

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Auction of H Block Licenses in the 1915- 1920 MHz and 1995-2000 MHz Bands;)	AU Docket No. 13-178
Comment Sought on Competitive Bidding)	
Procedures for Auction 96)	

COMMENTS OF SPRINT CORPORATION

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August 5, 2013

SUMMARY

Congress has charged the Commission with freeing up spectrum for mobile broadband services and to use auction revenues to fund FirstNet—a nationwide interoperable public safety network. The H Block has already been cleared of incumbents and is ready for the rapid deployment of new, innovative broadband services that will foster competition, consumer choice, innovation, and new jobs in America. With this in mind, the H Block auction design should efficiently and effectively assign this spectrum, while also serving the revenue-generation goals of funding FirstNet.

Accordingly, the Commission should adopt the consistently successful simultaneous multiple-round (“SMR”) auction design without adding the unnecessary complexity of a combinatorial overlay. Experimenting with hierarchal package bidding (“HPB”) in the H Block auction design will not only increase complexity and participation costs, but it will also increase uncertainty and chill bidding behavior. A set of predetermined packages will necessarily favor the aggregation needs of some—and not others—and thereby create external obstacles in the otherwise simple, proven, and efficient SMR design. A traditional SMR design uncluttered by package bidding provides participants with the necessary flexibility to adapt their strategy as the auction progresses in pursuit of their own individual and unique spectrum needs to best serve their subscribers. Selecting the optimal auction design is the first step to ensuring a successful auction that meets the goals of the Spectrum Act. As such, the Commission should adopt the well established and consistently successful SMR design for the H Block without adding an HPB overlay.

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COMMENTS OF SPRINT CORPORATION

I. INTRODUCTION

Sprint Corporation (“Sprint”) respectfully submits these comments in response to the Public Notice in the above-captioned proceeding.¹ Auctioning licenses in the paired 1915-1920 MHz and 1995-2000 MHz bands (collectively, the “H Block”) pursuant to the Middle Class Tax Relief and Job Creation Act of 2012² (“Spectrum Act”) will raise critical funds for the nationwide interoperable public safety broadband network (“FirstNet”) and will foster innovation, competition, consumer choice, and job creation—consistent with the National Broadband Plan’s recommendation to allocate additional spectrum for wireless broadband.³ With these goals in mind, Sprint submits these comments to assist implementation of a tractable, transparent, and successful H Block auction.

¹ Auction of H Block Licenses in the 1915-1920 MHz and 1995-2000 MHz Bands; Comment Sought on Competitive Bidding Procedures for Auction 96, AU Docket No. 13-178, Public Notice, DA 13-1540 (rel. July 15, 2012) (hereinafter “Public Notice”).

² See Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-6, 126 Stat. 156 (2012).

³ Connecting America: The National Broadband Plan, Recommendation 5.1 (2010) (hereinafter “The National Broadband Plan”), available at <http://www.broadband.gov>.

II. THE COMMISSION SHOULD ADOPT A TRADITIONAL SMR DESIGN TO ACHIEVE AN EFFICIENT, TRANSPARENT, UNCOMPLICATED, AND SUCCESSFUL H BLOCK AUCTION

The Commission's history in conducting auctions to award mobile wireless spectrum licenses has involved decades of experimentation and adjustments in an effort to find the optimal method of awarding licenses to the applicants who value the spectrum the most, in the most efficient manner consistent with the public interest.⁴ Initially awarding licenses through "comparative hearings," whereby the Commission attempted to assess the fitness of competing applicants on the basis of sometimes opaque criteria, the Commission later moved to the administratively simpler lottery system. While the lottery system resolved much of the complication and delays of the comparative hearing process, it was inherently inefficient because the lottery winner often was not the party that valued the license most to provide wireless communications services to the public. The inherent inefficiency of the lottery method had to be corrected by the secondary market. Analysts of these flaws in using comparative hearings or lotteries to select among mutually-exclusive applicants for wireless authorizations argued for competitive bidding as a new method to resolve the problems of complexity, inefficiency, lack of transparency, and burdensome administrative costs.⁵ In 1993, Congress granted the Commission auction authority to avoid inefficient secondary market corrections and to award licenses in the most efficient manner in the first instance, while allowing the American public to benefit from

⁴ Eduardo Porter, *From Lottery to Oligopoly in Wireless Spectrum*, N.Y. Times, June 4, 2013 (describing the progression of methods used by the Commission to award licenses), available at http://www.nytimes.com/2013/06/05/business/in-wireless-spectrum-competition-is-critical.html?pagewanted=all&_r=0.

