



PUBLIC NOTICE

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

News Media Information: 202-418-0500
Internet: www.fcc.gov
TTY: 888-835-5322

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AUCTION OF FLEXIBLE-USE SERVICE LICENSES IN THE 3.7–3.98 GHz BAND FOR NEXT-GENERATION WIRELESS SERVICES

COMMENT SOUGHT ON COMPETITIVE BIDDING PROCEDURES FOR AUCTION 107

AU Docket No. 20-25

Comment Date: May 1, 2020

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I. INTRODUCTION

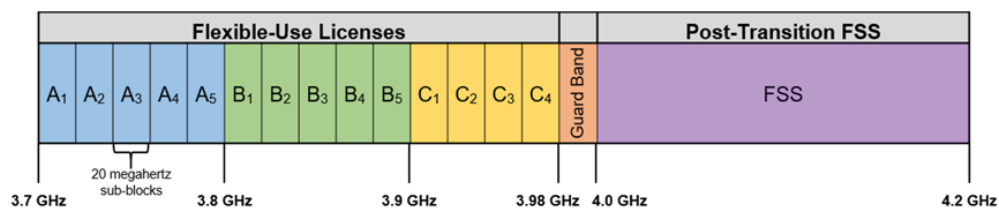
1. By this Public Notice, we seek comment on the procedures to be used for Auction 107, the auction of new flexible-use overlay licenses in the 3.7–3.98 GHz band (the “3.7 GHz Service”). We expect the bidding for licenses in Auction 107 to commence on December 8, 2020. We propose to use an ascending clock auction format for the licenses offered in Auction 107 and then hold a sealed bid assignment phase. By initiating the pre-auction processes for assigning licenses in Auction 107, we take another important step towards releasing critical mid-band spectrum to the market and furthering the deployment of fifth-generation (5G) wireless and other advanced spectrum-based services across the country. This Public Notice seeks comment on proposed auction procedures for bidding to acquire licenses in Auction 107.

II. LICENSES TO BE OFFERED IN AUCTION 107

2. Auction 107 will offer 5,684 new flexible-use overlay licenses for spectrum in the 3.7–3.98 GHz band throughout the contiguous United States subject to clearing requirements.¹ We will offer up to 280 megahertz of spectrum licensed on an unpaired basis in three blocks divided into 20-megahertz sub-blocks by partial economic area (PEA) in the contiguous states and the District of Columbia (PEAs 1–41, 43–211, 213–263, 265–297, 299–359, and 361–411).² Specifically, the A Block will cover 100 megahertz from 3.7–3.8 GHz in five 20-megahertz sub-blocks: 3700–3720 MHz (A1), 3720–3740 MHz (A2), 3740–3760 MHz (A3), 3760–3780 MHz (A4), and 3780–3800 MHz (A5). The B Block will cover 100 megahertz from 3.8–3.9 GHz in five 20-megahertz sub-blocks: 3800–3820 MHz (B1), 3820–3840 MHz (B2), 3840–3860 MHz (B3), 3860–3880 MHz (B4), and 3880–3900 MHz (B5). The C Block will cover 80 megahertz from 3.9–3.98 GHz, and four 20-megahertz sub-blocks will be licensed for flexible use: 3900–3920 MHz (C1), 3920–3940 MHz (C2), 3940–3960 MHz (C3), and 3960–3980 MHz (C4). The 20 megahertz at 3980–4000 MHz will be a guard band and not available for auction. All 3.7 GHz Service licenses will be issued for 15-year, renewable license terms.³ A licensee in the 3.7–3.98 GHz band may provide any services permitted under terrestrial fixed or mobile allocations, as set forth in the non-Federal Government column of the Table of Frequency Allocations in section 2.106 of the Commission’s rules, as modified by the *3.7 GHz Report and Order*.⁴

3. Figure 1 shows the band plan for the post-transition 3.7–4.2 GHz band.

Figure 1: Post-Transition 3.7–4.2 GHz Band Allocations in the Contiguous United States



4. A list of markets in which licenses will be offered in Auction 107, including proposed upfront payment and minimum opening bid amounts, is available in Attachment A to this Public Notice.

¹ We separately adopt today the *3.7 GHz Report and Order*, which describes in detail the rules applicable to the licenses offered in these 280 megahertz of spectrum. See generally *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Report and Order and Order of Proposed Modification, FCC 20-22 (Mar. 3, 2020).

² See *id.* at 35-38, paras. 72-80. We will not issue flexible-use overlay licenses for Honolulu, Anchorage, Kodiak, Fairbanks, Juneau, Puerto Rico, Guam-Northern Mariana Islands, U.S. Virgin Islands, American Samoa, and the Gulf of Mexico (PEAs numbers 42, 212, 264, 298, 360, 412–416). *Id.* at 38, para. 80.

³ See *id.* at 42-43, paras. 90-91.

⁴ See *id.* at 28, para. 54; see also 47 CFR § 2.106.

5. *Transition of Incumbent Operations.* The 3.7–4.2 GHz band currently is allocated in the United States exclusively for non-Federal use on a primary basis for Fixed Satellite Service (FSS) and Fixed Service (FS) services.⁵ In the *3.7 GHz Report and Order* we adopt today, we modify the licenses and market access authorizations of incumbent FSS operators and FS licensees to clear the 3.7–4.0 GHz band for new flexible-use terrestrial operations.⁶ For additional information about clearing and conditions on the licenses to be offered in Auction 107, potential bidders should carefully review the *3.7 GHz Report and Order*.

6. Each potential bidder is solely responsible for investigating and evaluating all technical and marketplace factors that may have a bearing on the potential uses of a license that it may seek in Auction 107. In addition to the typical due diligence considerations that we encourage of bidders in all auctions,⁷ we call particular attention in Auction 107 to the clearing process and license conditions described in the *3.7 GHz Report and Order*.⁸ Each applicant should closely follow releases from the Commission concerning these issues and consider carefully the technical and economic implications for commercial use of the 3.7–3.98 GHz band. **The Commission makes no representations or warranties about the use of this spectrum for particular services. Each applicant should be aware that a Commission auction represents an opportunity to become a Commission licensee, subject to certain conditions and regulations. This includes the established authority of the Commission to alter the terms of existing licenses by rulemaking, which is equally applicable to licenses awarded by auction.⁹ A Commission auction does not constitute an endorsement by the Commission of any particular service, technology, or product, nor does a Commission license constitute a guarantee of business success.**

III. PROPOSED PRE-BIDDING PROCEDURES

7. In the *3.7 GHz Report and Order*, the Commission decided to conduct any auction of new flexible-use licenses for the 3.7 GHz Service in conformity with the amended Part 1 rules.¹⁰ The Commission's Part 1 rules require each applicant seeking to bid to acquire licenses in a spectrum auction to provide certain information in a short-form application (FCC Form 175), including ownership details and numerous certifications.¹¹

8. *Prohibition of Certain Communications.* Section 1.2105(c)(1) of the Commission's rules provides that, subject to specified exceptions, "[a]fter the short-form application filing deadline, all applicants are prohibited from cooperating or collaborating with respect to, communicating with or disclosing, to each other or any nationwide provider [of communications services] that is not an applicant, or, if the applicant is a nationwide provider, any non-nationwide provider that is not an applicant, in any manner the substance of their own, or each other's, or any other applicants' bids or bidding strategies

⁵ 47 CFR § 2.106 (United States Table of Frequency Allocations, non-Federal Table for the band 3.7–4.2 GHz).

⁶ See generally *3.7 GHz Report and Order*, FCC 20-22 at 52-66, 120-23, paras. 124-53, 321-28.

⁷ See, e.g., *Auctions of Upper Microwave Flexible Use Licenses for Next-Generation Wireless Services; Comment Sought on Competitive Bidding Procedures for Auctions 101 (28 GHz) and 102 (24 GHz); Bidding in Auction 101 Scheduled to Begin November 14, 2018*, 33 FCC Rcd 4103, 4116-17, paras. 36-41 (2018).

⁸ See generally *3.7 GHz Report and Order*, FCC 20-22 at 49-124, paras. 110-331.

⁹ See, e.g., *Celco P'ship v. FCC*, 700 F.3d 534, 542 (D.C. Cir. 2012); *Celtronic Telemetry, Inc. v. FCC*, 272 F.3d 585, 589 (D.C. Cir. 2001) (citing 47 U.S.C. § 309(j)(6)(D)).

¹⁰ *3.7 GHz Report and Order*, FCC 20-22 at 31, para. 61.

¹¹ See generally 47 CFR § 1.2105.

(including post-auction market structure), or discussing or negotiating settlement agreements, until after the down payment deadline[.]”¹²

9. The operation of the rule prohibiting certain communications requires that the Commission identify nationwide providers in connection with each auction.¹³ Because the applicable service rules for the 3.7–3.98 GHz band will allow a licensee to provide flexible terrestrial wireless services, including mobile services, the Commission’s identification of four nationwide providers in the *Communications Marketplace Report* suggests that we should identify those same entities as nationwide providers for purposes of 3.7 GHz licenses and Auction 107.¹⁴ Accordingly, consistent with the procedures adopted for prior auctions of flexible-use licenses for advanced wireless services, we propose to identify AT&T, Sprint, T-Mobile, and Verizon Wireless as “nationwide providers” for the purpose of implementing our competitive bidding rules in Auction 107, including section 1.2105(c), the rule prohibiting certain communications. We seek comment on this proposal.

A. Bidding Credit Caps

10. Consistent with the Commission’s decisions in the *Updating Part 1 Report and Order*,¹⁵ we seek comment on establishing reasonable caps on the total amount of bidding credits that an eligible small business, very small business, or rural service provider may be awarded for Auction 107. We administer our bidding credit programs to promote small business and rural service provider participation in auctions and in the provision of spectrum-based services.¹⁶

11. Eligibility for the small business bidding credit is determined according to a tiered schedule of small business size definitions that are based on an applicant’s average annual gross revenues for the relevant preceding period, and which determine the size of the bidding credit discount.¹⁷ In the *Updating Part 1 Report and Order*, the Commission revised the gross revenue thresholds that define the

¹² *Id.* § 1.2105(c)(1). Section 1.2105(c)(5)(i) defines “applicant” as including all officers and directors of the entity submitting a short-form application to participate in the auction, all controlling interests of that entity, as well as all holders of partnership and other ownership interests and any stock interest amounting to 10% or more of the entity, or outstanding stock, or outstanding voting stock of the entity submitting a short-form application. *Id.* § 1.2105(c)(5)(i).

¹³ See *Updating Part 1 Competitive Bidding Rules et al.*, Report and Order, Order on Reconsideration of the First Report and Order, Third Order on Reconsideration of the Second Report and Order, Third Report and Order, 30 FCC Rcd 7493, 7571, para. 182 n.596 (2015) (*Updating Part 1 Report and Order*).

¹⁴ See *Communications Marketplace Report*, Report, 33 FCC Rcd 12558, 12561, para. 6 (2018). This is consistent with the Commission’s identification of “nationwide providers” for the purpose of implementing its competitive bidding rules in Auctions 101, 102, 103, and the forward auction portion of the Broadcast Incentive Auction. See *Incentive Auction of Upper Microwave Flexible Use Service Licenses in the Upper 37 GHz, 39 GHz, and 47 GHz Bands for Next-Generation Wireless Services; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 103; Bidding in Auction 103 Scheduled to Begin December 10, 2019*, Public Notice, 34 FCC Rcd 5532, 5542, para. 27 (2019) (*Auction 103 Procedures Public Notice*); *Auctions of Upper Microwave Flexible Use Licenses for Next-Generation Wireless Services; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auctions 101 (28 GHz) and 102 (24 GHz); Bidding in Auction 101 Scheduled to Begin November 14, 2018*, Public Notice, 33 FCC Rcd 7575, 7593, para. 44 (2018) (*Auctions 101 and 102 Procedures Public Notice*); *Application Procedures for Broadcast Incentive Auction Scheduled to Begin on March 29, 2016; Technical Formulas for Competitive Bidding*, Public Notice, 30 FCC Rcd 11034, 11070, para. 111 (WTB 2015).

