

**FCC FACT SHEET\***  
**Spectrum Frontiers Auction 101 (28 GHz) and Auction 102 (24 GHz)**  
Public Notice – AU Docket No. 18-85

**Background:** This Public Notice would establish application and bidding procedures for the auctions of Upper Microwave Flexible Use Service (UMFUS) licenses in the 28 GHz (27.5–28.35 GHz) and 24 GHz (24.25–24.45 and 24.75–25.25 GHz) bands. The 1.55 gigahertz of spectrum available in these auctions would be licensed on a geographic area basis as established by prior Commission actions, with 28 GHz licenses offered in two 425-megahertz blocks by county and 24 GHz licenses offered in seven 100-megahertz blocks by Partial Economic Area (PEA). This item would continue the Commission’s efforts to make additional spectrum available for flexible wireless use, which are critical to ensuring American leadership in the next generation of wireless connectivity, or 5G.

**What the Public Notice Would Do:**

- Adopt the Commission’s proposal to offer the UMFUS licenses through two separate auctions:
  - The auction of the 28 GHz band (Auction 101) would employ the Commission’s standard simultaneous multiple round (SMR) auction format. This format offers every license for bid at the same time and consists of successive bidding rounds in which bidders may place bids on individual licenses.
  - The auction of the 24 GHz band (Auction 102) would employ a clock auction format, which would allow bidding on generic blocks in each PEA in successive clock bidding rounds. The clock phase would be followed by an assignment phase to allow winners of generic blocks to bid for frequency-specific license assignments, while ensuring contiguous block assignments. The Auction 102 format would be similar to the forward auction of the Broadcast Incentive Auction.
- Confirm that the bidding for the 28 GHz band (Auction 101) is scheduled to commence on November 14, 2018, and the bidding for the 24 GHz band (Auction 102) will be scheduled to commence after the conclusion of bidding in Auction 101.
- Adopt the proposal for separate application filing windows (one for Auction 101 and one for Auction 102), and determine that the two initial filing windows would run concurrently.
- Establish that certain of the Commission’s auction rules (*e.g.*, the prohibition on certain communications) would apply across both auctions, given that parties wishing to participate in either auction would be applicants during overlapping periods of time.
- Adopt proposed bidding credit caps of \$25 million for small businesses and \$10 million for rural service providers.

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\* This document is being released as part of a “permit-but-disclose” proceeding. Any presentations or views on the subject expressed to the Commission or its staff, including by email, must be filed in AU Docket No. 18-85, which may be accessed via the Electronic Comment Filing System (<https://www.fcc.gov/ecfs>). Before filing, participants should familiarize themselves with the Commission’s *ex parte* rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission’s meeting. See 47 CFR § 1.1200 *et seq.*



# PUBLIC NOTICE

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## 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\***

**AU Docket No. 18-85**

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\* This document has been circulated for tentative consideration by the Commission at its August 2, 2018 open meeting. The issues referenced in this document and the Commission’s ultimate resolutions of those issues remain under consideration and subject to change. This document does not constitute any official action by the Commission. However, the Chairman has determined that, in the interest of promoting the public’s ability to understand the nature and scope of issues under consideration, the public interest would be served by making this document publicly available. The Commission’s *ex parte* rules apply and presentations are subject to “permit-but-disclose” *ex parte* rules. *See, e.g.*, 47 CFR §§ 1.1206, 1.1200(a). Participants in this proceeding should familiarize themselves with the Commission’s *ex parte* rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission’s meeting. *See* 47 CFR §§ 1.1200(a), 1.1203.

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ATTACHMENT B – Minimum Acceptable Bid Formula for Auction 101

**I. GENERAL INFORMATION**

**A. Introduction**

1. By this Public Notice, the Commission establishes procedures for the upcoming auctions of 5,984 Upper Microwave Flexible Use Service (UMFUS) licenses in the 27.5–28.35 GHz (28 GHz) and 24.25–24.45 and 24.75–25.25 GHz (24 GHz) bands (collectively, the UMFUS bands). These auctions will further our progress toward deploying fifth-generation (5G) wireless, the Internet of Things (IoT), and other advanced spectrum-based services at frequencies above 24 GHz.<sup>1</sup> In doing so, we help ensure continued American leadership in wireless broadband, which represents a critical component of economic growth, job creation, public safety, and global competitiveness.

