mobile USA, Inc. at 50 ("A random or quasi-random assignment process found strong support in the initial comment round.").

²⁵ Comments of Verizon and Verizon Wireless ("Verizon") at 46; see Reply Comments of Verizon at 49 ("Unlike AT&T, which would have the Commission use a competitive bidding process to achieve these objectives, Verizon submits the Commission should first determine the feasibility of administrative processes during the assignment stage...").

involved additional bidding,²⁶ urged the Commission to “ensure that the generic-bidding round is the main event and that any assignment-round bidding is as inconsequential as possible to individual bidders.”²⁷

The Commission indicates that its adoption of an interoperability requirement for the 600 MHz band will sufficiently address the concerns which caused nearly every commenter addressing the issue to support a random or quasi-random assignment process, rather than one based on additional bidding.²⁸ USCC was an ardent proponent of a 600 MHz interoperability requirement, and greatly appreciates the Commission’s action in this respect. However, while the opposition to assignment phase bidding expressed by USCC and other commenters was based in part on interoperability concerns,²⁹ other considerations also weigh heavily in favor of a quasi-random assignment process. For instance, as detailed above, assignment phase bidding would harm smaller bidders in ways other than potentially allowing the largest carriers to introduce non-interoperable 600 MHz devices.

Commenters also explained that the prospect of subsequent bidding in the assignment phase likely would lead to lower revenues in the clock phase. For instance, AT&T noted that, if the Commission puts an emphasis on bidding in the assignment round, bidders “could be expected in the first bidding phase to set their bids on the basis of the least valuable license in

²⁶ Although the *Incentive Auction Order* states that there was “support in the record” for incorporating bidding into the assignment stage, *see Incentive Auction Order*, 29 FCC Rcd at 6780, the *Order* cites only to AT&T’s comments as expressing true support for assignment phase bidding. *See id.* at 6780, n. 1475. Otherwise, the only cited commenter that expressed a preference regarding the use of bidding in the assignment phase was Verizon, and the *Order* paraphrases Verizon’s “support” as “not categorically opposed to competitive bidding to assign forward auction licenses.” *Id.*

²⁷ Comments of AT&T Inc. at 42-43.

²⁸ *See Incentive Auction Order*, 29 FCC Rcd at 6780 (“To the extent that some commenters would prefer an administrative assignment mechanism in order to facilitate interoperability, we note that we will require interoperability throughout the 600 MHz Band, which ensures interoperability regardless of how many band classes are created for the 600 MHz Band.”).

²⁹ *See, e.g., Reply Comments of CCA* at 9 (“Quasi-random channel assignments could help to alleviate interoperability concerns...”).

each improperly defined ‘generic’ category.”³⁰ T-Mobile subsequently elaborated on this point, providing an example which illustrates how a quasi-random assignment process would cause a bidder in the clock phase to base its bidding on the average value it assigns to the various licenses in a generic category because the bidder would have an equal probability of ultimately being assigned either the most or least impaired license in that category.³¹

On the other hand, if the bidder faced additional bidding in the assignment phase and did not expect to be able to outbid the other generic license holders, it would drop out of the auction at the price it assigned to the most impaired license.³² Notably, if the continued participation of this bidder determined whether there was excess supply for that category of licenses, its decisions would effectively set the clock price for those licenses.³³ As a result, if the bidder dropped out earlier than it would have with a quasi-random assignment process, this decision would reduce the price that the other bidders would need to pay for the licenses.³⁴ T-Mobile further noted that, at a minimum, bidders “facing *two* auctions rather than one will reduce their primary forward auction bids based on their expected activity in the follow-on auction.”³⁵

In turn, this reduced revenue in the clock phase of the forward auction would risk “thwarting the important public policy goal of clearing the maximum amount of encumbered spectrum for next-generation broadband use.”³⁶ In contrast, a quasi-random assignment process would “focus[] the entirety of carriers’ budgets on spectrum clearing...”³⁷ USCC therefore agrees with AT&T that “the Commission should structure the overall auction to avoid reliance

³⁰ Comments of AT&T Inc. at 42.

³¹ See Reply Comments of T-Mobile USA, Inc. at 57.

³² See *id.*

³³ See *id.*

³⁴ See *id.*

³⁵ *Id.* at 56 (emphasis in original).

³⁶ Comments of T-Mobile USA, Inc. at 23.

³⁷ *Id.*; see Reply Comments of CCA at 9 (noting that “quasi-random channel assignments could ... increase auction revenues”).

on such supplemental bidding in order to satisfy the closing conditions.”³⁸ For the reasons detailed above, the best way to accomplish this would be through a quasi-random assignment process.

The Commission bases its proposal in part on its belief that only “a competitive bidding round will give bidders an opportunity to indicate their preferences for specific frequencies...”³⁹ Bidders’ frequency preferences, however, primarily relate to the synergies associated with contiguous spectrum blocks, and a quasi-random assignment process would take these preferences into account through the use of constraints, such as the “efficiency objectives” proposed by the Commission, designed to “maximiz[e] contiguity for winners of multiple blocks in an area.”⁴⁰ For instance, T-Mobile explained that, under its proposed quasi-random assignment process, “every multiple license winner could still capture the synergies associated with acquiring contiguous spectrum and common blocks in any given market area.”⁴¹

Moreover, if the Commission finds it necessary, a quasi-random assignment process also could take into account bidders’ preferences for specific spectrum blocks. For instance, another objective could be added to the Commission’s proposed optimization approach that would honor such preferences to the extent they do not conflict with the preferences of other bidders. The only difference would be that, where there are conflicts between bidders’ expressed preferences, the assignment plan for that PEA would be determined pseudo-randomly, rather than based on bid amounts. Importantly, like with the Commission’s bidding proposal, this pseudo-random determination would take place only with respect to assignment plans that satisfy all of the constraints aimed at assigning contiguous blocks to as many bidders as possible. However, the

³⁸ Comments of AT&T Inc. at 42; *see* Reply Comments of Verizon at 49 (“[T]he full value of the 5 MHz spectrum blocks should be reflected in the generic bids to the extent possible.”).

³⁹ *Incentive Auction Order*, 29 FCC Rcd at 6780.