¹⁵ See generally *Updating Part 1 Report and Order*, 30 FCC Rcd at 7539-46, paras. 109-30.

¹⁶ 47 U.S.C. § 309(j)(4)(D); see also *id.* §§ 309(j)(3)(A)-(B).

¹⁷ See 47 CFR § 1.2110(f)(2).

eligibility tiers for the small business bidding credit,¹⁸ and it adopted a rural service provider bidding credit program.¹⁹ In the *3.7 GHz Report and Order*, the Commission determined that eligibility for the small business bidding credit in the auction of licenses in the 3.7–3.98 GHz band would be defined using two of the thresholds of the standardized schedule of small business sizes.²⁰ Specifically, the Commission determined that an entity with average annual gross revenues for the preceding five years not exceeding \$55 million would be designated as a “small business” eligible for a 15% bidding credit, and that an entity with average annual gross revenues for the preceding five years not exceeding \$20 million would be designated as a “very small business” eligible for a 25% bidding credit.²¹ The Commission further determined that entities providing commercial communication services to a customer base of fewer than 250,000 combined wireless, wireline, broadband, and cable subscribers in primarily rural areas would be eligible for the 15% rural service provider bidding credit.²²

12. To protect the integrity of the bidding credit program and to mitigate the incentives for abuse, the Commission, in the *Updating Part 1 Report and Order*, established a process to implement a reasonable cap on the total amount of bidding credits that an eligible small business or rural service provider may be awarded in any auction, based on an evaluation of the expected capital requirements presented by the particular service and inventory of licenses being auctioned.²³ The Commission determined that bidding credit caps would be implemented on an auction-by-auction basis, but resolved that, for any particular auction, the total amount of the bidding credit cap for small businesses would not be less than \$25 million, and the bidding credit cap for rural service providers would not be less than \$10 million.²⁴ For Auctions 101, 102, and 103, the Commission adopted a \$25 million cap on the total

¹⁸ *Updating Part 1 Report and Order*, 30 FCC Rcd at 7524-25, paras. 73-74. The Commission retained the existing 15%, 25%, and 35% tiers of the small business bidding credit program but revised the gross revenue thresholds that define eligibility for each tier. *Id.* at 7523-25, paras. 72-74.

¹⁹ *Id.* at 7530-31, para. 88; *see also* 47 CFR § 1.2110(f)(4).

²⁰ *3.7 GHz Report and Order*, FCC 20-22 at 32-33, para. 67; *see also* 47 CFR § 1.2110(f)(2)(i). The Commission defines the small business size standards on a service-by-service basis, after evaluating the associated characteristics and capital requirements of each service. 47 CFR § 1.2110(c)(1); *see also id.* § 1.2110(b)(1)(i); *Updating Part 1 Report and Order*, 30 FCC Rcd at 7529, para. 85.

²¹ *See 3.7 GHz Report and Order*, FCC 20-22 at 34, para. 68 (“We believe that this two-tiered approach has been successful in the past, and we will employ it once again.”). The standardized schedule of bidding credits provided in section 1.2110(f)(2)(i) defines small businesses based on average gross revenues for the preceding three years. In December 2018, Congress revised the standard set out in the Small Business Act for categorizing a business concern as a “small business concern” by providing as a general matter that a Federal agency cannot propose to categorize a business concern as a “small business concern” for Small Business Act purposes unless the size of the concern is based on its annual average gross receipts “over a period of not less than 5 years.” 15 U.S.C. § 632(a)(2)(C)(ii)(II), *amended by* Small Business Runway Extension Act of 2018, Pub. L. 115-324, 132 Stat. 4444 (2018). In December 2019, the SBA adopted new rules implementing the requirements of the Small Business Runway Extension Act and modifying its method for calculation of average annual receipts used to prescribe size standards for small businesses from a three-year to a five-year average period. Small Business Administration, *Small Business Size Standards: Calculation of Annual Average Receipts*, 84 Fed. Reg. 66561 (Dec. 5, 2019). Accordingly, consistent with this statutory requirement and the SBA’s new rules, average annual gross revenues for purposes of small business bidding credits in this band will be based on the preceding five years. *3.7 GHz Report and Order*, FCC 20-22 at 32-33, para. 67 n.199.

²² *3.7 GHz Report and Order*, FCC 20-22 at 34, paras. 69-70. The Commission determines eligibility for bidding credits, including the rural service provider bidding credit, on a service-by-service basis. *See* 47 CFR § 1.2110(f)(1); *see also Updating Part 1 Report and Order*, 30 FCC Rcd at 7529, para. 85. The Commission defined “rural area” as a county with a population density of 100 persons or fewer per square mile. *Updating Part 1 Report and Order*, 30 FCC Rcd at 7536-37, para. 104 & n.340.

²³ *See Updating Part 1 Report and Order*, 30 FCC Rcd at 7541, 7544, paras. 114, 119.

²⁴ *Id.* at 7541, para. 114; *see also* 47 CFR §§ 1.2110(f)(2)(ii), (4)(ii).

amount of bidding credits that may be awarded to an eligible small business in each auction and a \$10 million cap on rural service provider bidding credits in each auction.

13. We propose to adopt the same bidding credit caps for Auction 107. Like Auctions 101, 102, and 103, we believe that the range of potential use cases suitable for spectrum in the 3.7–3.98 GHz band, combined with the relatively small geographic areas for new flexible-use overlay licenses in the 3.7 GHz Service, may permit deployment of smaller scale networks with lower total costs.²⁵ Moreover, past auction data suggests that the proposed caps will allow the substantial majority of eligible small businesses in the auction to take advantage of the bidding credit program.²⁶ We therefore believe that our proposed caps will promote the statutory goals of providing meaningful opportunities for *bona fide* small businesses to compete in auctions and in the provision of spectrum-based services,²⁷ without compromising our responsibility to prevent unjust enrichment and ensure efficient and intensive use of spectrum.²⁸

14. Similarly, we propose to adopt a \$10 million cap on the total amount of bidding credits that may be awarded to an eligible rural service provider in Auction 107.²⁹ We anticipate that a \$10 million cap on rural service provider bidding credits will not constrain the ability of any rural service provider to participate fully and fairly in Auction 107.³⁰ In addition, to create parity in Auction 107 among eligible small businesses and rural service providers competing against each other in smaller markets, we propose a \$10 million cap on the overall amount of bidding credits that any winning small business bidder may apply to winning licenses in markets with a population of 500,000 or less.³¹

15. We seek comment on these proposed caps. Specifically, do the expected capital requirements associated with operating in the 3.7–3.98 GHz band, the potential number and value of 3.7 GHz Service licenses, past auction data, or any other considerations justify a higher cap for either type of bidding credit? Moreover, are there convincing reasons for not maintaining parity with the bidding credit

²⁵ See, e.g., *3.7 GHz Report and Order*, FCC 20-22 at 38, para. 79 (“[L]icensing new flexible-use licenses on a PEA basis . . . will encourage entry by providers that contemplate offering wireless broadband service on a localized basis . . .”).

²⁶ See, e.g., *Incentive Auction of Upper Microwave Flexible Use Service Licenses in the Upper 37 GHz, 39 GHz, and 47 GHz Bands for Next-Generation Wireless Services; Comment Sought on Competitive Bidding Procedures for Auction 103*, Public Notice, 34 FCC Rcd 2656, 2661-62, para. 14 n.27 (citing *Updating Part 1 Report and Order*, 30 FCC Rcd at 7541, para. 115 n.367; *Incentive Auction Closing and Channel Reassignment Public Notice et al.*, Public Notice, 32 FCC Rcd 2786, Appx. B (WTB/MB 2017) (*Incentive Auction Closing Public Notice*)) (observing that a \$25 million cap would have allowed 95% of small businesses in Auction 66, 98% of small businesses in Auction 73, 73% of small businesses in Auction 97, and 75% of small businesses in the Broadcast Incentive Auction to realize the full value of their bidding credits based on gross winning bids).

²⁷ See 47 U.S.C. § 309(j)(4)(D); see also *id.* §§ 309(j)(3)(A)-(B).

²⁸ See *id.* §§ 309(j)(3)(C)-(D).

²⁹ An entity is not eligible for a rural service provider bidding credit if it has already claimed a small business bidding credit. 47 CFR § 1.2110(f)(4)(i).

³⁰ No rural service provider exceeded the \$10 million cap in the Broadcast Incentive Auction, Auction 101, or Auction 102. See generally *Incentive Auction Closing Public Notice*, 32 FCC Rcd 2786, Appx. B; *Winning Bidders Announced for Auction of 28 GHz Upper Microwave Flexible Use Service Licenses (Auction 101)*, Public Notice, Appx. A, 34 FCC Rcd 4279, 4283-85 (OEA/WTB 2019); *Auction of 24 GHz Upper Microwave Flexible Use Service Licenses Closes; Winning Bidders Announced for Auction 102*, Public Notice, Appx. A, 34 FCC Rcd 4294, 4306-08 (OEA/WTB 2019).

³¹ This proposal is consistent with the approach adopted by the Commission in the Broadcast Incentive Auction, Auction 101, Auction 102, and Auction 103. See *Updating Part 1 Report and Order*, 30 FCC Rcd at 7546-47, paras. 127-28; *Auctions 101 and 102 Procedures Public Notice*, 33 FCC Rcd at 7609-10, para. 93; *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5558-59, para. 79.

caps in Auctions 101, 102, and 103? Commenters are encouraged to identify unique circumstances and characteristics of this mid-band auction that should guide us in establishing bidding credit caps, and to provide specific, data-driven arguments in support of their proposals.

16. We remind applicants applying for designated entity bidding credits that they should take due account of the requirements of the Commission's rules and implementing orders regarding *de jure* and *de facto* control of such applicants.³² These rules include a prohibition, which applies to all applicants (whether or not they are seeking bidding credits), against changes in ownership of the applicant that would constitute an assignment or transfer of control.³³ Applicants should not expect to receive any opportunities to revise their ownership structure after the filing of their short- and long-form applications, including making revisions to their agreements or other arrangements with interest holders, lenders, or others in order to address potential concerns relating to compliance with the designated entity bidding credit requirements. This policy will help to ensure compliance with the Commission's rules applicable to the award of bidding credits prior to the conduct of this auction, which will involve competing bids from those who do and do not seek bidding credits, and thus preserves the integrity of the auction process.³⁴ We also believe that this will meet our objectives in awarding licenses through the competitive bidding process.³⁵

B. Information Procedures During the Auction Process

17. As with most recent Commission spectrum license auctions, we propose to limit information available in Auction 107 in order to prevent the identification of bidders placing particular bids until after the bidding has closed.³⁶ More specifically, we propose to not make public until after bidding has closed: (1) the PEAs that an applicant selects for bidding in its short-form application (FCC Form 175), (2) the amount of any upfront payment made by or on behalf of an applicant for Auction 107, (3) any applicant's bidding eligibility, and (4) any other bidding-related information that might reveal the identity of the bidder placing a bid.