⁵ See Evan Kwerel & Alex D. Felker, *Using Auctions to Select FCC Licensees*, Office of Plans and Policy, Working Paper Series 16, Federal Communications Commission (May 1985).

the proceeds of competitive bidding for spectrum licenses.⁶ But even as the Commission adopted its initial menu of possible auction designs in 1994, it acknowledged that different auction designs offered varying degrees of complexity, transparency, and likely revenue generation.⁷

Consumer and business demand for mobile broadband services has skyrocketed since the last time the Commission conducted a spectrum auction in 2008.⁸ In 2010, the National Broadband Plan recognized growing spectrum demand and the need to free up spectrum to promote new wireless broadband services.⁹ In 2012, the Spectrum Act established FirstNet and tasked the Commission with auctioning the H Block to help fund its construction and build-out. As the first auction in half a decade, with these overriding objectives, and with the incentive broadcast television spectrum auction soon to follow, the H Block auction is an important opportunity to adopt an efficient, transparent, uncomplicated, and highly successful auction design that can lead to the rapid deployment of mobile broadband services.¹⁰

The simultaneous multiple-round (“SMR”) auction design meets these criteria. As the Commission explained when it first adopted its auction designs, SMR bidding “generates the

⁶ In the Matter of Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, Second Report and Order, FCC 94-61 (rel. April 20, 1994) (hereinafter “Competitive Bidding Second Report and Order”).

⁷ *Id.* ¶¶ 1-10.

⁸ *Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2012-2017*, Cisco Systems, Inc. (Feb. 6, 2013), available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html (noting that global mobile data traffic grew 70% in 2012, by 2017 almost 21 exabytes of mobile data traffic will be offloaded to fixed networks, and by year’s end the number of mobile-connected devices will exceed the world’s population).

⁹ The National Broadband Plan, *supra* note 3, Recommendation 5.1.

¹⁰ Because spectrum bands have differing propagation and other characteristics affecting their utility for use in wireless broadband networks, the Commission’s balancing of the public interest objectives set forth in Section 309(j) and in the Spectrum Act will likely result in varying auction designs for the different spectrum bands included in the Spectrum Act. For example, the incentive auction of up to 120 MHz of low-band 600 MHz broadcast spectrum presents the Commission with competitive market structure considerations not present in the instant proceeding.

most information about license values” throughout an auction and gives bidders opportunities to pursue contingency strategies, increasing overall participation.¹¹ Consequently, the Commission designated SMR as its “preferred competitive bidding design” and noted that an SMR structure is most likely to “award interdependent licenses to the bidders who value them most.”¹² Indeed, the Commission has successfully used a traditional SMR design without package bidding in previous auctions for mobile broadband licenses. In each of those auctions, the Commission considered and expressly declined to adopt package bidding.¹³ In light of the extensive positive experience with “uncluttered” SMR auctions, Sprint supports adopting a standard SMR format for Auction 96 without package bidding.

By contrast, adding the proposed overlay of hierarchal package bidding (“HPB”), although not as complex as other some HPB variants,¹⁴ unnecessarily introduces complexity at the expense of “tractability, transparency, and simplicity”¹⁵ in the apparent hope of aggregation and revenue gains. While theoretically intended to maximize revenue, the increased complexity risks undermining this goal by increasing participation costs for bidders, chilling aggressive bidding, and creating “free-rider” problems. Indeed, each of these consequences potentially frustrates the broader public interest goals of promoting the rapid deployment and development

¹¹ *Id.* ¶ 106.