⁴⁰ *Public Notice*, 29 FCC Rcd at 15813.

⁴¹ Reply Comments of T-Mobile USA, Inc. at 52.

significant advantage of a quasi-random approach is that it would honor, to the extent possible, the frequency preferences of every bidder, including smaller bidders, rather than only honoring the “frequency preferences of the bidders willing [and able] to pay the highest premiums...”⁴²

Although USCC believes that a quasi-random assignment process would be far more equitable, if the Commission insists on incorporating bidding into the assignment phase, USCC strongly urges it to make several revisions to the procedures proposed in the *Public Notice* in order to minimize the disadvantages such bidding likely would create for smaller bidders. Specifically, as detailed below, USCC proposes that the Commission: (1) add a fourth efficiency objective which minimizes the difference in the average level of impairment of the same-category license(s) assigned to any two bidders; (2) process assignment round bids on a per-license basis by apportioning each bid among the number of licenses to which it relates; and (3) sequence the assignment rounds on a random basis.

First, USCC urges the Commission to add another objective to the optimization approach that it will use in determining the winning frequency assignment for each PEA or groups of PEAs. Specifically, USCC proposes that the following be added as the fourth objective: (4) minimizing the difference in the level of impairment, as averaged across the number of generic licenses held by each bidder, between the Category 1 license(s) assigned to any two bidders, as well as between the Category 2 license(s) assigned to any two bidders. If the Commission decides to incorporate bidding into the assignment phase despite the harm this could inflict upon smaller bidders, this additional objective would be necessary in order to prevent the largest bidders from using their vastly superior financial resources to monopolize all of the least impaired licenses.

⁴² *Incentive Auction Order*, 29 FCC Rcd at 6780.

As an example of the operation of this fourth objective, assume that an assignment round relates to a PEA for which there are six Category 1 licenses (blocks A through F) and no Category 2 licenses, and that three different bidders acquired these six generic licenses during the clock phase. Specifically, Bidder 1 holds three of the licenses, Bidder 2 holds two, and Bidder 3 holds one. As illustrated in the charts below, six different assignment plans would satisfy all three of the Commission’s proposed objectives. Also as illustrated below, under USCC’s proposed fourth objective, for each of these six possible assignment plans, the auction system would calculate the average level of impairment for each bidder’s license(s). The auction system would then determine the difference between the bidder with the highest average impairment and the bidder with the lowest average impairment. Of the assignment plans that satisfy the first three objectives, the plan that produces the lowest difference between these two averages would become the plan for that PEA. In this example, Assignment Plan 6. In the case of ties, for the reasons detailed above, USCC proposes that the Commission randomly determine the winning assignment plan.

Assignment Plan 1

	Bidder 1			Bidder 2		Bidder 3
Spectrum Block	A	B	C	D	E	F
Percentage Impairment	2%	0%	6%	8%	4%	0%
Average % per Bidder	2.67%			6%		0%
Difference: Highest vs. Lowest Average %	6% (Bidder 2) – 0% (Bidder 3) = 6%					

Assignment Plan 2

	Bidder 1			Bidder 3	Bidder 2	
Spectrum Block	A	B	C	D	E	F
Percentage Impairment	2%	0%	6%	8%	4%	0%
Average % per Bidder	2.67%			8%	2%	
Difference: Highest vs. Lowest Average %	8% (Bidder 3) – 2% (Bidder 2) = 6%					

Assignment Plan 3

	Bidder 3	Bidder 1			Bidder 2	
Spectrum Block	A	B	C	D	E	F
Percentage Impairment	2%	0%	6%	8%	4%	0%
Average % per Bidder	2%	4.67%			2%	
Difference: Highest vs. Lowest Average %	4.67% (Bidder 1) – 2% (Bidder 2 or 3) = 2.67%					

Assignment Plan 4

	Bidder 2		Bidder 1			Bidder 3
Spectrum Block	A	B	C	D	E	F
Percentage Impairment	2%	0%	6%	8%	4%	0%
Average % per Bidder	1%		6%			0%
Difference: Highest vs. Lowest Average %	6% (Bidder 1) – 0% (Bidder 3) = 6%					

Assignment Plan 5

	Bidder 2		Bidder 3	Bidder 1		
Spectrum Block	A	B	C	D	E	F
Percentage Impairment	2%	0%	6%	8%	4%	0%
Average % per Bidder	1%		6%	4%		
Difference: Highest vs. Lowest Average %	6% (Bidder 3) – 1% (Bidder 2) = 5%					

Assignment Plan 6

	Bidder 3	Bidder 2		Bidder 1		
Spectrum Block	A	B	C	D	E	F
Percentage Impairment	2%	0%	6%	8%	4%	0%
Average % per Bidder	2%	3%		4%		
Difference: Highest vs. Lowest Average %	4% (Bidder 1) – 2% (Bidder 3) = 2%					

This example clearly demonstrates the benefits of USCC’s proposed fourth efficiency objective. For instance, if the Commission incorporates bidding into the assignment, and if we were to assume that the number of generic licenses held by each bidder in this example generally reflects the financial resources of that bidder, the most likely result would be that Bidder 1 would have its frequency preferences honored over those of both of the other bidders, and Bidder 2 likely would have its frequency preferences honored over those of Bidder 3. Notably, even if we do not assume that the number of generic licenses held by each bidder reflects its financial resources and that the financial resources of each bidder would determine the likelihood of its

success, the same result likely would arise if the Commission does not process assignment round bids on a per-license basis, as USCC proposes below.

Turning back to the example, if we assume Bidder 1 has its frequency preferences honored first, Bidder 1 likely would be assigned blocks A, B, and C – *i.e.*, Assignment Plan 1 or 2 above – because its average impairment for those three licenses would be the lowest of the feasible assignment plans for this PEA. Thus, Bidder 2 would be assigned blocks E and F, leaving block D for Bidder 3. Under this assignment plan (*i.e.*, Assignment Plan 2 above), the average impairment for each bidder’s license(s) would be: Bidder 1 (2.67%), Bidder 2 (2%), and Bidder 3 (8%). In stark contrast, if the Commission utilizes USCC’s proposed fourth objective, the average impairment for each bidder’s license(s) would be: Bidder 1 (4%), Bidder 2 (3%), and Bidder 3 (2%). In other words, this fourth objective would not make any bidder much worse off, while also ensuring far more equitable frequency assignments for the other bidders.