18. Bidders would have access to additional information related to their own bidding and bid eligibility.³⁷ For example, bidders would be able to view their own level of eligibility before and during the auction through the FCC auction bidding system.

³² See, e.g., 47 CFR §§ 1.2110-11.

³³ *Id.* § 1.2105(b)(2). Pursuant to 47 CFR § 1.929(a)(2), any substantial change in ownership or control is classified as a major amendment. See also *id.* §§ 1.927(a)-(b), (h).

³⁴ In furtherance of this policy, applicants will not be permitted to change their bidding credit type selection (i.e., from small business to rural service provider, or vice versa) after the short-form deadline. See *Updating Part 1 Report and Order*, 30 FCC Rcd at 7538, para. 108 (“[A]n applicant must choose between one bidding credit and the other.”).

³⁵ The Commission's objectives when awarding licenses through competitive bidding include “the development and rapid deployment of new technologies, products, and services for the benefit of the public . . . without administrative or judicial delays” and “promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses.” 47 U.S.C. § 309(j).

³⁶ See, e.g., *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 2663, paras. 18-22; *Auctions 101 and 102 Procedures Public Notice*, 33 FCC Rcd at 7596-98, paras. 50-56; *Broadcast Incentive Auction Scheduled to Begin on March 29, 2016; Procedures for Competitive Bidding in Auction 1000, Including Initial Clearing Target Determination, Qualifying to Bid, and Bidding in Auctions 1001 (Reverse) and 1002 (Forward)*, Public Notice, 30 FCC Rcd 8975, 9046, para. 138 (2015) (*Auction 1000 Bidding Procedures Public Notice*); *Auction of Advanced Wireless Services (AWS-3) Licenses Scheduled for November 13, 2014; Notice and Filing Requirements, Reserve Prices, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 97*, Public Notice, 29 FCC Rcd 8386, 8429-30, para. 150 (WTB 2014) (*Auction 97 Procedures Public Notice*); see also 47 CFR § 1.2104(h).

³⁷ See Section IV.A.5 (Availability of Bidding Information), below.

19. After the close of bidding, bidders' PEA selections, upfront payment amounts, bidding eligibility, bids, and other bidding-related information would be made publicly available.

20. We seek comment on the above details of our proposal for implementing limited information procedures, or anonymous bidding, in Auction 107. Commenters opposing the use of anonymous bidding in Auction 107 should explain their reasoning and propose alternative information rules.

C. Upfront Payments and Bidding Eligibility

21. In keeping with the Commission's usual practice in spectrum license auctions, we propose that applicants be required to submit upfront payments as a prerequisite to becoming qualified to bid.³⁸ As described below, the upfront payment is a refundable deposit made by an applicant to establish its eligibility to bid on licenses. Upfront payments protect against frivolous or insincere bidding and provide the Commission with a source of funds from which to collect payments owed at the close of bidding.³⁹ With these considerations in mind, the Commission proposes upfront payments based on \$0.015 per MHz-pop.⁴⁰ The proposed upfront payments equal approximately half the proposed minimum opening bids, which are established as described in Section IV.A.7.a, below. We seek comment on these upfront payment amounts, which are specified in Attachment A. If commenters believe that these upfront payment amounts are not reasonable amounts, they should explain their reasoning and suggest an alternative approach. Commenters may wish to suggest other modifications to our proposal, such as weighting the minimum opening bid calculation using past auction prices.⁴¹

22. We further propose that the amount of the upfront payment submitted by a bidder would determine its initial bidding eligibility in bidding units, which are a measure of bidder eligibility and bidding activity. We propose to assign each generic spectrum block in a given PEA a specific number of bidding units, equal to one bidding unit per \$10 of the upfront payment listed in Attachment A. The number of bidding units for one block in a given PEA is fixed, since it is based on the MHz-pops in the block, and does not change during the auction as prices change. To the extent that bidders wish to bid on multiple generic blocks simultaneously, whether within the same PEA or in different PEAs, they would need to ensure that their upfront payment provides enough eligibility to cover multiple blocks.

23. Under our proposed approach, a bidder's upfront payment would not be attributed to blocks in a specific PEA or PEAs, or to particular categories of blocks, if there is more than one. A bidder may place bids on multiple blocks in PEAs that it selected for bidding in its FCC Form 175, provided that the total number of bidding units associated with those blocks does not exceed its eligibility-based limit for the round. A bidder cannot increase its eligibility during the auction; it can only maintain its eligibility or decrease its eligibility. Thus, in calculating its upfront payment amount, and hence its initial bidding eligibility, an applicant must determine the maximum number of bidding units on which it may wish to bid in any single round and submit an upfront payment amount covering that total number of bidding units. We seek comment on these proposals.

³⁸ See 47 CFR § 1.2106.

³⁹ See *Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, Second Report and Order, 9 FCC Rcd 2348, 2377-79, paras. 169-176 (1994) (*Competitive Bidding Second Report and Order*). We note that the Commission's rules require that "[a]ny auction applicant that, pursuant to § 1.2105(a)(2)(xii), certifies that it is a former defaulter must submit an upfront payment equal to 50% more than the amount that otherwise would be required." 47 CFR § 1.2106(a).

⁴⁰ The results of these calculations will be rounded using the Commission's standard rounding procedures for auctions: results above \$10,000 are rounded to the nearest \$1,000; results below \$10,000 but above \$1,000 are rounded to the nearest \$100; and results below \$1,000 are rounded to the nearest \$10.

⁴¹ See, e.g., *Auction 1000 Bidding Procedures Public Notice*, 30 FCC Rcd at 9023-24, para. 77, regarding relative price index and deciles.

D. Auction Delay, Suspension, or Cancellation

24. For Auction 107, we propose that, at any time before or during the bidding process, the Office of Economics and Analytics (OEA), in conjunction with the Wireless Telecommunications Bureau (WTB), may delay, suspend, or cancel bidding in Auction 107 in the event of a natural disaster, technical obstacle, network interruption, administrative or weather necessity, evidence of an auction security breach or unlawful bidding activity, or for any other reason that affects the fair and efficient conduct of competitive bidding.⁴² In such a case, OEA would notify participants of any such delay, suspension, or cancellation by public notice and/or through the FCC auction bidding system's announcement function. If the bidding is delayed or suspended, OEA, in its sole discretion, may elect to resume the auction starting from the beginning of the current round or from some previous round, or it may cancel the auction in its entirety. We emphasize that OEA and WTB would exercise this authority solely at their discretion. We seek comment on this proposal.

IV. PROPOSED BIDDING PROCEDURES

25. We propose to conduct Auction 107 using an ascending clock auction design. Under the proposed auction format, bidding would take place in two phases. The first phase of the auction—the clock phase—would consist of successive clock bidding rounds in which bidders indicate their demands for categories of generic license blocks in specific PEAs, followed by a second phase—the assignment phase—with bidding for frequency-specific license assignments. We seek comment below on bidding procedures for the two phases of Auction 107.

26. We direct OEA, in conjunction with WTB, to prepare and release a technical guide supplementing the information in this Public Notice and including the mathematical details and algorithms of the proposed auction design.⁴³

A. Clock Phase**1. Clock Auction Design**

27. During the clock phase of Auction 107, bidders will indicate their demands for generic license blocks in two bidding categories in specific geographic areas—in this case, PEAs. Our proposed clock auction format would proceed in a series of rounds, with bidding being conducted simultaneously for all spectrum blocks in all PEAs available in the auction. During each bidding round, the bidding system would announce a per-block clock price for each category in each PEA, and qualified bidders would submit, for each category and PEA for which they wish to bid, the number of blocks they seek at the clock prices associated with the current round. Bidding rounds would be open for predetermined periods of time. Bidders would be subject to activity and eligibility rules that govern the pace at which they participate in the auction.

28. Under our proposal, for each product—a category in a PEA—the clock price for a generic license block would increase from round to round if bidders indicate total demand for blocks in that product that exceeds the number of blocks available. The bidding rounds would continue until, for all products, the total number of blocks that bidders demand does not exceed the supply of available blocks. At that point, those bidders indicating demand for a product at the final price would be deemed winning bidders.

29. Following the clock phase, the assignment phase will offer clock phase winners the opportunity to bid an additional amount for licenses with specific frequencies. All winning bidders, regardless of whether they bid in the assignment phase, will be assigned licenses for contiguous blocks within a category in a PEA.

⁴² See 47 CFR § 1.2104(i).

⁴³ The Clock Phase and Assignment Phase Technical Guides detail proposals and provide examples for Auction 107.

30. We seek comment on specific procedures to implement this ascending clock auction and on alternative procedures for conducting, in a timely manner, an auction of 3.7–3.98 GHz licenses.

2. Generic License Blocks in Two Categories

31. The *3.7 GHz Report and Order* has determined that the 3.7–3.98 GHz band will be reconfigured and licensed in uniform 20-megahertz sub-blocks in each of 406 PEAs. The *3.7 GHz Report and Order* also establishes a two-phase accelerated relocation process. In Phase I, participating incumbent space station operators would relocate their services out of blocks A1-A5 and relocate incumbent earth stations in the 46 PEAs that are subject to the Phase I deadline out of those blocks. In Phase II, participating space station operators would relocate their services out of blocks B1-B5 and C1-C4 and transition all incumbent earth stations out of all the blocks. To facilitate bidding in the clock phase, we propose to establish two categories of generic blocks in each PEA.

32. We propose that the first category of generic blocks will consist of the 20-megahertz sub-blocks between 3.7–3.8 GHz. This category, designated Category A, will comprise a total of five blocks: A1–A5. A second category, Category BC, will consist of the remaining sub-blocks between 3.8–3.98 GHz for a total of nine blocks: (B1–B5, C1–C4).

33. In each bidding round, a bidder will have the opportunity to bid for the quantity of generic blocks it demands in each of the two bidding categories. Bidding in the clock phase will determine a single price for all the generic blocks in each category in each PEA.

34. Our proposal for bidding on generic blocks in two categories is based on the close similarity of the blocks within each bidding category. We distinguish between Category A and Category BC to recognize that bidders may value early access to blocks A1-A5, both in the 46 PEAs subject to the Phase I incumbent earth station deadline and in other PEAs where a bidder might seek voluntary early transition of incumbent earth stations. To the extent a bidder has a preference for specific frequency licenses, the bidder may bid for its preferred blocks in the assignment phase. However, a bidder for a generic block cannot be assured that it will be assigned, or not be assigned, any particular frequency block. We ask that commenters explain any concerns they may have about the interchangeability of generic blocks within the two proposed categories of generic blocks, bearing in mind potential tradeoffs between the number of categories and auction length, the ability of the auction system to assign contiguous blocks to winners of multiple blocks, and bidder manageability.

35. We also seek comment on an alternative approach to establishing bidding categories, grouping the available blocks according to the specific clearing deadline to which incumbent earth stations are subject, i.e., Phase I or Phase II.⁴⁴ Specifically, we could designate blocks A1-A5 in the 46 PEAs that are subject to the Phase I deadline as Category P1 for clock phase bidding. And we could designate all other blocks as Category P2 for clock phase bidding. Thus, under this alternative approach, the 46 PEAs that are subject to the Phase I deadline would each have two bidding categories and the 360 PEAs that are not subject to the Phase I incumbent earth station deadline would each have a single bidding category. We ask commenters to consider whether the A Block licenses that would not be subject to the Phase I deadline are sufficiently interchangeable with the B and C Block licenses to be bid as a single bidding category in the clock phase, and whether this categorization would facilitate contiguous assignment across all blocks in the assignment phase.⁴⁵

⁴⁴ See generally *3.7 GHz Report and Order*, FCC 20-22 at 71-72, paras. 168-72.