2. The bidding in the auction for licenses in the 28 GHz band, which is designated as Auction 101, is scheduled to commence on November 14, 2018. Bidding in the auction for licenses in the 24 GHz band, which is designated as Auction 102, will be scheduled to commence after the conclusion of bidding in Auction 101. This Public Notice provides details regarding the procedures, terms, and conditions, as well as dates and deadlines, governing participation in Auctions 101 and 102, and an overview of the post-auction application and payment processes.

**B. Background and Relevant Authority**

3. In the *2016 Spectrum Frontiers Order*, the Commission made millimeter wave (mmW)

<sup>1</sup> See generally *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services et al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014 (2016) (*2016 Spectrum Frontiers Order* or *2016 Spectrum Frontiers FNPRM*); *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services et al.*, Second Report and Order, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, and Memorandum Opinion and Order, 32 FCC Rcd 10988 (2017) (*2017 Spectrum Frontiers Order* or *2017 Spectrum Frontiers FNPRM*); *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services et al.*, Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking, FCC 18-73 (June 8, 2018) (*2018 Spectrum Frontiers Order* or *2018 Spectrum Frontiers FNPRM*) (collectively, the *Spectrum Frontiers Orders*).

(continued....)

spectrum available through both licensed and unlicensed mechanisms.<sup>2</sup> Among other things, the Commission authorized both fixed and mobile operations in the 28 GHz band using geographic area licensing, established licensing and operating rules for the UMFUS, and decided to use its competitive bidding rules to auction UMFUS licenses.<sup>3</sup> In the *2017 Spectrum Frontiers Order*, the Commission made additional mmW spectrum available for flexible wireless use, including the 24 GHz band,<sup>4</sup> and in the *2018 Spectrum Frontiers Order*, the Commission resolved certain pending issues affecting the 28 GHz and 24 GHz bands.<sup>5</sup> On April 17, 2018, in accordance with Section 309(j)(3) of the Communications Act of 1934, as amended,<sup>6</sup> the Commission released a public notice seeking comment on competitive bidding procedures to be used in Auctions 101 (28 GHz) and 102 (24 GHz).<sup>7</sup> We received comments from 10 parties in response to the *Auctions 101 and 102 Comment Public Notice*.<sup>8</sup>

4. Other Commission rules and decisions provide the underlying authority for the procedures we adopt today for Auctions 101 and 102. Among other things, prospective applicants should familiarize themselves with the Commission's general competitive bidding rules,<sup>9</sup> including recent amendments and clarifications, as well as Commission decisions in proceedings regarding competitive bidding procedures, application requirements, and obligations of Commission licensees.<sup>10</sup> Prospective applicants should also familiarize themselves with the Commission's UMFUS service and competitive bidding requirements contained in Part 30 of the Commission's rules,<sup>11</sup> as well as Commission orders

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<sup>2</sup> See generally *2016 Spectrum Frontiers Order*, 31 FCC Rcd 8014.

<sup>3</sup> *Id.* at 8023-43, 8073-101, paras. 19-72, 159-243, 244-54.

<sup>4</sup> *2017 Spectrum Frontiers Order*, 32 FCC Rcd at 10994-11002, paras. 15-42.

<sup>5</sup> *2018 Spectrum Frontiers Order* at 3-16, paras. 5-36 (resolving issues with respect to Fixed-Satellite Services (FSS) use in a portion of the 24 GHz band, operability in the 24 GHz band, whether to add an alternative performance requirement metric for UMFUS services in the mmW bands, and certain issues related to mobile spectrum holdings policies for UMFUS services in the mmW bands).

<sup>6</sup> 47 U.S.C. § 309(j)(3)(E)(i) (requirement to seek comment on proposed auction procedures); see also *id.* § 309(j)(4)(F) (authorization to prescribe reserve price or minimum bid); 47 CFR § 1.2104(c)-(d).

<sup>7</sup> *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)*, FCC 18-43 (Apr. 17, 2018) (*Auctions 101 and 102 Comment Public Notice*). A summary of the *Auctions 101 and 102 Comment Public Notice* was published in the Federal Register at 83 Fed. Reg. 19660 (May 4, 2018).

<sup>8</sup> These comments are available under proceeding 18-85 in the Commission's Electronic Comment Filing System (ECFS). The ECFS home page is publicly accessible at: <https://apps.fcc.gov/ecfs/>. We generally note in the context of discussing particular issues whether any commenter addressed those issues.