¹² *Id.*

¹³ *See, e.g.*, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 71, Report No. AUC-07-71-B, DA 07-30 (rel. Jan. 16, 2007) (declining to adopt package bidding in an auction with only 38 PCS licenses). If the Commission chose not to adopt package bidding in an auction with 38 licenses, then it should not do so in an auction with nearly 200 licenses. The complexity introduced by package bidding would be exponential. The Commission also declined to adopt package bidding in Auction 66, which awarded 1,087 licenses.

¹⁴ *See* Public Notice, *supra* note 1, ¶ 19 (noting that Auction 73 used packaged bidding but was inherently more complex because that auction included five different blocks of licenses, and package bidding was only permitted in one of the blocks).

¹⁵ *Id.* ¶ 22 (stating that an important goal in adopting a format for Auction 96 is to balance aggregation needs against simplicity, openness, and manageability).

of innovative and competitive broadband services, fostering economic growth, and generating sufficient revenue to fund FirstNet. In order to avoid these unintended consequences, Sprint supports the adoption of an SMR structure without package bidding. The superior flexibility and transparent format of an uncluttered SMR design is most likely to foster increased participation, while still allowing each bidder to efficiently pursue its own unique aggregation needs,¹⁶ resulting in higher auction yields.

A. An Uncluttered Simultaneous Multiple-Round Auction Design Allows for Greater Flexibility and Fosters Increased Participation

The traditional, stand-alone SMR design without a package bidding overlay allows participants to actively and efficiently pursue aggregation strategies. An SMR design would also encourage more active participation in order to advance those strategies, while giving participants the increased flexibility to adapt and hedge their bets without worrying about increased “vertical” competition from tiered package bids. Indeed, an SMR format would assist each participant in pursuing its own unique and tailored packaging strategy in the most efficient manner.¹⁷ This increased flexibility would require each participant to bid on the same unit (individual licenses) and therefore promote increased participation. The Commission noted that

¹⁶ Auctioning individual licenses provides each bidder the opportunity to advance its own packaging strategy. Creating a predetermined set of packages assumes an artificial demand that is not uniform across all bidders. Although each bidder could still theoretically advance its own aggregation strategy in a scenario with predetermined packages, introducing predetermined packages forces each bidder to “fight on multiple fronts” (i.e., at the individual and various tiered levels). These increased costs presumably balance—or even outweigh—any exposure risks created in an SMR format without package bidding. *See infra* note 17 and accompanying text.

¹⁷ While there is an exposure risk in an SMR format without package bidding—meaning that bidders who try to assemble their own packages may bid more on a license than what it is worth without its complements—every participant faces that risk equally. Conversely, package bidding will inherently advantage some and disadvantage others.

not only is a traditional SMR design administratively efficient, but it “[a]llows bidders to take advantage of [the] synergies that exist among licenses” *that are most valuable to them*.¹⁸

A traditional SMR format is tested and proven successful. The Commission has successfully used a standard SMR design without package bidding several times for broadband services, most recently in Auctions 58, 66, and 71.¹⁹ The H Block is similarly well-suited for a standard SMR design given its proximity to the rest of the PCS band, its suitability for broadband services, and the relatively small number of licenses within a single block. Indeed, the Commission noted in the H Block Report and Order that adopting similar procedures for adjacent bands “may encourage rapid deployment in and use of the spectrum.”²⁰ Under these circumstances, auctioning the H Block licenses should be a simple and straightforward process. In addition, the H Block is cleared spectrum and thus free from incumbents.²¹ There are no external obstacles to ensuring quick deployment of new mobile broadband services. With this in mind, the public interest disfavors experimenting with different auction formats and package overlays that are likely to introduce unnecessary complexity and uncertainty into the H Block license assignment process.

¹⁸ Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 58, Report No. AUC-04-58-C, DA 04-3005, 24 (rel. Sept. 16, 2004) (hereinafter “Auction 58 Rules and Procedures”).

¹⁹ In Auction 58, 24 bidders won 217 licenses, which raised \$2,253,802,000. In Auction 66, 104 bidders won 1,087 licenses, which raised \$13,879,110,200. In Auction 71, 12 bidders won 33 licenses, which raised \$14,562,000. Each of these auctions used a traditional SMR design without package bidding. *See* Auction Data Round Results, available at http://wireless.fcc.gov/auctions/default.htm?job=auctions_data.