⁴⁵ See Letter from Michael P. Goggin, Assistant Vice President, AT&T Services, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122, AU Docket No. 20-25, at 4 (filed Feb. 18, 2020) (arguing that the Commission’s proposal for two bidding categories “presents the likelihood that bidders who win spectrum in both categories, Block A and Blocks B/C, will wind up with discontinuous blocks”) (AT&T *Ex Parte*); Letter from William H. Johnson, Senior Vice President, Verizon, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122, at 9-10 (filed Feb. 20, 2020) (urging the Commission to implement two bidding categories for the 46 PEAs

(continued....)

3. Bidding Rounds

36. Under the proposed clock auction format, Auction 107 would consist of sequential bidding rounds, each followed by the release of round results. We propose to conduct bidding simultaneously for all spectrum blocks in both bidding categories for all PEAs available in the auction. In the first bidding round of Auction 107, a bidder would indicate, for each product, how many generic license blocks it demands at the minimum opening bid price. During each subsequent bidding round, the bidding system would announce a per-block clock price for each product, and qualified bidders would submit, for each product for which they wish to bid, the number of blocks they seek at the clock prices associated with the current round. Bidding rounds would be open for predetermined periods of time. Bidders would be subject to activity and eligibility rules that govern the pace at which they participate in the auction.

37. For each product, the clock price for a generic license block would increase from round to round if bidders indicate total demand for that product that exceeds the number of blocks available. The bidding rounds would continue until, for all products, the total number of blocks that bidders demand does not exceed the supply of available blocks. At that point, those bidders indicating demand for a block at the final price would be deemed winning bidders.

38. The initial bidding schedule would be announced in a public notice to be released at least one week before the start of bidding. Under our proposal, OEA would retain the discretion to adjust the bidding schedule in order to foster an auction pace that reasonably balances speed with the bidders' need to study round results and adjust their bidding strategies. Such adjustments may include changes in the amount of time for bidding rounds, the amount of time between rounds, or the number of rounds per day, and would depend upon bidding activity and other factors. We seek comment on this proposal. Commenters should address the role of the bidding schedule in managing the pace of the auction and should specifically discuss the tradeoffs in managing auction pace by bidding schedule changes, by changing the activity requirement percentage or the bid increment percentage, or by using other means.

39. We propose to conduct Auction 107 over the Internet. A bidder would be able to submit its bids using the bidding interface screens and/or using the bidding system's *upload* function that allows bid files in a CSV format to be uploaded. The bidding system would not allow bids to be submitted unless the bidder selected the PEAs on its FCC Form 175 and the bidder has sufficient bidding eligibility.⁴⁶

40. During each round of the bidding, a bidder would also be able to remove bids placed in the current bidding round. If a bidder modifies its bids for blocks in a PEA in a round, the system would take the last bid submission as that bidder's bid for the round.⁴⁷

4. Stopping Rule

41. We propose a simultaneous stopping rule for Auction 107, under which all blocks in both categories in all PEAs would remain available for bidding until the bidding stops in every PEA.⁴⁸

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subject to the Phase I early clearing deadline, and one category for the remaining PEAs subject to the Phase II deadline) (Verizon *Ex Parte*).

⁴⁶ See Section III.C (Upfront Payments and Bidding Eligibility), above.

⁴⁷ No bids may be withdrawn after the close of a round. Unlike an auction conducted using the Commission's standard simultaneous multiple-round auction format for bidding on frequency-specific licenses (as opposed to generic blocks), there are no provisionally winning bids in a clock auction. As a result, the concept of bid withdrawals as used in standard simultaneous multiple-round auctions does not apply to a clock auction.

⁴⁸ The Commission has discretion to establish stopping rules before or during multiple round auctions in order to complete the auction within a reasonable time. 47 CFR § 1.2104(e); see also, e.g., *Auction 97 Procedures Public Notice*, 29 FCC Rcd at 8434-36, paras. 172-78; *Auction of H Block Licenses in the 1915–1920 MHz and 1995–2000 MHz Bands Scheduled for January 14, 2014; Notice and Filing Requirements, Reserve Price, Minimum Opening* (continued....)

Specifically, we propose that bidding close for all blocks after the first round in which there is no excess demand in any product.⁴⁹ Consequently, under this approach, it is not possible to determine in advance how long Auction 107 would last. We seek comment on our proposed simultaneous stopping rule.

5. Availability of Bidding Information

42. We propose to make public after each round of Auction 107, for each category in each PEA: the supply; the aggregate demand; the posted price of the last completed round;⁵⁰ and the clock price for the next round. The identities of bidders demanding blocks in a specific category or PEA would not be disclosed until after Auction 107 concludes (i.e., after the close of bidding).⁵¹

43. Under our proposal, each bidder would have access to additional information related to its own bidding and bid eligibility. Specifically, after the bids of a round have been processed, the bidding system would inform each bidder of the number of blocks it holds after the round (its processed demand) for every PEA and its eligibility for the next round.

44. Limiting the availability of bidding information during the auction balances our interest in providing bidders with sufficient information about the status of their own bids and the general level of bidding in all areas and license categories to allow them to bid confidently and effectively, while restricting the availability of information that may facilitate identification of bidders placing particular bids, which could potentially lead to undesirable strategic bidding.

6. Activity Rule, Activity Upper Limit, and Reducing Eligibility

45. In order to ensure that the auction closes within a reasonable period of time, an activity rule requires bidders to bid actively throughout the auction, rather than wait until late in the auction before participating. For this clock auction, a bidder's activity in a round for purposes of the activity rule would be the sum of the bidding units associated with the bidder's demands as applied by the auction system during bid processing. Bidders are required to be active on a specific percentage (the *activity requirement percentage*) of their current bidding eligibility during each round of the auction. Failure to maintain the requisite activity level would result in a reduction in the bidder's eligibility, possibly curtailing or eliminating the bidder's ability to place additional bids in the auction.

46. We propose to require that bidders maintain a fixed, high level of activity in each round of Auction 107 in order to maintain bidding eligibility. Specifically, we propose to require that bidders be active on between 90% and 100% of their bidding eligibility in all clock rounds, with the specific percentage within this range to be set for each round. Thus, the activity rule would be satisfied when a bidder has bidding activity on blocks with bidding units that total 90% to 100% of its current eligibility in the round. If the activity rule is met, then the bidder's eligibility does not change for the next round. If the activity rule is not met in a round, the bidder's eligibility would be reduced. We propose to calculate bidding activity based on the bids that are applied by the FCC auction bidding system. That is, if a bidder requests a reduction in the quantity of blocks it demands in a PEA, but the FCC auction bidding system cannot apply the request because demand would fall below the available supply, then the bidder's activity would reflect its unreduced demand.⁵²

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Bids, Upfront Payments, and Other Procedures for Auction 96, Public Notice, 28 FCC Rcd 13019, 13061, paras. 161-63 (WTB 2013) (*Auction 96 Procedures Public Notice*).

⁴⁹ Excess demand is calculated as the difference between the number of blocks of aggregate demand and supply.

⁵⁰ The posted price of the previous round is, generally: the start-of-round price if supply exceeds demand; the clock price of the previous round if demand exceeds supply; or the price at which a reduction caused demand to equal supply. See the Clock Phase Technical Guide for more details.

⁵¹ See Section III.B (Information Procedures During the Auction Process), above.

⁵² Under the ascending clock auction format, the FCC auction bidding system will not allow a bidder to reduce the quantity of blocks it demands in an individual PEA if the reduction would result in aggregate demand falling below
(continued....)

47. Because a bidder's eligibility for the next round is calculated based on the bidder's demands as applied by the auction system during bid processing, a bidder's eligibility may be reduced even if the bidder submitted bids with activity that exceeds the required activity for the round.⁵³ To potentially help a bidder avoid having its eligibility reduced as a result of submitted bids that could not be accepted during bid processing, we seek comment on additional procedures that would allow a bidder to submit bids with associated bidding activity greater than its current bidding eligibility.⁵⁴ However, under these additional procedures, the bidder's activity as applied by the auction system during bid processing would not exceed the bidder's current bidding eligibility. That is, if a bidder were allowed to submit bids with associated bidding units exceeding 100% of its current bidding eligibility, its processed activity would never exceed its eligibility.

48. Specifically, we seek comment on additional procedures by which, after Round 1, a bidder may submit bids with bidding units totaling up to an *activity upper limit* equal to the bidder's current bidding eligibility for the round times a percentage (the *activity limit percentage*) equal to or greater than 100%.⁵⁵ We seek comment on setting an initial activity limit percentage of 120% to apply to Round 2 and subsequent rounds (potentially changing it during the auction within a range of 100% and 140%), in which we would implement this approach. In any bidding round, the auction bidding system would advise the bidder of its current bidding eligibility, its required bidding activity, and its activity upper limit.

49. Under our proposed procedures, OEA would retain the discretion to change the activity requirement percentage during the auction, and we seek comment in connection with potential additional procedures on whether OEA should similarly retain the discretion to change the activity limit percentage during the auction. The bidding system would announce any such changes in advance of the round in which they would take effect, giving bidders adequate notice to adjust their bidding strategies.

50. We invite comment on this activity rule proposal and we further seek comment on using an activity upper limit to address the potential for loss of bidding eligibility under some circumstances. We also encourage commenters to address whether we should set the activity requirement percentage between 90% and 100% for each round and, should we adopt an activity upper limit, whether to set the activity limit percentage between 100% and 140%. Further, we seek comment on where to set these percentages initially. We also seek comment on the relationship between the proposed activity rules and the ability of bidders to switch their demands across PEAs. We encourage any commenters that oppose the proposed range for the activity requirement percentage and the activity limit percentage range described above to explain their reasons with specificity.

51. *Missing bids.* We point out that under the proposed clock auction format, bidders are required to indicate their demands in every round, even if their demands at the new round's prices are unchanged from the previous round. Missing bids—bids that are not reconfirmed—are treated by the auction bidding system as requests to reduce to a quantity of zero blocks for the product. If these requests

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(or further below) the available supply of blocks in the PEA. See Section IV.A.8.a (No Excess Supply Rule for Bids to Reduce Demand), below.

⁵³ This may occur, for example, if the bidder bids to reduce its demand in PEA X by two blocks (with 10 bidding units each) and bids to increase its demand by one block (with 20 bidding units) in PEA Y. If the bidder's demand can only be reduced by one block in PEA X (because there is only one block of excess demand), the increase in PEA Y cannot be applied, and absent other bidding activity the bidder's eligibility would be reduced. See Sections IV.A.8.a and d (No Excess Supply Rule for Bids to Reduce Demand; and Processed Demands), for further details on bid processing.

⁵⁴ For example, depending upon the bidder's overall bidding eligibility and the activity limit percentage, a bidder could submit an "additional" bid or bids that would be considered (in price point order with its other bids) and applied as available eligibility permits during the bid processing.