<sup>9</sup> 47 CFR Part 1, Subpart Q.

<sup>10</sup> See, e.g., *Updating Part 1 Competitive Bidding Rules*, 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 (2015) (*2015 Part 1 Report and Order*) (modified by Erratum, 30 FCC Rcd 8518 (2015)); *Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures*, Order, Memorandum Opinion and Order and Notice of Proposed Rule Making, 12 FCC Rcd 5686 (1997) (*Auction Procedures Consolidation Order*); Order on Reconsideration of the Third Report and Order, Fifth Report and Order, and Fourth Further Notice of Proposed Rule Making, 15 FCC Rcd 15293 (2000) (*Part 1 Fifth Report and Order*) (modified by Erratum, 15 FCC Rcd 21520 (2000)); Seventh Report and Order, 16 FCC Rcd 17546 (2001) (*Part 1 Seventh Report and Order*); Eighth Report and Order, 17 FCC Rcd 2962 (2002) (*Part 1 Eighth Report and Order*); Second Order on Reconsideration of the Third Report and Order and Order on Reconsideration of the Fifth Report and Order, 18 FCC Rcd 10180 (2003) (*Part 1 Second Recon of Third R&O/Recon of Fifth R&O*); Second Order on Reconsideration of the Fifth Report and Order, 20 FCC Rcd 1942 (2005) (*Part 1 Second Recon of Fifth R&O*).

<sup>11</sup> 47 CFR §§ 30.1–30.407.

(continued...)

concerning competitive bidding for UMFUS licenses.<sup>12</sup> Applicants must also be thoroughly familiar with the procedures, terms, and conditions contained in this Public Notice and any future public notices that may be released in this proceeding.

5. The terms contained in the Commission's rules, relevant orders, and public notices are not negotiable. The Commission may amend or supplement the information contained in its public notices at any time and will issue public notices to convey any new or supplemental information to applicants. It is the responsibility of all applicants to remain current with all Commission rules and with all public notices pertaining to Auctions 101 and 102. Copies of most auctions-related Commission documents, including public notices, can be retrieved from the Commission's FCC Auctions Internet site at <https://wireless.fcc.gov/auctions/>. Additionally, documents are available at the Commission's headquarters, located at 445 12<sup>th</sup> Street, SW, Washington, DC 20554, during normal business hours.

### C. Description of Licenses to be Offered in Auctions 101 and 102

6. We affirm that we will proceed to the assignment of 28 GHz licenses in Auction 101 and the assignment of 24 GHz licenses in Auction 102, as announced in the *Auctions 101 and 102 Comment Public Notice*.<sup>13</sup> Doing so will make 1.55 gigahertz of UMFUS spectrum available in Auctions 101 and 102, licensed on a geographic area basis.<sup>14</sup> The 3,072 licenses in the 28 GHz band offered in Auction 101 will be county-based licenses.<sup>15</sup> The 28 GHz band will be licensed as two 425-megahertz blocks (27.500-27.925 GHz and 27.925-28.350 GHz).<sup>16</sup> For each county in which 28 GHz licenses will be available for auction, both blocks of the 28 GHz band will be available.

7. Auction 102 will offer 2,912 licenses in the 24 GHz band, and the licenses will be based on PEAs.<sup>17</sup> The lower segment of the 24 GHz band (24.25–24.45 GHz) will be licensed as two 100-megahertz blocks, while the upper segment (24.75–25.25 GHz) will be licensed as five 100-megahertz blocks.<sup>18</sup>

8. Each of the bands available in Auctions 101 and 102 will be licensed on an unpaired basis. A licensee in these bands may provide any services permitted under a fixed or mobile allocation, as set forth in the non-Federal Government column of the Table of Frequency Allocations in Section 2.106 of the Commission's rules.<sup>19</sup>

9. Table 1 contains summary information regarding the UMFUS licenses available in Auction 101. Table 2 contains summary information regarding the UMFUS licenses available in Auction 102.

**Table 1: UMFUS License Summary — Auction 101 (28 GHz)**

Block	Frequencies (GHz)	Total Bandwidth	Geographic Area Type	Number of Licenses
1	27.5–27.925	425 megahertz	County	1,536

<sup>12</sup> See *2016 Spectrum Frontiers Order*, 31 FCC Rcd at 8097-101, paras. 244-54.