²⁰ *See* In the Matter of Service Rules for Advanced Wireless Services H Block—Implementing Section 6401 of the Middle Class Tax Relief and Job Creation Act of 2012 Related to the 1915 MHz and 1995-2000 MHz Bands, WT Docket No. 12-357, Report and Order, FCC 13-88, ¶ 38 (rel. June 27, 2013) (hereinafter “H Block Report and Order”) (noting the significance of having the two bands adjacent to the H Block, the PCS G Block and AWS-4, previously licensed on an Economic Area basis).

²¹ *See id.* ¶¶ 157-60 (noting UTAM, Inc.’s and Sprint’s efforts to clear the lower and upper H Block, respectively). Sprint also acknowledges and supports the Commission’s adoption of a formula to determine the reimbursement amount owed to the parties for their clearing the H Block. *Id.* ¶ 160.

B. Hierarchal Package Bidding Increases Complexity and Participation Costs, Chills Aggressive Bidding, and Risks Decreased Participation and Revenue

The Commission previously concluded that the H Block spectrum would be licensed on an Economic Areas (“EA”) basis.²² The Public Notice now seeks comment on aggregations of Major Economic Areas (“MEAs”), Regional Economic Area Grouping (“REAGs”), as well as nationwide EA licenses.²³ The Public Notice describes a potential four-tiered application of HPB. The multi-level HPB overlay would create unnecessary complexity and increase uncertainty given the relatively small number of licenses available in Auction 96.²⁴ Adopting the HPB overlay would increase participation costs because the number of possible combinations of licenses/packages—and therefore bidding options—would necessarily exceed the actual number of licenses.²⁵ Even in the proposed non-overlapping HPB format, a limited set of predetermined packages would increase the number of possible bids in any given round.²⁶

By contrast, in an SMR auction without package bidding, each bidder in a given round could only place one provisionally winning bid on each individual license.²⁷ The more packages and bid options facing each participant, the more it will cost each player to evaluate its options

²² *Id.* ¶ 37.

²³ Public Notice, *supra* note 1, ¶ 18.

²⁴ While Sprint opposes the added complexity in the specific context of Auction 96, with its single block of cleared spectrum and a relatively limited number of licenses, Sprint is not opining on whether HPB's benefits could possibly outweigh the costs under different factual circumstances, such as in the context of a much larger, multiple block auction.

²⁵ See DeForest McDuff, *Analyzing Package Bidding in the FCC Auction No. 31: Upper 700 MHz Band*, 9 (2003) (hereinafter “*Analyzing Package Bidding*”), available at <http://cramton.umd.edu/econ415/project-fcc-package-auctions.pdf>. The more options/packages bidders have to consider, the more time and money they must invest to value items. Generally, in an auction with n items, an auction with package bidding yields $(2^n - 1)$ possible packages. *Id.*

²⁶ *But see* Competitive Bidding Second Report and Order, *supra* note 6, ¶103 (“Limiting combinations to a small number would reduce complexity but require a determination of the most valuable packages prior to the auction. There is no simple way to make such a determination, and if there is a wide diversity of desired license groupings, offering only a limited set *will not accommodate all preferences and may not enhance efficiency.*” (emphasis added)).

²⁷ *Id.*

and probability for success.²⁸ This may limit overall auction participation, including the participation of smaller carriers. This design would also give an advantage to sophisticated participants seeking to “game” the auction who could then win packages at significant discounts relative to their actual value. As demonstrated above, an SMR format without package bidding would avoid such inefficient results. In addition, prepackaging licenses does not allow for efficient aggregation. Setting predetermined packages of licenses presumes that each participant has the same aggregation strategy and would value the packages equally. Instead, each bidder, depending on its unique business model and existing portfolio, will have different packaging needs and strategies.²⁹ As a result, an HPB overlay would add unnecessary obstacles to the efficiencies that already exist in the SMR design, which has proven successful in past FCC auctions. The uncluttered SMR design promotes awarding licenses in the most efficient manner, without introducing the artificial obstacles to efficiency inherent in the HPB design. Awarding licenses efficiently means not only will those who win value each license the most, but it also allows licenses to be freely aggregated in the manner that is most valuable to the bidders.