⁵⁵ For Round 1, the activity upper limit would be 100% of the bidder's initial bidding eligibility.

are applied, or applied partially, then a bidder's bidding activity, and its bidding eligibility for the next round, may be reduced.⁵⁶

52. For Auction 107, we do not propose to provide for activity rule waivers to preserve a bidder's eligibility. We note that our proposal to permit a bidder to submit bids with bidding activity greater than its eligibility, within the precise limits set forth above, would address some of the circumstances under which a bidder risks losing bidding eligibility and otherwise could wish to use a bidding activity waiver, while minimizing any potential adverse impacts on bidder incentives to bid sincerely and on the price setting mechanism of the clock auction. This approach not to allow waivers is consistent with the ascending clock auction procedures used in other FCC clock auctions.⁵⁷ The clock auction relies on precisely identifying the point at which demand decreases to equal supply to determine winning bidders and final prices. Allowing waivers would create uncertainty with respect to the exact level of bidder demand and interfere with the basic clock price-setting and winner determination mechanism. Moreover, uncertainty about the level of demand would affect the way bidders' requests to reduce demand are processed by the bidding system, as addressed below.⁵⁸ We seek comment on this approach.

7. Acceptable Bids

a. Minimum Opening Bids

53. As part of the pre-bidding process for each auction, we seek comment on the use of a minimum opening bid amount and/or reserve price, as mandated by section 309(j) of the Communications Act of 1934, as amended.

54. We propose to establish minimum opening bid amounts for Auction 107. The bidding system will not accept bids lower than these amounts. Based on our experience in past auctions, setting minimum opening bid amounts judiciously is an effective tool for accelerating the competitive bidding process.⁵⁹ For Auction 107, we propose to establish initial clock prices, or minimum opening bids, by PEA, as set forth below.

55. We do not propose to establish any aggregate reserve price in Auction 107. We are not aware at this time of circumstances that require establishment of an aggregate reserve price in the public interest for the auction of 3.7 GHz Service licenses and propose only the per product minimum opening bids that we discuss here. We seek comment on this issue.

56. For Auction 107, we propose to calculate minimum opening bid amounts using a formula based on bandwidth and license area population, which is similar to our approach in many previous spectrum auctions.⁶⁰ We propose to use a calculation based on \$0.03 per MHz-pop.⁶¹ We seek comment on these minimum opening bid amounts, which are specified in Attachment A. If commenters believe that these minimum opening bid amounts would result in unsold licenses, are not reasonable amounts, or should instead operate as reserve prices, they should explain their reasoning and propose an alternative

⁵⁶ See Section IV.A.8.c (Partial Application of Bids), below, regarding partial application of bids.

⁵⁷ See *Auction 1000 Bidding Procedures Public Notice*, 30 FCC Rcd at 9077, para. 213; *Auctions 101 and 102 Procedures Public Notice*, 33 FCC Rcd at 7650, para. 245; *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5591, para. 195.

⁵⁸ See Sections IV.A.8.a and d (No Excess Supply Rule for Bids to Reduce Demand; and Processed Demands), below.

⁵⁹ See, e.g., *Auction 97 Procedures Public Notice*, 29 FCC Rcd at 8440, para. 193.

⁶⁰ We note that minimum opening bid amounts in Commission auctions are not meant to predict the value of the spectrum. See, e.g., *Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5591, para. 197.

⁶¹ See note 40 (concerning rounding), above.

approach. Commenters may wish to suggest other modifications to our proposal, such as weighting the minimum opening bid calculation using past auction prices.⁶² Commenters should support their claims with valuation analyses and suggested amounts or formulas for reserve prices or minimum opening bids.

57. In establishing minimum opening bid amounts, we particularly seek comment on factors that could reasonably affect bidders' valuation of the spectrum, including the type of service offered, market size, population covered by the proposed facility, and any other relevant factors.

58. Commenters may also wish to address the general role of minimum opening bids in managing the pace of the auction. For example, commenters could compare using minimum opening bids—e.g., by setting higher minimum opening bids to reduce the number of rounds it takes licenses to reach their final prices—to other means of controlling auction pace, such as changing the bidding schedule, the activity requirement percentage, or the bid increment percentage.

b. Clock Price Increments

59. Under our proposed clock phase procedures for Auction 107, after bidding in the first round and before each subsequent round, the FCC auction bidding system would announce the start-of-round price⁶³ and the clock price for the upcoming round—that is, the lowest price and the highest price at which bidders can specify the number of blocks they demand during the round. As long as aggregate demand for blocks in the product exceeds the supply of blocks, the start-of-round price would be equal to the clock price from the prior round. If demand equaled supply at a price in a previous round, then the start-of-round price for the next round would be equal to the price at which demand equaled supply. If demand was less than supply in the previous round, then the start-of-round price for the next round would not increase.

60. We propose to set the clock price for blocks in a specific product for a round by adding a percentage increment to the start-of-round price.⁶⁴

61. We propose to set the increment percentage within a range of 5% to 20% inclusive, to set the initial increment percentage at 10%, and potentially to adjust the increment as rounds continue. The proposed 5% to 20% increment range will allow us to set a percentage that manages the auction pace and takes into account bidders' needs to evaluate their bidding strategies while moving the auction along quickly.

62. We seek comment on these proposed procedures.

c. Intra-Round Bids

63. We propose generally to permit a bidder to make intra-round bids by indicating a point between the start-of-round price and the clock price at which its demand for blocks changes. In placing an intra-round bid, a bidder would indicate a specific price and a quantity of blocks it demands if the price for blocks should increase beyond that price. For example, if a bidder has processed demand of 3 blocks at the start of the round price of \$200, but wishes to hold only 2 blocks if the price increases by more than \$10 (assuming the bid increment is more than \$10), the bidder will indicate a bid quantity of 2 at a price of \$210 (\$200+\$10). Similarly, if the bidder wishes to reduce its demand to 0 if the price increases above \$200 at all, the bidder will indicate a bid quantity of 0 at the start-of-round price of \$200.

64. Intra-round bids would be optional; a bidder may choose to express its demands only at the clock prices. This proposal to permit intra-round bidding would allow the auction system to use

⁶² See, e.g., *Auction 1000 Bidding Procedures Public Notice*, 30 FCC Rcd at 9023-24, para. 77, regarding relative price index and deciles.

⁶³ The start-of-round price is also referred to as the posted price of the previous round.

⁶⁴ For example, if the start-of-round price for a block in a given PEA is \$10,000, and the percentage increment is 20%, then the clock price for the round will be \$12,000. The result will be rounded up to the nearest \$1,000.

relatively large increments, thereby speeding the auction, without running the risk that a jump in the clock price will overshoot the market clearing price—the point at which demand for blocks equals the available supply. We seek comment on the proposal to allow intra-round bids.

8. Bids to Change Demand, Bid Types, and Bid Processing

65. Under the ascending clock auction format we propose for Auction 107, a bidder would indicate in each round the number of blocks in each product that it demands at a given price. A bidder that wishes to change the quantity it demands (relative to its demands from the previous round as processed by the bidding system) would express its demands at the clock price or at an intra-round price. A bidder that is willing to maintain the same demand in a product at the new clock price would bid for that quantity at the clock price, indicating that it is willing to pay up to that price, if need be, for the specified quantity. Bids to maintain demand would always be applied by the auction bidding system.

66. In order to facilitate bidding for multiple blocks in a PEA, we propose that bidders will be permitted to make two types of bids: simple bids and switch bids. A “simple” bid indicates a desired quantity of blocks in a category at a price (either the clock price or an intra-round price). A “switch” bid allows the bidder to request to move its demand for a quantity of blocks from the A category to the BC category, or vice versa, within the same PEA at a price for the “from” category (either the clock price or an intra-round price).⁶⁵

67. We do not propose to incorporate any form of package bidding procedures into the clock phase of Auction 107. Package bidding would add complexity to the bidding process, and we do not see significant benefit from such procedures, given the clock auction and assignment phase format we are proposing. A bidder may bid on multiple blocks in a PEA and in multiple PEAs. As set forth below, we propose that the assignment phase will assign contiguous blocks to winners of multiple blocks in a category in a PEA and give bidders an opportunity to express their preferences for specific frequency blocks, thereby facilitating aggregations of licenses.

68. We propose bid processing procedures that the auction bidding system would use, after each bidding round, to process bids to change demand to determine the *processed demand* of each bidder for each product and a *posted price* for each product that would serve as the start-of-round price for the next round.

a. No Excess Supply Rule for Bids to Reduce Demand

69. Under the ascending clock auction format, the FCC auction bidding system will not allow a bidder to reduce the quantity of blocks it demands in a product if the reduction would result in aggregate demand falling below (or further below) the available supply of blocks in the product. Therefore, if a bidder submits a simple bid to reduce the number of blocks for which it has processed demand as of the previous round, the FCC auction bidding system will treat the bid as a request to reduce demand that will be applied only if the “no excess supply” rule would be satisfied. Similarly, if a bidder submits a switch bid to move its demand for a quantity of blocks from the A category to the BC category within the same PEA, the FCC auction bidding system will treat the bid as a request that will be applied only if the “no excess supply” rule would be satisfied for the A category in the PEA.

b. Eligibility Rule for Bids to Increase Demand

70. The bidding system will not allow a bidder to increase the quantity of blocks it demands in a product if the total number of bidding units associated with the bidder’s demand exceeds the bidder’s bidding eligibility for the round. Therefore, if a bidder submits a simple bid to increase the number of blocks for which it has processed demand as of the previous round, the FCC auction bidding system will

⁶⁵ See the Clock Phase Technical Guide for more details.

treat the bid as a request to increase demand that will be applied only if that would not cause the bidder's activity to exceed its eligibility.⁶⁶

c. Partial Application of Bids

71. Under our proposed bid processing procedures, a bid (simple bid or switch bid) that involves a reduction from the bidder's previous demands could be applied partially—that is, reduced by fewer blocks than requested in the bid—if excess demand is insufficient to support the entire reduction. A switch bid may be applied partially, but the increase in demand in the “to” category will always match in quantity the reduction in the “from” category. A simple bid to increase a bidder's demand could be applied partially if the total number of bidding units associated with the bidder's demand exceeds the bidder's bidding eligibility for the round.

d. Processed Demands

72. We propose to process bids to change demand in order of price point after a round ends,⁶⁷ where the price point represents the percentage of the bidding interval for the round.⁶⁸ Under this proposal, the FCC auction bidding system would process bids to change demand in ascending order of price point, first considering intra-round bids in order of price point and then bids at the clock price. The system would consider bids at the lowest price point across all PEAs, then look at bids at the next price point in all areas, and so on.⁶⁹ As it considers each submitted bid during bid processing, the FCC auction bidding system would determine the extent to which there is excess demand in each PEA at that point in the processing in order to determine whether a bidder's request to reduce demand can be applied. Likewise, the auction bidding system would evaluate the activity associated with the bidder's most recently determined demands at that point in the processing to determine whether a request to increase demand can be applied.

73. Because in any given round some bidders may request to increase demands for licenses while others may request reductions, the price point at which a bid is considered by the auction bidding system can affect whether it is applied. In addition to proposing that bids be considered by the system in increasing order of price point, we further propose that bids not applied because of insufficient aggregate demand or insufficient eligibility be held in a queue and considered, again in order, if there should be excess demand or sufficient eligibility later in the processing after other bids are processed.

74. Therefore, under our proposed procedures, once a round closes, the auction system would process bids to change demand by first considering the bid submitted at the lowest price point and determining the maximum extent to which that bid can be applied given bidders' demands as determined at that point in the bid processing. If the bid can be applied (either in full or partially), the number of licenses the bidder holds at that point in the processing would be adjusted, and aggregate demand would be recalculated accordingly. If the bid cannot be applied in full, the unfulfilled bid, or portion thereof, would be held in a queue to be considered later during bid processing for that round. The FCC auction bidding system would then consider the bid submitted at the next highest price point, applying it in full, in part, or not at all, given the most recently determined demands of bidders. Any unfulfilled requests would again be held in the queue, and aggregate demand would again be recalculated. Every time a bid or part of a bid is applied, the unfulfilled bids held in the queue would be reconsidered, in the order of the

⁶⁶ The eligibility rule for bids to increase demand does not apply to switch bids because the bidder's processed activity does not change when a switch bid is applied.