<sup>13</sup> See *Auctions 101 and 102 Comment Public Notice* at 2, para. 1.

<sup>14</sup> See *2016 Spectrum Frontiers Order*, 31 FCC Rcd at 8028, para. 30; *2017 Spectrum Frontiers Order*, 32 FCC Rcd at 10998, para. 27.

<sup>15</sup> See *2016 Spectrum Frontiers Order*, 31 FCC Rcd at 8029, para. 35. There are a total of 3,232 counties.

<sup>16</sup> *Id.* at 8043, para. 72.

<sup>17</sup> See *2017 Spectrum Frontiers Order*, 32 FCC Rcd at 10998, para. 28. There are a total of 416 PEAs.

<sup>18</sup> *Id.* at 11000, para. 34.

<sup>19</sup> 47 CFR § 30.6.

Block	Frequencies (GHz)	Total Bandwidth	Geographic Area Type	Number of Licenses
2	27.925–28.35	425 megahertz	County	1,536

**Table 2: UMFUS License Summary — Auction 102 (24 GHz)**

Block	Frequencies (GHz)	Total Bandwidth	Geographic Area Type	Number of Licenses
1	24.25–24.35	100 megahertz	PEA	416
2	24.35–24.45	100 megahertz	PEA	416
3	24.75–24.85	100 megahertz	PEA	416
4	24.85–24.95	100 megahertz	PEA	416
5	24.95–25.05	100 megahertz	PEA	416
6	25.05–25.15	100 megahertz	PEA	416
7	25.15–25.25	100 megahertz	PEA	416

10. A summary of the licenses to be offered in Auctions 101 and 102 is available in Attachment A to this Public Notice.<sup>20</sup> Due to the large number of licenses offered in Auctions 101 and 102, the complete list of licenses to be offered in these auctions will be provided in electronic format only, available as separate “Attachment A” files for each auction at [www.fcc.gov/auction/101](http://www.fcc.gov/auction/101) and [www.fcc.gov/auction/102](http://www.fcc.gov/auction/102), respectively.

11. Active licenses in the 28 GHz band cover 1,696 full counties and one partial county,<sup>21</sup> and active licenses in the 24 GHz band are held by M&M Brothers, LLC (M&M) in nine PEAs.<sup>22</sup> On July 2, 2018, M&M filed applications to reconfigure its 24 GHz licenses in these nine PEAs in a manner that would increase the number of unencumbered blocks available in Auction 102.<sup>23</sup> We delegate authority to the Wireless Telecommunications Bureau (the Bureau), once the Bureau acts on these

<sup>20</sup> The 28 GHz licenses listed in Attachment A as available in Auction 101 do not include counties within the boundaries of existing active 28 GHz licenses.

<sup>21</sup> In Anchorage County, Alaska, part of the county is encumbered and the other part will be offered in Auction 101. That county is noted with a double asterisk in Attachment A. We note that we have updated the list of licenses available in Auction 101 to reflect that the previously partitioned portion of Horry County is now part of license WPOH936 and held by Horry Telephone Cooperative, Inc. See Letter from Donald L. Herman, Jr. and Clare Liedquist, Counsel to Horry Telephone Cooperative, Inc., to Marlene H. Dortch, Secretary, FCC, AU Docket No. 18-85, at 1 (filed June 21, 2018) (requesting that the Commission update its Universal Licensing System database and “remove the partitioned area of Horry County (listed as C45051) from the list of licenses available in Auction 101” (footnote omitted)).

<sup>22</sup> The nine PEAs are: PEA 15 - Phoenix, AZ; PEA 26 - Las Vegas, NV; PEA 75 - Albuquerque, NM; PEA 76 - Reno, NV; PEA 126 - Casa Grande, AZ; PEA 229 - Saint George, UT; PEA 285 - Gallup, NM; PEA 323 - Socorro, NM; and PEA 375 - Deming, NM. In each PEA, M&M currently holds 40 megahertz in block 2 and 40 megahertz in block 7. These nine PEAs are noted with an asterisk in Attachment A.