In addition, if more than one assignment plan satisfies all of the objectives included in the optimization procedure, and if the Commission intends to permit bidders to express their specific frequency preferences via bidding or otherwise rather than apply a random tiebreaker in this situation, USCC encourages the Commission to disclose to each bidder, but not publicly, the different blocks, or combinations of blocks, that could be assigned to that bidder under these feasible assignment plans. USCC emphasizes that, under this proposal, the Commission would only disclose to a bidder the blocks that could be assigned to that specific bidder. In other words, bidders would not be informed of the possible block assignments for other bidders; nor would they know the number of bidders holding generic licenses for the PEA, or the number or category of the licenses held by other bidders.

USCC believes these limited disclosures would benefit every assignment phase bidder because they would reduce, potentially to a large extent, the number of blocks or block combinations that each bidder must analyze in order to determine their frequency preferences

(and, potentially, bid amounts). USCC also believes that such disclosures would be particularly beneficial to smaller bidders, who generally lack the personnel, or consultants, necessary to sufficiently study an unnecessarily large number of potential block assignments. While these disclosures could occur at any time prior to the applicable assignment round, if the Commission intends to conduct the assignment optimization process for every PEA prior to the start of the assignment phase, USCC believes the best approach would be to provide every bidder this information with respect to every PEA for which it holds generic licenses at that time. Doing so would provide bidders, and in particular smaller bidders, with the time they will likely require to confidently participate in the assignment phase.

Second, USCC urges the Commission to process assignment round bids on a per-license basis by apportioning each bid among the number of licenses to which it relates. More specifically, under this proposal, the single bid submitted by each bidder in an assignment round would be divided by the total number of generic licenses held by the bidder for the PEA or group of PEAs involved in that assignment round.⁴³ If the Commission instead bases the outcome of each assignment round on the total amount a bidder indicates it is willing to pay for all of its preferred frequency blocks in a PEA or group of PEAs, as the Commission appears to propose,⁴⁴ this would create a significant advantage for those bidders, most likely the nationwide carriers, who would likely have acquired a greater number of generic licenses in the clock phase.

⁴³ Alternatively, if the Commission adopts only its two lead grouping proposals, it could instead divide each bid by the total number of generic licenses held by the bidder in each PEA because, under those proposals, every bidder would hold the same number and category of generic licenses in every PEA included in the group. *See Public Notice*, 29 FCC Rcd at 15813. However, if the Commission also adopts its further proposal “to group PEAs together when to do so will not create any conflicting interests among bidders,” *id.*, it would need to divide each bid by the total number of licenses held by each bidder across all of the PEAs included in a group because some of the bidders would have not be holding generic licenses for some of the PEAs, or would be holding fewer generic licenses in some PEAs than in other PEAs in the same group. *See id.* at 15898, Appendix H (providing an illustration of how the PEAs within a group could have different generic license holders as a result of this third grouping proposal).

⁴⁴ *See id.* at 15814-15.

As a simple example of the advantage the Commission's proposed approach would provide certain bidders, assume that an assignment round consists of a single PEA for which there are six Category 1 licenses, and that three different bidders acquired these six licenses during the clock phase. Specifically, Bidder A holds three of these generic licenses, Bidder B holds two, and Bidder C holds one. Assume further that Bidders A and B assign per-license values of \$100 and \$105, respectively, to their frequency preferences, while Bidder C is willing to pay \$110 to have its preferred frequency block assigned to its single generic license. Thus, for this assignment round, Bidder A would submit a single bid of \$300, Bidder B would bid \$210, and Bidder C would bid \$110.

In this example, if the Commission were to consider only the total bid amount submitted by each bidder, Bidder A's frequency preferences would be honored over those of both Bidder B or C even though, on a per-license basis, Bidder A bid less than both of those bidders. Moreover, to the extent that Bidder B's frequency preferences remained at least partly feasible after Bidder A was assigned its preferred blocks, Bidder B's preferences would be honored over those of Bidder C even though Bidder B assigned a lower per-license value to its frequency preferences.

In contrast, USCC's proposal would ensure that the bidder which assigns the highest value, on a per-license basis, to its preferred frequency block would have its preferences honored. Accordingly, this approach would better accomplish the Commission's goal of "facilitating the assignment of specific frequencies to the highest-valuing users."⁴⁵ As a simple example of how the assignment round bid processing would work under USCC's proposal, suppose the same factual scenario used in the example above. This time, however, before determining the winning bidder for this round of the assignment phase, the auction system would

⁴⁵ *Incentive Auction Order*, 29 FCC Rcd at 6780.

divide each bid by the number of licenses to which it relates. Thus, the auction system would use \$100 for Bidder A (*i.e.*, \$300 / 3 licenses), \$105 for Bidder B (*i.e.*, \$210 / 2 licenses), and \$110 for Bidder C. Here, Bidder C's frequency preference would be honored first because it was willing to pay the most to have a particular block assigned to an individual generic license. Bidder B's frequency preferences would then be honored, to the extent feasible, prior to assigning specific blocks to Bidder A.

Although USCC believes the Commission intends to "package" assignment round bids together in determining the winning frequency assignments for a PEA, in most situations, this approach would fail to address the inherent advantage that would be enjoyed by bidders holding multiple generic licenses if their bids are not processed on a per-license basis. For instance, some of the generic license holders for a PEA may decide not to submit assignment round bids, which would cause the auction system to assign a bid value of zero for these bidders.⁴⁶ Similarly, if a bidder expresses a preference via bidding for only some of the available spectrum blocks, the auction system would assign a bid value of zero to the other blocks for this bidder.⁴⁷ As a result, the "package" of bids that would be compared to a bid specifying multiple preferred blocks often would include one or more bid values of zero, which would make it very unlikely that the bidders whose bids were packaged together will have their frequency preferences honored.