⁶⁷ Bids to maintain demand are always applied before the bidding system considers bids to change demand.

⁶⁸ For example, if the start-of-round price is \$5,000 and the clock price is \$6,000, a price of \$5,100 will correspond to the 10% price point, since it is 10% of the bidding interval between \$5,000 and \$6,000.

⁶⁹ We propose that, if there are multiple bids at a single price point, the system will process bids in order of a bid-specific pseudo-random number.

original price points of the bids (and by pseudo-random number, in the case of tied price points). The auction bidding system would not carry over unfulfilled bid requests to the next round, however. The bidding system would advise bidders of the status of their bids when round results are released.

e. Price Determination

75. We further propose bid processing procedures that would determine, based on aggregate demand, the posted price for each product for the round that will serve as the start-of-round price for the next round. Under our proposal, the uniform price for all of the blocks in a product would increase from round to round as long as there is excess demand for blocks in the product but would not increase if aggregate demand does not exceed the available supply of blocks.

76. We propose that if, at the end of a round, the aggregate demand for blocks in the product exceeds the supply of blocks, the posted price would equal the clock price for the round. If a reduction in demand was applied during the round and caused demand in the product to equal supply, the posted price would be the price at which the reduction was applied. If aggregate demand is less than or equal to supply and no bid to reduce demand was applied for the product, then the posted price would equal the start-of-round price for the round. The range of acceptable bid amounts for the next round would be set by adding the percentage increment to the posted price.

77. When a bid to reduce demand can be applied only partially, the uniform price for the product would stop increasing at that point, since the partial application of the bid would result in demand falling to equal supply. Hence, a bidder that makes a bid to reduce demand that cannot be fully applied would not face a price for the remaining demand that is higher than its bid price.

78. After the bids of the round have been processed, if the stopping rule has not been met, the FCC auction bidding system would announce clock prices to indicate a range of acceptable bids for the next round. Each bidder would be informed of its processed demand and the extent of excess demand for blocks in each product.

79. We seek comment on our proposals regarding bid processing for Auction 107.

9. Winning Bids in the Clock Phase

80. Under our proposed clock auction format for Auction 107, bidders with processed demand for a product at the time the stopping rule is met will become the winning bidders of licenses corresponding to that number of blocks and will be assigned specific frequencies in the assignment phase. The final clock phase price for a generic block in a product would be the posted price for the final round.⁷⁰

B. Assignment Phase

81. Following the conclusion of the clock phase, we propose to conduct an assignment phase using a series of single-round sealed-bid bidding rounds, where each clock phase winning bidder will have the opportunity to indicate its preferences for specific frequency licenses corresponding to the generic blocks it won in the clock phase. A bidder will be assigned contiguous frequencies for blocks it wins within each category and PEA regardless of whether it chose to bid in the assignment phase.

1. Sequencing and Grouping of PEAs

82. We propose to sequence assignment rounds to make it easier for bidders to incorporate frequency assignments from previously assigned areas into their bid preferences for other areas, recognizing that bidders winning multiple blocks of licenses generally will prefer contiguous blocks across adjacent PEAs. To that end, we propose to conduct rounds for the largest markets first to enable bidders to establish a “footprint” from which to work.

⁷⁰ This and other Auction 107 bid processing details are addressed in the Clock Phase Technical Guide.

83. Specifically, we propose to conduct a separate assignment round for each of the top 20 PEAs and to conduct these assignment rounds sequentially, beginning with the largest PEAs.⁷¹ Once the top 20 PEAs have been assigned, we propose to conduct, for each Regional Economic Area Grouping (REAG),⁷² a series of assignment rounds for the remaining PEAs within that region.

84. We further propose, where feasible, to group into a single market for assignment any non-top 20 PEAs within a region in which the same winning bidders need to be assigned the same number of blocks in each category, and all are subject to the small markets bidding cap or all are not subject to the cap, which will also help maximize contiguity across PEAs. We propose to sequence the assignment rounds within a REAG in descending order of population for a PEA group or individual PEA. We further propose to conduct the bidding for the different REAGs in parallel in order to reduce the total amount of time required to complete the assignment phase.

85. We seek comment on these proposals for sequencing assignment rounds, including conducting separate rounds for the top 20 PEAs, and on our proposal to group PEAs for bidding under some circumstances within REAGs.

2. Acceptable Bids and Bid Processing

86. Under our proposal, in each assignment round, a bidder will be asked to assign a price to one or more possible frequency assignments for which it wishes to express a preference, consistent with its winnings for generic blocks in the clock phase. The price will represent a maximum payment that the bidder is willing to pay, in addition to the base price established in the clock phase for the generic blocks, for the frequency-specific license or licenses in its bid. If there are two categories, we propose that a bidder will submit its preferences for blocks it won in the 3.7–3.8 GHz and 3.8–3.98 GHz bands separately, rather than submitting bids for preferences that include blocks in both categories. That is, if a bidder won one block in Category A and two blocks in Category BC, it would not be able to submit a single bid amount for an assignment that included both categories. Instead, it would submit its bid or bids for assignments in Category A separately from its bid or bids for assignments in Category BC.

87. We propose to use an optimization approach to determine the winning frequency assignment for each category in each PEA or PEA group. We propose that the auction system will select the assignment that maximizes the sum of bid amounts among all assignments that satisfy the contiguity requirements.⁷³ We propose that the additional price a bidder will pay for a specific frequency assignment (above the base price) will be calculated consistent with a generalized “second price” approach—that is, the winner will pay a price that would be just sufficient to result in the bidder receiving that same winning frequency assignment while ensuring that no group of bidders is willing to pay more for an alternative assignment that satisfies the contiguity restrictions.⁷⁴ This price will be less than or equal to the price the bidder indicated it was willing to pay for the assignment. We propose to determine prices in this way because it facilitates bidding strategy for the bidders, encouraging them to bid their full value for the assignment, knowing that if the assignment is selected, they will pay no more than would be necessary to ensure that the outcome is competitive.⁷⁵

⁷¹ In Auction 1002, we conducted sequential rounds for the top 40 PEAs and for Auction 102, we did the same. We altered our proposal for Auction 103, in order to further speed up the assignment phase by including PEAs 21-40 in the simultaneous REAG assignment rounds. Our experience in Auction 1002 and Auction 102 suggests that this proposed change will not adversely affect bidders. We will consider the results of Auction 103, as well as any commenter input, before determining our final procedures.

⁷² The six REAGs are: Northeast, Southeast, Great Lakes, Mississippi Valley, Central, and West.

⁷³ Furthermore, if multiple blocks in a category in a PEA remain unsold, the unsold licenses will be contiguous.

⁷⁴ The Assignment Phase Technical Guide provides mathematical details of this proposal.

⁷⁵ We propose to determine prices using the Vickrey-nearest approach, which is described in the Assignment Phase Technical Guide.

88. We seek comment on these proposed procedures.

V. POST-AUCTION PROCESS

A. Deficiency Payments and Additional Default Payment Percentage

89. Any winning bidder that defaults or is disqualified after the close of an auction (i.e., fails to remit the required down payment by the specified deadline, fails to submit a timely long-form application, fails to make full and timely final payment, or is otherwise disqualified) is liable for a default payment under section 1.2104(g)(2) of the rules.⁷⁶ This payment consists of a deficiency payment, equal to the difference between the amount of the bidder's winning bid and the amount of the winning bid the next time a license covering the same spectrum is won in an auction, plus an additional payment equal to a percentage of the defaulter's bid or of the subsequent winning bid, whichever is less.

90. The Commission's rules provide that, in advance of each auction, it will establish a percentage between 3% and 20% of the applicable winning bid to be assessed as an additional default payment.⁷⁷ As the Commission has indicated, the level of this additional payment in each auction will be based on the nature of the service and the licenses being offered.⁷⁸

91. For Auction 107, we propose to establish an additional default payment of 15%, which is consistent with that adopted for Auctions 101, 102, and 103.⁷⁹ As noted in the *CSEA/Part 1 Report and Order*, defaults weaken the integrity of the auction process and may impede the deployment of service to the public, and an additional default payment of up to 20% will be more effective in deterring defaults than the 3% used in some earlier auctions.⁸⁰ At the same time, we do not believe the detrimental effects of any defaults in Auction 107 are likely to be unusually great. In light of these considerations, we propose for Auction 107 an additional default payment of 15% of the relevant bid. We seek comment on this proposal.

92. In case they are needed for post-auction administrative purposes, the bidding system will calculate individual per-license prices that are separate from final auction payments, which are calculated on an aggregate basis. The bidding system will apportion to individual licenses any assignment phase payments and any capped bidding credit discounts,⁸¹ since in both cases, a single amount may apply to multiple licenses.⁸²

VI. TUTORIALS AND ADDITIONAL INFORMATION FOR APPLICANTS

93. We intend to provide additional information on the bidding system and to offer demonstrations and other educational opportunities for applicants in Auction 107 to familiarize themselves with the FCC auction application system and the auction bidding system. For example, we intend to release online tutorials that will help applicants understand the procedures to be followed in the

⁷⁶ 47 CFR § 1.2104(g)(2).

⁷⁷ *Id.* § 1.2104(g)(2)(ii).

⁷⁸ *Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission's Competitive Bidding Rules and Procedures*, Report and Order, 21 FCC Rcd 891, 903-04, para. 31 (2006) (*CSEA/Part 1 Report and Order*).

⁷⁹ *See Auction 103 Procedures Public Notice*, 34 FCC Rcd at 5601, para. 248; *Auctions 101 and 102 Procedures Public Notice*, 33 FCC Rcd at 7660, para. 295; *see also, e.g., Auction 97 Procedures Public Notice*, 29 FCC Rcd at 8451, para. 240 (adopting an additional default payment of 15%); *Auction 96 Procedures Public Notice*, 28 FCC Rcd at 13073-74, para. 218 (adopting an additional default payment of 15%).

⁸⁰ *CSEA/Part 1 Report and Order*, 21 FCC Rcd at 902-03, para. 29.

⁸¹ *See* Section III.A (Bidding Credit Caps), above.

⁸² For additional details, see the Assignment Phase Technical Guide.

filing of their auction short-form applications (FCC Form 175) and on the bidding procedures for Auction 107.