<sup>23</sup> In these applications, M&M requests the following modifications: (1) increase holdings to 100 megahertz (all in block 7) in PEA 15 - Phoenix, AZ, PEA 26 - Las Vegas, NV, and PEA 76 - Reno, NV; (2) reduce holdings to 25 megahertz in PEA 75 - Albuquerque, NM; and (3) relinquish all spectrum holdings in PEA 126 - Casa Grande, AZ, PEA 229 - Saint George, UT, PEA 285 - Gallup, NM, PEA 323 - Socorro, NM, and PEA 375 - Deming, NM. Those applications were accepted for filing on July 5, 2018. See Wireless Telecommunications Bureau, Market-Based Applications, Accepted for Filing, Public Notice, July 5, 2018, [https://www.fcc.gov/uls/public-notices/list?field\\_uls\\_public\\_notice\\_type\\_tid=1894](https://www.fcc.gov/uls/public-notices/list?field_uls_public_notice_type_tid=1894).

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applications, to update the list of licenses to be offered in Auction 102 and to adjust the categories of generic blocks that will be available in Auction 102, to the extent necessary. The Bureau will provide public notice of any such update or adjustment.

12. We disagree with commenters who argue that the Commission should add more bands to Auction 102, particularly the 37 GHz, 39 GHz, and 47 GHz bands, because we find that doing so will inevitably delay the auction of the 24 GHz band.<sup>24</sup> As an initial matter, the current configuration of the 39 GHz band is not conducive to 5G deployment because much of that spectrum is encumbered by legacy licenses that do not conform to our proposed licensing scheme for that band. That makes auctioning the 39 GHz band, as currently configured, incompatible with the generic-block clock auction we are adopting for the 24 GHz band.<sup>25</sup> Next, the 37 GHz band is adjacent to the 39 GHz band, so to maximize the efficiency of deployment in these two bands (and the allocation of spectrum across these bands), we conclude that it is appropriate to auction them off together. To facilitate the transition and rationalization of the 39 GHz band and to continue to align the regulatory framework for the two bands to be licensed effectively as one contiguous band of spectrum, the Commission is also issuing a Notice of Proposed Rulemaking (NPRM) that proposes an auction mechanism to realign the existing licenses in the 39 GHz band to achieve contiguity for both incumbents and new licensees in that band.<sup>26</sup> In doing so, we acknowledge that there appear to be alternative auction-based mechanisms that can contribute to an efficient restructuring of the band into a contiguous configuration that would support such deployment. In this regard, the NPRM also proposes to modify the block size for licenses in the 37 GHz and 39 GHz bands.<sup>27</sup> Accordingly, we find that the 37 GHz and 39 GHz bands will not be ready to be auctioned in the same timeframe as the 24 GHz band.

13. Given that we cannot auction the 37 GHz and 39 GHz bands with the 24 GHz band without unduly delaying the auction of the latter, we further conclude that it is best to defer action on the 47 GHz band for now. For one, we did not propose to auction the 47 GHz band at the same time as the 24 GHz band nor have we designed the auction software to accommodate this band, so taking the necessary procedural and technical steps to incorporate this band into the 24 GHz auction will inevitably require significant delay. For another, auctioning the 47 GHz band with the 24 GHz band is likely to be less efficient than auctioning it with other higher-band frontiers spectrum where there are more synergies—such as the 37 GHz and 39 GHz bands.<sup>28</sup>

14. Further, we have determined that auctioning 24 GHz spectrum as proposed strikes a balance of our statutory objectives that will best serve the public interest,<sup>29</sup> and we are unconvinced that auctioning more than the proposed bands at this time offers benefits that would outweigh the problems identified herein. Moreover, we are not inclined to delay the auction of the 24 GHz band while we resolve these additional issues with other millimeter wave bands, in order to auction all of these bands

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<sup>24</sup> See AT&T Comments at 4; CCA Comments at 3, 12; CTIA Comments at 2, 7; Letter from Steve B. Sharkey, Vice President, T-Mobile, to Marlene H. Dortch, Secretary, FCC, AU Docket No. 18-85 et al., at 4 (filed Apr. 23, 2018) (T-Mobile Apr. 23, 2018 *Ex Parte*).

<sup>25</sup> To be more precise, the existence of a diverse set of encumbrances makes those encumbered blocks sufficiently different that we would not expect bidders to treat them as fungible units, which is a requirement for the generic-block clock auction we adopt for the 24 GHz band.

<sup>26</sup> See generally *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Fourth Further Notice of Proposed Rulemaking, FCC 18-XXX (Aug. [[X]], 2018) (*39 GHz NPRM*).

<sup>27</sup> *39 GHz NPRM* at [[4-5]], paras. [[6-9]].