Moreover, even if such a "package" of bids did not include any zero bid values, under the Commission's proposed approach, each bidder's likelihood of success would depend in large part on the actions of other bidders. Thus, as in the example above, a bidder that assigned the highest value, on a per-license basis, to its preferred block(s) may not have its preference honored solely because others submitted conservative bids. Notably, this dependency that would

⁴⁶ See *Public Notice*, Appendix H, 29 FCC Rcd at 15896.

⁴⁷ See *id.*

arise under the Commission's proposal even could lead to intentionally restrained bidding by some generic license holders, similar to the "threshold problem" that has been shown to arise in auctions that include package bidding procedures.⁴⁸

Third, USCC urges the Commission to utilize a random sequencing mechanism for the assignment rounds. Under the Commission's current proposal, frequencies for all of the "high-demand" PEAs would be assigned sequentially in descending order of weighted-pops prior to assigning frequencies in any of the non-high-demand PEAs, which also would be sequenced in descending order of weighted-pops.⁴⁹ The likely consequence of this sequencing approach would be that most, if not all, smaller bidders would not even participate in this phase of the auction until the later assignment rounds given that these bidders are unlikely to hold generic licenses for any of the high-demand PEAs, and many may seek to only acquire licenses for PEAs with population levels well outside the group of high-demand PEAs. In other words, the Commission will have assigned frequencies for forty, and perhaps many more, PEAs before most smaller bidders have an opportunity to try to indicate their preferred frequency assignments through their assignment round bids. By that time, the largest bidders will have firmly established frequency preferences based on the outcomes of dozens of earlier assignment rounds. As a result, these bidders likely would be willing to pay a premium in these later rounds to ensure they are assigned the same spectrum blocks in these smaller PEAs. While there is nothing inherently wrong with the largest bidders pursuing this course of action, their inflated bids in the later rounds clearly would magnify the competitive disadvantage that assignment phase bidding already would create for smaller bidders.

⁴⁸ See *Auction of Regional Narrowband PCS Licenses Scheduled for September 24, 2003*, Public Notice, DA 03-1065, p. 4 (Apr. 3, 2003) (defining the "threshold problem" as "the difficulty that multiple bidders for the single licenses ... that constitute a larger package may have in outbidding a single bidder on the larger package, even though the multiple bidders may value the sum of the parts more than the single bidder values the whole.").

⁴⁹ See *id.* at 15814.

The Commission's sequencing proposal also would provide the largest bidders with a significant "informational advantage" due to their participation in a large number of assignment rounds before smaller bidders first enter this phase of the auction. Because this will be the first spectrum auction in this country that includes an assignment phase, bidders currently lack the information and experience needed to accurately estimate the bid amount that will provide them with a reasonable chance of success. However, each assignment round in which a bidder participates will provide it with more of this requisite information and experience. Even if the Commission does not intend to disclose others' assignment round bids, at a minimum, a bidder will know the amount of its bid and whether that bid was successful. In addition, if the Commission intends to also disclose to each bidder after every round the payment actually due for that round, a successful bidder would acquire information regarding others' bid amounts because, under the proposed "second price" approach, the payment actually due for an assignment round will be equal to the next highest bid or set of bids for the same frequency preference.

Accordingly, by the time smaller bidders will be preparing their first assignment round bids, the largest bidders, against whom they often will be competing, will be far more capable of engaging in informed decision-making. USCC also notes that the format of the assignment phase would further increase this informational advantage enjoyed by the largest bidders. Specifically, because bidders will only submit a single bid with respect to each PEA, they will not have an opportunity to increase their bids based on the demand expressed by other bidders. Smaller bidders also generally lack the resources necessary to submit an excessively high bid in order to ensure a beneficial outcome. USCC recognizes that a "second price" approach will reduce the risk that a bidder will fall victim to the "winner's curse" – *i.e.*, vastly overestimate the amount needed to attain its preferred frequency assignments. It would not, however, eliminate this risk because other bidders also may overbid due to their inexperience with this type of

bidding, or one of the largest carriers may submit an exorbitant bid because of its entrenched frequency preferences from earlier rounds, or potentially for anti-competitive purposes.

A random sequencing mechanism therefore is needed to help level the playing field if the Commission insists on incorporating bidding into the assignment phase. With random sequencing, every bidder, regardless of size, would have the same probability of participating in the earliest assignment rounds. Smaller bidders, therefore, would not invariably be competing against bidders willing to pay a significant premium in order to be assigned frequencies matching those they already were assigned in dozens of other PEAs. Smaller bidders also would not face as great of an informational disadvantage as they would under the Commission's proposal. For these reasons, although smaller bidders will never be able to outbid a determined nationwide carrier, random sequencing could at least increase the odds that these bidders are assigned their preferred spectrum blocks in some PEAs.

Moreover, if smaller bidders are successful in acquiring their preferred frequencies in some of the early rounds, they too may be willing to pay a premium in later rounds in order to acquire the same blocks in other PEAs. At a minimum, this would increase the likelihood that they will continue to submit bids throughout the assignment phase, and that these bid amounts will be higher than they otherwise would have been. In turn, if the Commission adopts its proposal to calculate assignment round payments using a "second price" approach, this increased bidding activity by smaller bidders would lead to increased overall revenue from the assignment phase. In contrast, if a smaller bidder is excluded from all of its preferred frequency blocks during the first assignment rounds in which it participates as a result of large bidders with entrenched frequency preferences, the smaller bidder very well could decide to refrain from any further bidding in subsequent rounds because its dual objectives of acquiring particular frequencies and having cross-PEA contiguity would no longer be compatible.

Another benefit of random sequencing is that it would help to allay lingering interoperability concerns. Smaller carriers are grateful to the Commission for adopting a robust interoperability requirement for the 600 MHz band. However, even with that requirement in place, these carriers still have concerns that, if the largest carriers' 600 MHz licenses are all located within the same frequency range, this would provide an incentive to undermine the interoperability requirement to at least some extent. For instance, it is at least theoretically possible to "optimize" consumer devices with respect to only a portion of a spectrum band. In addition, concerns have arisen recently that apps could be programmed to only work on particular frequencies. If the apps programmed in this way are important enough to consumers, this obviously would undermine the Commission's interoperability requirement, even though it may not violate that requirement. Random sequencing, as well as USCC's other proposals detailed above, would help to ensure that no bidder acquires only licenses covering a particular swath of 600 MHz spectrum. As a result, these proposals would make it far more difficult, if not impossible, for carriers to take actions which undermine the spirit and intent, but do not necessarily violate the letter, of the 600 MHz interoperability requirement.