VII. PROCEDURAL MATTERS

94. *Supplemental Initial Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act of 1980, as amended (RFA),⁸³ we have prepared this Supplemental Initial Regulatory Flexibility Analysis (Supplemental IRFA) of the possible significant economic impact on small entities of the policies and rules addressed in this Public Notice to supplement the Commission's Initial and Final Regulatory Flexibility Analyses completed in the *3.7 GHz NPRM* and *3.7 GHz Report and Order*, and other Commission orders pursuant to which Auction 107 will be conducted.⁸⁴ Written public comments are requested on this Supplemental IRFA. Comments must be identified as responses to the Supplemental IRFA and must be filed by the same deadline for comments specified on the first page of this Public Notice. We will send a copy of this Public Notice, including this Supplemental IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).⁸⁵ In addition, this Public Notice and Supplemental IRFA (or summaries thereof) will be published in the *Federal Register*.⁸⁶

95. *Need for, and Objectives of, the Proposed Rules.* This Public Notice sets forth the proposed auction procedures for those entities that seek to bid to acquire licenses in Auction 107. This Public Notice seeks comment on proposed procedural rules to govern Auction 107, which will auction flexible-use overlay licenses for the 3.7 GHz Service in the 3.7–3.98 GHz band. This process is intended to provide notice of and adequate time for potential applicants to comment on proposed auction procedures.⁸⁷ To promote the efficient and fair administration of the competitive bidding process for all Auction 107 participants, we seek comment on the following proposed procedures:

- use of anonymous bidding/limited information procedures which will not make public: (1) the license areas that an applicant selects for bidding in its auction application (FCC Form 175); (2) the amount of any upfront payment made by or on behalf of an applicant for Auction 107; (3) an applicant's bidding eligibility; and (4) any other bidding-related information that might reveal the identity of the bidder placing a bid, until after bidding has closed;
- establishment of bidding credit caps for eligible small businesses and rural service providers in Auction 107;
- retention by OEA of discretion to adjust the bidding schedule in order to manage the pace of Auction 107;
- use of a simultaneous stopping rule for Auction 107, under which all blocks in both categories in all PEAs would remain available for bidding until the bidding stops in every PEA;
- provision of discretionary authority to OEA, in conjunction with WTB, to delay, suspend, or cancel bidding in Auction 107 for any reason that affects the ability of the competitive bidding process to be conducted fairly and efficiently;

⁸³ 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, Pub. L. No. 104-121, 110 Stat. 857 (1996).

⁸⁴ See *Expanding Flexible Use of the 3.7 to 4.2 GHz Band et al.*, Order and Notice of Proposed Rulemaking, Appx. B, 33 FCC Rcd 6915, 6990-7003, paras. 1-51 (2018) (*3.7 GHz NPRM*); *3.7 GHz Report and Order*, Appx. B, FCC 20-22 at 186-98, paras. 1-56.

⁸⁵ See 5 U.S.C. § 603(a).

⁸⁶ See *id.*

⁸⁷ See 47 U.S.C. § 309(j)(3)(E)(i) (requiring the Commission to seek comment on auction procedures).

- use of a clock auction format for Auction 107 under which each qualified bidder will indicate in successive clock bidding rounds its demands for categories of generic blocks in specific geographic areas;
- use of an activity rule that would require bidders to be active on between 90% and 100% of their bidding eligibility in all regular clock rounds;
- use of an activity rule that does not include a waiver of the rule to preserve a bidder's eligibility;
- a specific minimum opening bid amount for products available in Auction 107;
- a specific upfront payment amount for products available in Auction 107;
- establishment of a bidder's initial bidding eligibility in bidding units based on that bidder's upfront payment through assignment of a specific number of bidding units for each generic block;
- establishment of acceptable bid amounts, including clock price increments and intra-round bids, along with a proposed methodology for calculating such amounts;
- a proposed methodology for processing bids and requests to reduce and increase demand;
- establishment of an assignment phase that will determine which frequency-specific licenses will be won by the winning bidders of generic blocks during the clock phase; and
- establishment of an additional default payment of 15% under section 1.2104(g)(2) of the rules in the event that a winning bidder defaults or is disqualified after the auction.

96. The proposed procedures for the conduct of Auction 107 constitute the more specific implementation of the competitive bidding rules contemplated by Parts 1 and 30 of the Commission's rules, the *3.7 GHz Report and Order*, and relevant competitive bidding orders, and are fully consistent therewith.⁸⁸

97. *Legal Basis.* The Commission's statutory obligations to small businesses under the Communications Act of 1934, as amended, are found in sections 309(j)(3)(B) and 309(j)(4)(D). The statutory basis for the Commission's competitive bidding rules is found in various provisions of the Communications Act of 1934, as amended, including 47 U.S.C. §§ 154(i), 301, 302, 303(e), 303(f), 303(r), 304, 307, and 309(j). The Commission has established a framework of competitive bidding rules, updated most recently in 2015, pursuant to which it has conducted auctions since the inception of the auctions program in 1994 and would conduct Auction 107.⁸⁹

98. *Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply.* The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules and policies, if adopted.⁹⁰ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business,"

⁸⁸ See generally *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2360-75, paras. 68-159.

⁸⁹ See generally 47 CFR Part 1, Subpart Q; see also *id.* §§ 73.5000, 73.5002-.5003, 73.5005-.5009. In promulgating those rules, the Commission conducted numerous RFA analyses to consider the possible impact of those rules on small businesses that might seek to participate in Commission auctions. See, e.g., *Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, Notice of Proposed Rule Making, Appx., 8 FCC Rcd 7635, 7666 (1993); *Amendment of Part 1 of the Commission's Rules—Competitive Bidding Proceeding*, Order, Memorandum Opinion and Order and Notice of Proposed Rule Making, Appx. C, 12 FCC Rcd 5686, 5749-53 (1997); *Updating Part 1 Report and Order*, Appx. B, 30 FCC Rcd at 7613-28, paras. 1-48. In addition, a Final Regulatory Flexibility Analysis (FRFA) is included in the concurrent rulemaking order that adopts rule provisions relevant to this Public Notice. See *3.7 GHz Report and Order*, Appx. B, 20 FCC 20-22 at 186-98, paras. 1-56.

⁹⁰ 5 U.S.C. § 603(b)(3).

“small organization,” and “small governmental jurisdiction.”⁹¹ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.⁹² A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.⁹³

99. As noted above, Regulatory Flexibility Analyses were incorporated into the *3.7 GHz NPRM* and the *3.7 GHz Report and Order*. In those analyses, we described in detail the small entities that might be significantly affected. In this Public Notice, we hereby incorporate by reference the descriptions and estimates of the number of small entities from the previous Regulatory Flexibility Analyses in the *3.7 GHz NPRM* and the *3.7 GHz Report and Order*.⁹⁴

100. *Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities.* The Commission designed the auction application process itself to minimize reporting and compliance requirements for applicants, including small business applicants. In the first part of the Commission’s two-phased auction application process, parties desiring to participate in an auction file streamlined, short-form applications in which they certify under penalty of perjury as to their qualifications.⁹⁵ Eligibility to participate in bidding is based on an applicant’s short-form application and certifications, as well as its upfront payment. In the second phase of the process, winning bidders file a more comprehensive long-form application. Thus, an applicant which fails to become a winning bidder does not need to file a long-form application and provide the additional showings and more detailed demonstrations required of a winning bidder.

101. We do not expect the processes and procedures proposed in this Public Notice will require small entities to hire attorneys, engineers, consultants, or other professionals to participate in Auction 107 and comply with the procedures we ultimately adopt because of the information, resources, and guidance we make available to potential and actual participants. For example, we intend to release an online tutorial that will help applicants understand the procedures for filing of the auction short-form application (FCC Form 175). We also intend to make information on the bidding system available and offer demonstrations and other educational opportunities for applicants in Auction 107 to familiarize themselves with the FCC auction application system and the auction bidding system. By providing these resources as well as the resources discussed below, we expect small business entities who use the available resources to experience lower participation and compliance costs. Nevertheless, while we cannot quantify the cost of compliance with the proposed procedures, we do not believe that the costs of compliance will unduly burden small entities that choose to participate in the auction because the proposals for Auction 107 are similar in many respects to the procedures in recent auctions conducted by the Commission.⁹⁶

102. *Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered.* The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include

⁹¹ *Id.* § 601(6).

⁹² *Id.* § 601(3) (incorporating by reference the definition of “small business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

⁹³ 15 U.S.C. § 632.

⁹⁴ See *3.7 GHz NPRM*, Appx. B, 33 FCC Rcd at 6991-94, paras. 8-13; *3.7 GHz Report and Order*, Appx. B, FCC 20-22 at 186-98, paras. 1-56.

⁹⁵ *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2376-77, paras. 163-66.

⁹⁶ See *Auction 103 Procedures Public Notice*, 34 FCC Rcd 5532.

the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”⁹⁷

103. We have taken steps to minimize any economic impact of our auction procedures on small businesses through, among other things, the many resources we provide potential auction participants. Small entities and other auction participants may seek clarification of or guidance on complying with competitive bidding rules and procedures, reporting requirements, and the FCC’s auction bidding system. An FCC Auctions Hotline provides access to Commission staff for information about the auction process and procedures. The FCC Auctions Technical Support Hotline is another resource which provides technical assistance to applicants, including small entities, on issues such as access to or navigation within the electronic FCC Form 175 and use of the FCC’s auction bidding system. Small entities may also use the web-based, interactive online tutorial produced by Commission staff to familiarize themselves with auction procedures, filing requirements, bidding procedures, and other matters related to an auction.

104. We also make various databases and other sources of information, including the Auctions program websites and copies of Commission decisions, available to the public without charge, providing a low-cost mechanism for small entities to conduct research prior to and throughout the auction. Prior to and at the close of Auction 107, we will post public notices on the Auctions website, which articulate the procedures and deadlines for the auction. We make this information easily accessible and without charge to benefit all Auction 107 applicants, including small entities, thereby lowering their administrative costs to comply with the Commission’s competitive bidding rules.

105. Prior to the start of bidding, eligible bidders are given an opportunity to become familiar with auction procedures and the bidding system by participating in a mock auction. Further, we intend to conduct Auction 107 electronically over the Internet using its web-based auction system that eliminates the need for bidders to be physically present in a specific location. Qualified bidders also have the option to place bids by telephone. These mechanisms are made available to facilitate participation in Auction 107 by all eligible bidders and may result in significant cost savings for small business entities that use these alternatives. Moreover, the adoption of bidding procedures in advance of the auction, consistent with statutory directive, is designed to ensure that the auction will be administered predictably and fairly for all participants, including small entities.

106. For Auction 107, we propose a \$25 million cap on the total amount of bidding credits that may be awarded to an eligible small business and a \$10 million cap on the total amount of bidding credits that may be awarded to a rural service provider. In addition, we propose a \$10 million cap on the overall amount of bidding credits that any winning small business bidder may apply to winning licenses in markets with a population of 500,000 or less. Based on the technical characteristics of the 3.7–3.98 band and our analysis of past auction data, we anticipate that our proposed caps will allow the majority of small businesses to take full advantage of the bidding credit program, thereby lowering the relative costs of participation for small businesses.

107. These proposed procedures for the conduct of Auction 107 constitute the more specific implementation of the competitive bidding rules contemplated by Parts 1 and 30 of the Commission’s rules, the *3.7 GHz Report and Order*, and relevant competitive bidding orders, and are fully consistent therewith.⁹⁸

108. *Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules.* None.

⁹⁷ 5 U.S.C. §§ 603(c)(1)-(4).

⁹⁸ See generally *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2360-75, paras. 68-159.

109. *Deadlines and Filing Procedures.* Pursuant to sections 1.415 and 1.419 of the Commission's rules,⁹⁹ interested parties may file comments or reply comments on or before the dates indicated on the first page of this document in AU Docket No. 20-25. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies.¹⁰⁰ We strongly encourage interested parties to file comments electronically.

- *Electronic Filers:* Comments may be filed electronically using the Internet by accessing the ECFS at <https://www.fcc.gov/ecfs>.
- *Paper Filers:* Parties who choose to file by paper must file an original and one copy of each filing.

110. Filings in response to this Public Notice may be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th Street, SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. Eastern Time (ET). All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of *before* entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington, DC 20554.