Adding the HPB overlay could also decrease revenues by chilling bidding. The Public Notice states that as a result of HPB, bids from previous rounds could—in *later rounds*—be combined with new bids on individual licenses to compete with bids on packages.³⁰ This notion of increased competition will not be realized in HPB because the likely outcome is that

²⁸ Cybernomics, Inc., *An Experimental Comparison of the Simultaneous Multi Round Auction and the CRA Combinatorial Auction*, Report to the FCC (2000), available at <http://wireless.fcc.gov/auctions/conferences/combin2000/releases/98540191.pdf> (noting that on average, combinatorial auctions take two to three times as many rounds to complete compared to a non-combinatorial SMR format, increasing administrative and participation costs).

²⁹ Public Notice, *supra* note 1, ¶ 18 (acknowledging that bidders will have a “variety of business plans”). Indeed, soliciting comments on how packages should be determined will likely reflect a variety of aggregation needs for different bidders. Instead of adopting a package scheme that will likely advantage some and disadvantage others, Sprint supports having each participant pursue their packaging needs at the individual license level.

³⁰ *Id.* ¶ 21 (“Considering bids from previous rounds makes it possible for new bids on individual licenses to combine with other bids in order to compete with bids on packages.”).

participants will not aggressively bid, foreclosing the likelihood of individual license bid combinations “coming from behind” in later rounds to beat a package bid. Holding bidders accountable to losing bids from previous rounds prevents adapting strategies in real-time throughout the auction and effectively handcuffs bidders to what were initially losing bids. The specter of resurrected losing bids will cause bidders to be more cautious and adapt a less-aggressive strategy.³¹ This idea of “floating” provisionally winning bids—meaning that they could presumably change from round to round—introduces unnecessary levels of uncertainty and risk that will materialize in timid bidding practices. Conversely, in an SMR format without HPB, once a bid becomes a losing bid, it can never become a winner, giving participants the flexibility to adapt their strategy as the auction progresses.

Another disadvantage to HPB is commonly known as the free-rider problem. In a package bidding format, individual bidders must blindly rely on one another in order to raise their bids to beat a large package bid. Each individual bidder could raise its bid to beat the package bid; however, each individual bidder would prefer that the other individual bidders bear the cost of doing so. Consequently, the aggregate individual bids will likely not beat out the package, and the licenses would be awarded inefficiently. A corollary to HPB’s free-rider problem is the potential for increased gamesmanship. Whereas the free-rider problem illustrates a bidder’s desire to get individual licenses at discounted prices, HPB also allows individual bidders to dubiously submit undervalued bids to prevent other individual license bids from beating out a package bid.³² The free-rider problem and gamesmanship issues present in HPB

³¹ *Analyzing Package Bidding*, *supra* note 25, at 9.

³² *See id.* at 11-12 (describing an increased risk for strategic manipulation and other nefarious practices in a combinatorial format).

are not present in an SMR format, where winning bids on a given license are not contingent on the winning bids for other licenses.

Even though the Public Notice cites potential economies of scale in package bidding as a revenue-increasing advantage,³³ the complexity and consequences of HPB (e.g., increased costs, chilling bidding behavior, decreased flexibility, gamesmanship, etc.) also inhibit revenue-generating aggressive bidding and overall participation. The practical result is that even if the design generates higher winning bids from those who actually participate, HPB may decrease the number of competitive bidders in the first instance, as well as overall revenue. These consequences introduce obstacles to achieving efficiencies, which in turn lead to inflated or undervalued licenses.