Significantly, in addition to the various benefits noted above, random sequencing also would permit bidders "to incorporate frequency assignments from previously-assigned areas into their bid preferences for other areas"⁵⁰ to the same extent as the Commission's proposed sequencing mechanism. Given that the advantages of having "contiguous blocks across adjacent PEAs"⁵¹ arise regardless of how heavily-populated these PEAs happen to be, USCC questions how a sequencing approach based on weighted-pops would better address bidders' preference for cross-PEA contiguity. The Commission briefly notes its belief that a weighted-pops sequencing

⁵⁰ *Id.*

⁵¹ *Id.*

approach will “enable bidders to establish a ‘footprint’ from which to work,”⁵² but this alleged benefit appears to be based on the arguments certain carriers made in the underlying rulemaking proceeding in support of package bidding.⁵³ Here, bidders will already be committed to purchasing the licenses they won in the clock phase. Thus, unlike this claimed need for package bidding, the forward auction’s frequency assignment procedures have nothing to do with a carrier’s desire to either acquire all of its desired licenses or none of those licenses. Accordingly, the early assignment rounds will establish a “footprint” for bidders to base their subsequent frequency preferences regardless of whether these rounds involve the largest or smallest PEAs. Further, to the extent random sequencing may make it slightly more difficult for bidders to attain cross-PEA contiguity, several nationwide carriers explained in their comments that this could be remedied post-auction through secondary spectrum market.⁵⁴

Finally, USCC notes a concern related to the Commission’s grouping proposal. Specifically, because a single assignment round bid, as well as the same optimization process, would apply to multiple PEAs under that proposal, each bidder would be assigned the same block(s) in every PEA included within one of the groupings. As a result, if a bidder desires a particular block in one PEA because it lacks impairments, the bidder would have no choice but to also acquire that same block in one or more additional PEAs even if the block is significantly

⁵² *Id.*

⁵³ *See, e.g.,* Reply Comments of AT&T Inc. at 56 (arguing that, because “a carrier might well decide that it makes no economic sense to invest in 600 MHz technology *at all* if it does not win 600 MHz spectrum rights in most of the geographic areas within its footprint,” package bidding are needed so the carrier will not be forced to pay “substantial sums for 600 MHz licenses in some areas if it does not win them throughout most of its footprint”) (emphasis in original).

⁵⁴ *See* Comments of Verizon at 46 (“The Commission should then rely on the secondary market to sort out discrepancies between EAs, rather than on competitive bidding via a Commission auction.”); Reply Comments of T-Mobile USA, Inc. at 52, fn. 187 (“If significant economies exist to having similar frequencies in every MEA, auction winners could use secondary market exchanges to achieve single-block operations...”).

more impaired in some or all of those PEAs.⁵⁵ Moreover, even if a certain block has the same level of impairment in all of the grouped PEAs, the impaired portions in one PEA could be concentrated in the areas most valued by a particular bidder, while the opposite is true in another PEA. In this situation as well, the grouping proposal would prevent the bidder from acquiring an “ideal” license without also acquiring a license that may have very little value to that bidder. USCC also notes that the potential for this to occur, and the magnitude of this problem, would be greater with respect to Category 2 licenses. At this time, USCC simply notes this concern because it has not had opportunity to study this issue to the extent necessary to determine whether the benefits of the Commission’s grouping proposal may outweigh this potential harm.

III. USCC FULLY SUPPORTS THE COMMISSION’S WELL REASONED CONCLUSION NOT TO PERMIT ANY FORM OF PACKAGE BIDDING

In the underlying rulemaking proceeding, USCC detailed how the use of package bidding procedures in the forward auction could virtually eliminate the opportunity for smaller bidders to acquire 600 MHz licenses, while not providing any substantial public interest benefits.⁵⁶ USCC therefore appreciates, and fully supports, the Commission’s tentative conclusion not to permit any form of package bidding in the forward auction, including a “major markets” aggregation approach.⁵⁷ USCC agrees with the Commission that such an approach “would discourage bidders, particularly small or regional entities with an interest in only a subset of ‘major markets,’ from participating in the forward auction.”⁵⁸ Further, a major markets aggregation approach, like any form of package bidding, would conflict with the Commission’s “goal of

⁵⁵ USCC notes that, because the Commission’s grouping proposal does not require that the PEAs be adjacent to one another, the level of impairment in different PEAs for the same block could be quite different, subject to the range of impairment permitted for each category of generic licenses.

⁵⁶ See, e.g., Comments of USS at 51-57; Reply Comments of USCC at 38-41.

⁵⁷ See *Public Notice*, 29 FCC Rcd at 15808-09.

⁵⁸ *Id.* at 15809.

encouraging entry by providers that contemplate offering wireless broadband service on a localized basis.”⁵⁹

USCC further agrees with the Commission that “offering single PEA licenses in the largest markets will best promote entry by the broadest range of potential wireless service providers.”⁶⁰ Although many smaller bidders would have preferred that the 600 MHz band be licensed on the basis of CMAs, these bidders will, in most cases, be capable of competing for PEA-based licenses.⁶¹ Many of these bidders could not, however, realistically compete for license areas larger than PEAs, which would be the effective result if the Commission permits package bidding. In other words, package bidding would undermine the Commission’s pro-competitive objective when it licensed the 600 MHz band on the basis of PEAs.⁶² At the same time, large bidders do not require package bidding to attain the efficiencies associated with expansive service areas. As the Commission explained, because PEAs “nest” into EAs, MEAs, and REAGs, these license areas will permit nationwide carriers to “aggregate licenses to create the service area they desire, allowing them to take advantage of economies of scale.”⁶³

Conducting the forward auction without package bidding also would be consistent with the record in the underlying rulemaking proceeding. Specifically, a vast majority of commenters joined USCC in strongly opposing the use of any form of package bidding in the forward

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ See *Incentive Auction Order*, 29 FCC Rcd at 6599 (“[M]ost comments support PEAs as an alternative or compromise solution...”).