111. *E-mail:* We also request that a copy of all comments and reply comments be submitted electronically to the following address: auction107@fcc.gov.

112. *People with Disabilities:* To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer and Government Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY).

113. This proceeding has been designated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.¹⁰¹ Persons making oral *ex parte* presentations must file a copy of any written presentations or memoranda summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine Period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda, or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to the Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system

⁹⁹ 47 CFR §§ 1.415, 1.419.

¹⁰⁰ See generally *Electronic Filing of Documents in Rulemaking Proceedings*, 63 Fed. Reg. 24121 (1998).

¹⁰¹ See 47 CFR §§ 1.1200(a), 1.1206.

available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

114. *Contact Information.* For further information concerning this proceeding, contact the offices listed below:

Mobility Division, Wireless Telecommunications Bureau

3.7–3.98 GHz legal questions: Anna Gentry at (202) 418-1991

Broadband Division, Wireless Telecommunications Bureau

3.7–3.98 GHz technical questions: Janet Young at (202) 418-0837

Auctions Division, Office of Economics and Analytics

Auction legal questions: Erik Beith or Tajma Rahimic at (202) 418-0660
General auction questions: Auctions Hotline at (717) 338-2868

Office of Communications Business Opportunities

For questions concerning small business inquiries: (202) 418-0990

115. Action by the Commission on February 28, 2020: Commissioner Rosenworcel dissenting and issuing a statement; Commissioner Starks dissenting.

**ATTACHMENT A:
Proposed Upfront Payment and Minimum Opening Bid Amounts**

This page was intentionally inserted as a placeholder for Attachment A, which is available as a separate file.

**STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL
DISSENTING**

Re: *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, GN Docket No. 18-122

Re: *Auction of Flexible-Use Service Licenses 3.7-3.98 GHz Band for Next-Generation Wireless Services, Comment Sought on Competitive Bidding Procedures for Auction 107*, AU Docket No. 20-25

In the United States we have a mid-band spectrum problem that is threatening to slow our ability to build faster 5G wireless networks.

That is a fact that is universally recognized. It's the result of a few forces. For starters, so much of our mid-band airwaves are already used by government agencies or commercial services. That's not true in many other parts of the world where this spectrum has been less broadly deployed and can more easily be repurposed for next-generation wireless networks. In fact, more than two dozen countries have made significant progress in making mid-band airwaves the core of early 5G service and are reaping the benefits. But the United States has fallen behind because instead tackling our own mid-band shortage, we've spent the last three years bringing high-band airwaves to market with a series of auctions of the 24, 28, 37, 39, and 47 GHz bands.

That's why last year I warned in *WIRED* that the Federal Communications Commission needs to pivot from its exclusive focus on high-band spectrum to mid-band airwaves. After all, if we don't the world will move on without us. Why? Because our efforts to date with high-band airwaves at the expense of mid-band spectrum are misguided. High-band airwaves have substantial capacity, but their signals do not travel far. As a result, commercializing them is costly—especially in rural areas. The sheer volume of antenna facilities required to make this service viable will limit deployment to the most populated urban areas. That means our early 5G spectrum policy has only deepened the digital divide.

Along the way, we had no shortage of opportunities to address this problem. We could have held an incentive auction of spectrum in the 2.5 GHz band. We could have held an auction of the 3.5 GHz band early instead of delaying it three years for piecemeal policy changes. We could have moved faster on our unlicensed proposals in the 5.9 GHz band which have been kicking around this agency for seven years. But we did not. We refused to acknowledge there was even a problem. And when this agency made shortsighted decisions about mid-band spectrum, I called them out.

So now we have today's decision. In this proceeding, the FCC finally accepts what is obvious: we have reached the point where we need to fix our mid-band spectrum problem. We finally recognize our 5G future depends on getting this right. That's the good news.

The not-so-good news is that the C-band may be among the most challenging slices of spectrum that the FCC has ever taken up. It has unique features that were not on congressional radar when this agency was given authority to repurpose spectrum. You can start with the fact that existing incumbents in the 3.7-4.2 GHz band share the full 500 megahertz at the same time. Plus, millions of households across the country rely on this spectrum to receive a wide range of television and radio programming. All of this means that the traditional tools available to us won't work.

With our hands already tied, the FCC tries to fix this problem the wrong way. Specifically, the FCC proposes to clear the C-band for 5G by sunseting existing operations by 2025 and then offering incumbent satellite operators the option to accelerate their transition in exchange for their reasonable relocation costs—as much as \$5.2 billion—plus a \$9.7 billion accelerated relocation payment. Then the FCC proposes to hold a public auction of overlay licenses for new flexible use, including 5G.

There are three things that are fundamentally wrong with this proposal.

First, this decision is wrong on the law. Section 309(j) of the Communications Act sets forth the procedures for this agency to hold a spectrum auction. It requires that all deposits the FCC may require to bid in an auction, as well as all proceeds from the use of an auction, are deposited in the United States Treasury. Consistent with this rule, under the FCC's tried-and-true *Emerging Technologies* framework, the agency may require new entrants to privately negotiate with incumbents and pay their reasonable relocation expenses. This very specific framework has not only been used in the past, it has been blessed by courts that have reviewed our auction proposals.

But that's not the framework we adopt here no matter how this decision tries to dress it up and say otherwise. The *Emerging Technologies* framework is a voluntary and market-based approach to spectrum clearing. It offers new licensees the option to pay for faster access and capitalizes on the fact that a new entrant has better information about the value of relocation and an incumbent has better information about the cost. This asymmetry of information creates incentives for parties to engage in strategic bargaining, increasing the likelihood that a fair and efficient agreement can be reached.

However here, with a legal sleight of hand, the FCC takes what must be voluntary and makes it mandatory. We force C-band auction winners to pay nearly \$10 billion to incumbent satellite operators over and above their relocation costs. There is no cite to any legal authority or precedent that allows us to do so.

Moreover, we pluck that amount of payment out of thin air in a manner that does not reflect how market transactions work. That puts what we do here fundamentally at odds with both the *Emerging Technologies* framework and Section 309(j). Indeed, where Congress previously authorized the FCC to require similar payments in the context of an incentive auction, it required the agency to use a competitive reverse auction to facilitate price discovery and then give forward auction participants the choice to pay it.

Nor do we square our decision with the court's finding in *Teledesic LLC v. FCC* that any voluntary incentive payment must be proportionate to the cost of providing replacement facilities. There is no attempt here to explain how the acceleration payment is tied at all to facilitating access to the C-band—beyond placating the largest incumbents.

All of this means that this decision forces auction winners to make an arbitrary payment that reduces the proceeds the government would otherwise realize at auction. Again, this is not what the *Emerging Technologies* framework permits. It's not what is contemplated in Section 309(j) of the Communications Act. The FCC has no legal authority to require any payments to incumbents that extend beyond actual and reasonable relocation costs. Remember that Section 309(j) is explicit that all deposits the FCC may require at auction, as well as all proceeds from the auction, must flow to the United States Treasury. The FCC tries to get around this requirement by suggesting it can create a third category of auction-related payments that are not deposits or proceeds. But by doing so, the FCC is reducing revenues that statutorily must go to the Treasury and is undermining congressional power of the purse. Indeed, if we accept the FCC's argument, it is hard to imagine any limitation on the agency's ability to require payments for any purpose that even loosely can be connected to some spectrum-related goal as a condition of auction participation—and that simply cannot be the case. As a result, it is flat out disingenuous to suggest that authority to make this so-called acceleration payment is established in the *Emerging Technologies* framework. Because it is not.

Second, this decision is wrong on the economics. Comb through this decision and you will not find a rational basis for the nearly \$10 billion we are set to give away in this repurposing of the C-band. It's not the result of data-driven decision-making. At best, it's back-of-the envelope math. It looks a lot

like an effort to justify backroom deals and promised payoffs. That's not the kind of decision a federal agency should be making. That's a question more appropriately answered by Congress or the markets.

What is most disappointing is that just over a year ago the FCC launched a new Office of Economics and Analytics to tackle the hardest issues before us—just like here with the C-band. A key objective of this office, we were told, was providing independent economic analysis to inform the agency's decisions. But in the first real test of this office's abilities—this proceeding—the economics experts are nowhere to be found.

That's too bad, because it would have been nice to know what they thought about all of the issues raised in this proceeding. Here's an example. Early in the decision, the agency discusses the calculation of the benefits associated with an accelerated transition. We cite one economist who says that for every year of delay in making C-band available, consumer welfare is reduced by \$15 billion. Another estimates that one year of delay would reduce the value of repurposing the C-band from seven to eleven percent. But we do no analysis ourselves.

Next, the FCC tackles the relocation costs of the transition. It ticks through all the best guesses in the record. The C-Band Alliance estimates that the total cost to clear 300 megahertz in the contiguous United States would be \$2.8 billion. Eutelsat estimates \$3.5 billion. ACA puts the number closer to \$6.1 billion. So what does the office we set up to do this analysis think? We don't know. Because instead of doing the work ourselves we just go halvesies and pick a range in the middle.

We do the same when it comes to predicting the prices that bidders will pay for licenses to operate on this spectrum. We list the best guesses of the Public Interest Spectrum Coalition, the Brattle Group, the C-Band Alliance, Kerrisdale Capital Management, and American Action Forum and then pick \$0.50 per MHz-pop—because we say it is in the middle. We do no analysis of our own.

Finally, it's hard to square our economic analysis with our decision to dismiss pre-auction aggregation limits, which could limit 5G competition in the future. Likewise, the performance obligations are divorced from the economic reality that they can be a tool to facilitate faster and more widespread 5G deployment. In fact, we only require carriers to build out this spectrum to 45 percent of the population within 8 years. Good luck with rural deployment because that does not suggest a whole lot of urgency.

Third, this decision is wrong on policy. With today's action the FCC substitutes its will for the will of Congress. By acting unilaterally this the agency is not only exceeding its authority under the law, it is denying the legislative branch the ability to produce a statute that gets us where we want to go on 5G and mid-band spectrum. It also denies us all the ability to take the funds from the auction of these public airwaves and put them to broader public purpose than those contemplated in the existing statute.

Working with Congress we can use the billions of dollars in revenues this auction could raise to do the very infrastructure projects this country so desperately needs.

And what might those involve?

We could start with using this auction as a vehicle for Congress to repeal the provision in the Middle Class Tax Relief and Job Creation Act that requires the FCC to auction off T-band spectrum one year from now. This auction will jeopardize the communications of police and fire officials in New York, Philadelphia, Pittsburgh, Washington, Chicago, Dallas, Houston, Los Angeles, San Francisco, Boston, and Miami. We should be looking for every implement in our policy toolkit to help prevent this public safety mess, including support from the revenues associated with this spectrum auction.

Next, we could use the billions of dollars raised in auction revenue to do other big things. We could do audacious things. We could start a fund a new initiative to help with rural broadband. We could fund the nation's transition to next-generation 911, which is sorely needed and would benefit public safety in every state. Or we could use some of the revenues to seed a Homework Gap Trust Fund to help our nation's students stuck in the digital divide. It could support wi-fi hotspots for loan in every school library—and virtually eliminate the Homework Gap overnight.

But because we act now, we handicap the funding Congress could secure and risk discounting the value of this auction in the eyes of the Congressional Budget Office. We deny Congress its rightful role setting auction policy. Plus we take a pass on what is truly needed—a legislative overhaul of our system for incentivizing the return of airwaves and the repurposing of the them for a future where we can lead in 5G. For all of these reasons, I dissent.