C. The Alternative Single Round Sealed Bid Design Generates Low Revenue, Decreases Flexibility, and Frustrates Auction Goals

Sprint does not support the single round sealed bid alternative structure discussed in the Public Notice. While arguably one of the simplest auction designs, its simplicity comes at a cost. In a single round sealed bid auction, participants are offered no transparency of other bidders' activity, no flexibility in adapting their bidding strategies, and are left bidding in fear of buyers' remorse. Further, this lack of flexibility does not promote efficiencies in awarding licenses and can result in under or inflated valuation. The uncertainty that follows such inflexibility may also decrease auction participation. In a single round sealed bid auction, bidders must "guess the value that other bidders place on license in trying to submit a single bid that *just exceeds* the next highest bid."³⁴ Together, as the Commission noted in 1994 when it first adopted its auction designs, all of these characteristics should yield significantly lower revenue levels than the well-

³³ Public Notice, *supra* note 1, ¶ 18.

³⁴ See Competitive Bidding Second Report and Order, *supra* note 6, ¶ 82 (emphasis added).

established SMR design.³⁵ As an important funding mechanism of FirstNet, the H Block auction should not adopt the design *least likely* to generate revenue. Indeed, the success of Auction 96 should also not be compromised by the implementation of complex, risky, and experimental auction designs of any kind. Sprint therefore supports the adoption of the uncluttered SMR design over the alternative of single round sealed bidding.

III. STANDARD AUCTION PROCEDURES USED IN PAST SMR AUCTIONS ARE PREDICTABLE AND PROVEN, REDUCING UNCERTAINTY AND FOSTERING PARTICIPATION

In the event the Commission adopts an SMR format without package bidding for Auction 96 as discussed above, Sprint supports the standard range of auction procedures outlined in the Public Notice that have typically accompanied traditional SMR auctions in the past.³⁶ For example, Sprint supports the adoption of procedures to limit the disclosure of certain bidder-specific information until after the close of Auction 96. These limited information disclosure, or anonymous bidding, provisions have been successfully employed in past auctions.³⁷ In that same vein, Sprint also supports the adoption of a simultaneous stopping rule and the Commission's discretion to adapt the bidding schedule in order to foster an auction pace that "reasonably balances speed with the bidders' needs to study round results and adjust bidding strategies."³⁸

Sprint also supports the Commission's proposal to use aggregated license reserve prices. As discussed in previous proceedings, the Commission has looked to the amount of spectrum

³⁵ See *id.* ¶¶ 82-84 (describing, among other benefits to multiple round auctions, that increased information to bidders regarding the value others place on licenses increases the "likelihood that licenses are assigned to bidders that value them most highly and will generally yield more revenue").

³⁶ Sprint's willingness to support these complementary SMR procedures is predicated on the Commission's adoption of an SMR format without package bidding for Auction 96 and is not indicative of blanket support for similar procedures in future auctions.

³⁷ Public Notice, *supra* note 1, ¶ 24. For example, bid amounts and bid withdrawals would be disclosed after the close of every round, but the identities of bidders would only be disclosed after the close of the auction. *Id.* ¶ 25.

³⁸ *Id.* ¶¶ 32-33.

being auctioned, levels of incumbency, the size of the geographic service areas, as well as other factors to determine aggregate reserve prices.³⁹ Given that all of the available Auction 96 licenses are in the same H Block, Sprint supports the adoption of aggregated reserve prices as a means to accurately reflect overall demand. The alternative—calculating license-by-license reserve prices—would be inefficient and complicated. Additionally, Sprint supports disclosure of the aggregated reserve price in advance so that participants can efficiently tailor their bidding strategies in light of their individual packaging needs and effectively “know what they are playing for.” Finally, Sprint generally supports the post-auction payment processing procedures proposed in the Public Notice for Auction 96.

IV. CONCLUSION

For the foregoing reasons, the Commission should adopt a traditional SMR design without package bidding for Auction 96. As demonstrated above, an SMR design without package bidding strikes a balance among the goals of flexibility, transparency, complexity, and revenue generation, all towards the broader goal of serving the public interest. The uncluttered SMR design has had empirical success in a multitude of auctions of mobile broadband licenses. Introducing HPB into the equation creates uncertainty, increases participation costs, and risks inefficiently awarding licenses. As the first auction in five years, a successful Auction 96 provides the Commission with an opportunity to rebuild momentum for effective auctions in the coming years. As a result, the Commission should employ tested and proven procedures to ensure an efficient and successful H Block auction.

³⁹ See Auction 58 Rules at Procedures, *supra* note 18, at 28.