⁶² See Comments of Blooston Rural Carriers, GN Docket No. 12-268, p. 8 (Jan. 9, 2014) (stressing that package bidding would “effectively ‘undo’ any benefit of creating smaller geographic licenses sizes...”); see also Reply Comments of CCA at 10 (“[The Spectrum Act’s] clear intent to support participation by smaller competitive carriers could be unduly compromised through combinatorial or package bidding, discouraging participation and reducing forward auction revenues.”).

⁶³ *Incentive Auction Order*, 29 FCC Rcd at 6600.

auction.⁶⁴ Much of this opposition stemmed from the fact that package bidding “procedures would create significant and unwarranted biases in favor of the largest bidders.”⁶⁵ For instance, commenters explained how package bidding greatly increases the likelihood that large bidders will tie-up multiple licenses in large package bids to the exclusion of smaller bidders focused on individual license areas.⁶⁶ Not only do smaller bidders lack the resources necessary to directly compete for a large package of licenses,⁶⁷ they typically have targeted auction strategies, focusing on one or a small number of individual licenses. Smaller bidders, therefore, generally have neither the ability nor the desire to compete for a package of licenses.

Although the bids for individual licenses theoretically could defeat a package bid, for a variety of reasons this outcome is highly unlikely. For instance, package bidding gives rise to the widely-acknowledged “threshold problem,” which occurs because bidders for individual licenses may be restrained in their bidding in the hope that bidders for other individual licenses included in the same package will increase their bids enough to defeat the package bid. Moreover, even with robust bidding by these carriers, the package bid will almost always triumph because the individual bids often will relate to only a portion of the licenses included in the package. In this situation, because the individual bids would apply to fewer licenses, the

⁶⁴ See, e.g., Letter from C. Sean Spivey, Asst. General Counsel, CCA, Caressa D. Bennet, General Counsel, RWA, Jill Canfield, Asst. General Counsel, NTCA, and John A. Prendergast, Blooston, Mordkofsky, Dickens, Duffy & Prendergast, LLC, Counsel to Blooston Rural Carriers, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 12-268 & 13-185, p. 3 (Mar. 11, 2014) (“There is near unanimity in the record against package bidding, with only the two largest carriers supporting its use.”).

⁶⁵ Comments of Leap/Cricket at 9; see Comments of CCA, GN Docket No. 12-268, p. 7 (Jan. 9, 2014) (“CCA PEA Comments”) (“[P]ackage bidding can result in significant competitive harm.”); RWA NPRM Comments at 9 (“[P]ackage bidding would be helpful only to nationwide carriers seeking broad swaths of spectrum and decidedly unhelpful to small carriers.”); Comments of MetroPCS Comments at 14 (“[C]ombinatorial bidding [] would harm small, rural, and competitive carriers and prospective new entrants.”); Reply Comments of King Street Wireless, L.P. at 6 (“[P]ackage bidding provides an advantage to larger bidders.”).

⁶⁶ See CCA PEA Comments at 7 (“Packages [] can lead to foreclosure because smaller carriers might be unable to bid on a package of licenses, even if they would have bid on certain individual components of the package.”); Comments of MetroPCS at 14 (“[C]ombinatorial bidding allows large incumbent licensees to acquire spectrum at the expense of new entrants who may have a more targeted approach to a specific geographic area.”).

⁶⁷ See Comments of MetroPCS at 13 (noting that package bidding permits the largest carriers “skew [auction] outcomes with superior purchasing power.”); Reply Comments of King Street Wireless at 6-7 (“[O]nly larger carriers have the access to capital necessary to take advantage of this option.”).

aggregate amount of those bids would not defeat the package bid even if the valuations assigned to some of the licenses by the individual bidders exceeded the valuations the package bidders assigned to the same licenses.⁶⁸ In other words, in addition to significantly disadvantaging smaller bidders, package bidding also can “allow larger bidders to acquire certain licenses at a discount.”⁶⁹

As a result of the significant biases created by these procedures, the inclusion of any form of package bidding in the forward auction likely would decrease participation by all but the largest carriers. In turn, this decreased participation would lead to reduced bidding competition, which would decrease overall auction revenue.⁷⁰ The possibility that package bidders will receive certain licenses at a discount obviously also could lead to lower auction revenues. Even worse, because package bidding would reduce the odds that small and regional carriers acquire 600 MHz licenses, ultimately it would be those living in rural areas, where these carriers typically concentrate their build-out efforts, who would be harmed by these procedures.

Finally, USCC notes that package bidding also would add yet another layer of complexity to what will already be the most complicated spectrum auction ever conducted by the Commission. As T-Mobile explained, while package bidding “poses a challenging auction design problem even for relatively straightforward auctions,”⁷¹ this harm would be “magnified in

⁶⁸ See Comments of Cellular South, Inc., GN Docket No. 12-268, p. 4 (Jan. 9, 2014) (“[P]ackage bidding enables the largest operators to foreclose competition on a substantial number of licenses that, if auctioned individually, might attract more and higher bids by smaller, regional operators or other auction participants.”).

⁶⁹ Comments of MetroPCS at 13; see Comments of Leap/Cricket at 9 (“[P]ackage bidding may enable a large carrier to obtain valuable licenses at a significant discount from the actual prices at which it values the individual licenses.”); Comments of CCA at 18 (“Combinatorial bidding tends to create opportunities for the largest carriers to ‘game’ the system to acquire highly desirable licenses at a discount...”).

⁷⁰ See Letter from Rebecca Murphy Thompson, Competitive Carriers Association, to Marlene Dortch, Secretary, FCC, GN Docket No. 12-268, p. 2 (Nov. 27, 2013) (“Package bidding curtails competitive carriers’ participation in auctions and can lead to a reduction in overall revenue in certain instances.”); Reply Comments of Cellular South, Inc. at 5 (“Allowing package bidding will lower auction proceeds...”).

⁷¹ Comments of T-Mobile USA, Inc., GN Docket No. 12-268, p. 2 (Jan. 9, 2014).

the context of the incentive auction's existing complexity."⁷² Similarly, when the Commission previously stated its intent not to permit package bidding into the forward auction, it noted that such procedures "could bring unnecessary complexity into an already complex auction."⁷³

Various commenters, including CCA, also explained how this added complexity likely would further "bias the auction in favor of larger carriers with greater resources."⁷⁴ In sum, because package bidding would cause significant public interest harms without any countervailing benefits to the vast majority of bidders, or to the public, the Commission should adopt its tentative conclusion not to permit any form of package bidding in the forward auction.

IV. THE PROPOSED \$1.25 AVERAGE PRICE PER MHz-POP IS A REASONABLE BENCHMARK FOR THE FIRST COMPONENT OF THE FINAL STAGE RULE

USCC supports the Commission's proposed price benchmark for the first component of the final stage. As the Commission notes, Auction 73, held in 2008 for 700 MHz licenses, generated average prices per MHz-pop very close to the \$1.25 price benchmark it proposes for the forward auction.⁷⁵ Given that Auction 73 also offered licenses for "greenfield" below-1-GHz spectrum, USCC believes it is appropriate to base the reserve price here on the results of that auction. While USCC agrees with the Commission that "spectrum prices generally appear to have increased" since Auction 73, it also agrees that there is a certain level of "inherent price uncertainty" present in every spectrum auction.⁷⁶ Accordingly, USCC believes that it would be inappropriate to base the price benchmark here on the results of Auction 73 *plus* a subjective premium intended to account for an apparent, but largely unknown, upward trend in the spectrum

⁷² *Id.* at 3; *see* MetroPCS NPRM Comments at 13 ("[C]ombinatorial combinatorial bidding would add an unnecessary layer of complexity whose benefits are outweighed by the costs.").

⁷³ *Incentive Auction Order*, 29 FCC Rcd at 6778.

⁷⁴ Comments of CCA at 18; *see* Reply Comments of Leap/Cricket at 4 ("[C]ombinatorial bidding procedures would add significant complexity to an already complex process, and in doing so would disadvantage small, midsize, and regional carriers.").

⁷⁵ *See Public Notice*, 29 FCC Rcd at 15770.

⁷⁶ *Id.*

prices since 2008. This is especially so given that even many of the Category 1 licenses offered in the forward auction may be impaired to a greater extent than most of the 700 MHz licenses offered in Auction 73.

USCC also supports the Commission’s proposed method for determining whether forward auction revenue satisfies the proposed \$1.25 price benchmark. First, USCC agrees that the Commission should determine whether the forward auction has satisfied the price benchmark based only on the average prices for 40 largest PEAs. As the Commission notes, these markets “have usually generated the highest average prices per MHz-pop in prior spectrum license auctions.”⁷⁷ Given that the second, rather than the first, component of the final stage rule ensures that the revenue from the forward auction is sufficient to cover all of the mandatory costs and expenses set forth in the Spectrum Act, there is no need to require that the average price across all of the PEAs satisfies the price benchmark. Moreover, because licenses in the largest markets generally reach their final prices earlier in an auction,⁷⁸ a further benefit of this approach is that the average prices for these PEAs should cause auction revenue to satisfy the final stage rule earlier in the auction than otherwise, which would cause the spectrum reserve to also be triggered at that earlier time.

Second, USCC agrees that only the average clock price for Category 1 licenses in the high-demand PEAs should be used to determine whether the price benchmark has been satisfied.⁷⁹ As the Commission notes, because it based the proposed price benchmark on the results on Auction 73, and because the Category 2 licenses will have far greater impairments than the vast majority of licenses offered in Auction 73, it would not be appropriate to include the clock prices for Category 2 licenses in the determination of whether the average clock prices

⁷⁷ *Id.*

⁷⁸ *See id.*

⁷⁹ *See id.* at 15771.

satisfy the proposed benchmark. Finally, USCC agrees that the Commission should use gross bids to calculate the average price of the Category 1 licenses in the high-demand PEAs.⁸⁰ As noted, there is no need to take a conservative approach based on net bids, as the Commission proposes with respect to the second component of the final stage rule, since the first component is not tied to the statutory requirements.

As discussed above, USCC believes that an average price of \$1.25 per MHz-pop represents a reasonable price benchmark for the forward auction. Accordingly, USCC urges the Commission not to increase this price benchmark based on the results of Auction 97.⁸¹ At least at this time, it is impossible to know whether the significant revenue generated by Auction 97 was an anomaly, and thus whether the high license prices in that single auction can be used to accurately predict the outcomes of future auctions. USCC also notes that the Commission's expressed intent to adopt a reserve price for the forward auction which "reflect[s] a 'floor' and not a 'ceiling' of the 'competitive values' of these licenses"⁸² weighs against increasing the proposed \$1.25 price benchmark.

Perhaps most significantly, a higher price benchmark would risk thwarting the various public interest benefits that otherwise should arise from the spectrum reserve.⁸³ Specifically, because the spectrum reserve will not be triggered until the final stage rule has been satisfied, an unnecessarily high price benchmark would, at a minimum, delay the implementation of the spectrum reserve. As T-Mobile previously stressed, any delay in triggering the spectrum reserve

⁸⁰ *See id.*

⁸¹ *See id.* at 15770, n. 117 (noting that the results of Auction 97 "may provide additional data to inform [the Commission's] ultimate decision on this matter).

⁸² *Id.* at 15770.

⁸³ *See Mobile Spectrum Holdings Order*, 29 FCC Rcd at 6209 ("[A]ccess to licenses for sufficient spectrum in the 600 MHz Band by providers that do not already hold licenses for significant amounts of below-1-GHz spectrum is important to the preservation and promotion of competition in the mobile wireless marketplace now and in the future."); *id.* at 6264 (Statement of Chairman Thomas E. Wheeler) ("Most importantly, this reserve will make sure that consumers are more likely to benefit directly from increased competition in all parts of the country – rural, suburban and urban areas included.").

would allow for “the very type of foreclosure that the Commission has found would likely occur in the absence of its reserved license framework.”⁸⁴ For instance, CCA has explained that, as a result of an unnecessarily high price benchmark, “bidding by the dominant providers could shut out the smaller bidders and cause them to drop out of the auction or lower their eligibility” before the spectrum reserve ever comes into existence.⁸⁵ In turn, this reduced activity by reserve-eligible bidders would result in fewer reserved licenses because the actual amount of reserved spectrum in a given PEA will be based on the demand by these bidders when the final stage rule is satisfied. Finally, USCC agrees with CCA that another benefit of adopting a price benchmark no greater than \$1.25 is that past auctions have demonstrated that lower reserve prices “stimulate participation by a wide variety of carriers, aggressive bidding, and higher auction revenues.”⁸⁶

V. THE COMMISSION SHOULD BRIEFLY “PAUSE” FORWARD AUCTION BIDDING AFTER ANY INCREASE IN THE ACTIVITY REQUIREMENT TO PARTLY COMPENSATE FOR THE PROPOSED LACK OF ACTIVITY RULE WAIVERS

As the Commission notes, in previous multiple round auctions, it has provided each bidder with a specified number of activity rule waivers.⁸⁷ Such waivers provide an important safety valve because they allow a bidder “to avoid the loss of bidding eligibility in the event that exigent circumstances prevent it from bidding in a particular round.”⁸⁸ Notably, when the

⁸⁴ Petition for Reconsideration, T-Mobile USA, Inc., WT Docket No. 12-269, p. 14 (Aug. 11, 2014) (“*T-Mobile Recon Petition*”); see Reply to Oppositions of CCA, WT Docket No. 12-269, p. 4 (Oct. 6, 2014) (“[A]ny delay in triggering the reserve increases the opportunities for foreclosure, which the Commission has found would likely occur in the absence of its reserved license framework.”).

⁸⁵ CCA, *Pricing in the 600 MHz Incentive Auction*, Docket Nos. 12-268 & 12-269, p. 9 (Sept. 15, 2014).

⁸⁶ Petition for Reconsideration, CCA, GN Docket No. 12-268, p. 9 (Sept. 15, 2014); see *T-Mobile Recon Petition* at 17, n. 63 (noting that reasonably low price benchmark would “reduce[] the potential harms associated with a price per MHz-POP threshold, including risking auction failure, reducing the amount of spectrum for mobile broadband, and harming downstream wireless competition”).

⁸⁷ See *Public Notice*, 29 FCC Rcd at 15809.

⁸⁸ *Auction of Advanced Wireless Services Licenses Scheduled for November 13, 2014; Comments Sought on Competitive Bidding Procedures for Auction 97*, Public Notice, 29 FCC Rcd 5217, 5229 (2014).

Commission first adopted its competitive bidding procedures, it described the availability of these waivers as a “critical element” of its activity rule framework because it “would not wish to reduce a bidder’s eligibility due to an accidental act or circumstances not under the bidder’s control.”⁸⁹

Activity rule waivers are particularly important to smaller bidders. Because these bidders typically have fewer resources to devote to an auction, they may require more time than a large bidder with a “war room” full of auction experts to accurately value licenses and plan their bidding strategies. In addition, because smaller bidders often have a firmly-fixed budget, they need sufficient time to carefully analyze all of the potential consequences of their bidding activity prior to placing bids. As a result of these circumstances largely outside of their control, smaller bidders are more likely to find it necessary to withhold a certain level of bidding activity in a few rounds of an auction. Consequently, smaller bidders tend to be more reliant on activity rule waivers, and thus would be disadvantaged to a greater extent in an auction where bidders cannot rely on these waivers to preserve their bidding eligibility.

Despite this demonstrated need for activity rule waivers, USCC recognizes that an ascending clock auction format weighs against the use of these waivers because of the need to maintain a consistent level of demand.⁹⁰ USCC therefore understands the Commission’s proposal not to provide for activity rule waivers in the forward auction.⁹¹ However, in the absence of such waivers, USCC urges the Commission to take other actions designed to reduce the likelihood that bidders will have their eligibility reduced as a result of time constraints largely outside of their control.

⁸⁹ *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Second Report and Order, 9 FCC Rcd 2348, 2372 (1994).

⁹⁰ See *Public Notice*, 29 FCC Rcd at 15809-10.

⁹¹ See *id.* at 15809.

For instance, USCC proposes that the Commission provide bidders with additional time each time it increases the activity requirement during the course of the forward auction. More specifically, the Commission should briefly “pause” the forward auction both before and after the first round following an increase in the activity requirement. Before a bidder can confidently resume bidding after the activity requirement for an auction has been increased, it requires time to adjust its bidding strategy to ensure that it will comply with the higher activity requirement, and thus avoid having its eligibility reduced. In turn, because every bidder must increase its bidding activity in this way in order to maintain its current eligibility, often there is a surge of new bids during the first round after the Commission increases an auction’s activity requirement. Bidders therefore require additional time prior to the start of bidding in the subsequent round to analyze all of these new bids and adjust their strategies accordingly.

USCC believes that a one to two hour “pause” before and after this round would be sufficient to allow bidders to adjust their strategies after an increase in the activity requirement and the subsequent bidding surge. This proposal would have a minimal effect on the overall length of the auction while reducing the likelihood that bidders, and in particular smaller bidders, will lose eligibility due to the lack of activity rule waivers. USCC notes that such pauses will become increasingly important as the forward auction progresses. For instance, because the clock prices, and thus the percentage-based increases to those prices, will continue to increase during the course of the auction, it will be during the later rounds, “when the consequences of bidding decisions are greatest, that bidders [will] need the most time to deliberate.”⁹² In addition, because lower activity requirements allow bidders greater flexibility in maintaining their eligibility,⁹³ once the activity requirement for the forward is set at a very high percentage as

⁹² *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Fifth Report and Order, 9 FCC Rcd 5532, 5553 (1994).

⁹³ *See Auction of 700 MHz Band Licenses Scheduled for January 24, 2008; Notice and Filing Requirements, Minimum Opening Bids, Reserve Prices, Upfront Payments, and Other Procedures for Auctions 73 and 76*, Public