<sup>28</sup> We also note that the Commission has proposed rules for the 42 GHz band and 50 GHz band. See *2018 Spectrum Frontiers FNPRM* at 20-25, 35-37, paras. 47-57, 92-94.

<sup>29</sup> See, e.g., 47 U.S.C. § 309(j)(3)(A)-(E).

(continued...)

concurrently. Although commenters argue that increasing the amount of spectrum to be licensed in a single auction may, in certain circumstances, increase opportunities for new entrants and competition in the market for 5G services,<sup>30</sup> there are two countervailing factors that outweigh any such advantage here. First, there is a strong need to make licenses for mmW spectrum available quickly so that providers can start to deploy commercially.<sup>31</sup> Second, the record demonstrates strong interest among providers in the licenses to be made available in Auctions 101 and 102, indicating that both the auctions and the market for services using these licenses will be sufficiently competitive to confer important public interest benefits.<sup>32</sup> We therefore conclude that the benefits of proceeding promptly to auction licenses for the 28 GHz and 24 GHz bands in Auctions 101 and 102, respectively, outweigh the benefits of assigning licenses for additional bands at the same time.<sup>33</sup> Nor are we persuaded that the 24 GHz band auction should be delayed because equipment development for the 37 GHz and 39 GHz bands is ahead of that for the 28 GHz and 24 GHz bands, as certain commenters argue, especially since our rules do not require equipment in the 37 GHz and 39 GHz bands to be compatible with 24 GHz operations.<sup>34</sup> We are aware of no reasons why stakeholders could not develop standards and equipment for the 24 GHz band; indeed, we anticipate that auctioning the 24 GHz band as soon as possible will incentivize such development.

#### **D. Auction Specifics**

##### **1. Separate Auction Application and Bidding Processes**

15. Consistent with our statutory objectives and the record in this proceeding, we adopt the Commission's proposal to offer the 5,984 licenses described above through two separate auctions,

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<sup>30</sup> See CCA Comments at 3-4; AT&T Comments at 5-6; Letter from Steve B. Sharkey, Vice President, T-Mobile, to Marlene H. Dortch, Secretary, FCC, AU Docket No. 18-85, GN Docket No. 14-177, at 2 (filed Apr. 3, 2018) (T-Mobile Apr. 3, 2018 *Ex Parte*).

<sup>31</sup> See, e.g., Letter from Scott K. Bergmann, Senior Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-177 et al., at 2 (filed May 31, 2018) (arguing that “[t]o realize th[e economic] benefits [of 5G], the Commission must expeditiously make spectrum available for 5G use”) (CTIA May 31, 2018 *Ex Parte*); Letter from Steve B. Sharkey, Vice President, Government Affairs, T-Mobile, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-4 et al., at 3 (filed Mar. 15, 2018) (“T-Mobile is well positioned to launch 5G services in high-band spectrum, but the Commission must act soon to make this additional spectrum available to ensure that consumer expectations can be met.”) (T-Mobile Mar. 15, 2018 *Ex Parte*); see also CTIA, *The Global Race to 5G*, April, 2018, <https://api.ctia.org/wp-content/uploads/2018/04/Race-to-5G-Report.pdf>.

<sup>32</sup> See, e.g., CCA Comments at 11-12 (arguing that “mmW spectrum is especially important to many rural carriers’ operations and their ability to expand next-generation deployments”); T-Mobile Comments at 1 (“Making more flexible-use spectrum licenses available for competitive bidding offers an important opportunity to help wireless operators satisfy the continued explosion in demand for mobile data.”); US Cellular Comments at 1 (arguing that mmW “spectrum will be a crucial component both in meeting the public’s skyrocketing data demands and in facilitating the deployment of next-generation wireless services”).

<sup>33</sup> T-Mobile asserts that the 24 GHz, 37 GHz, 39 GHz, and 47 GHz bands are possible substitutes or complements for each other, and that auctioning them together will lead to more efficient outcomes by, for example, providing potential bidders with sufficient information to allow tradeoffs between the spectrum bands. See T-Mobile Apr. 23, 2018 *Ex Parte* at 4; T-Mobile Apr. 3, 2018 *Ex Parte* at 2; T-Mobile Comments at 2-3, 7, 8. T-Mobile argues that assigning mmW band licenses in sequential auctions increases the exposure risk for auction participants and increases the risk that speculators could strategically acquire licenses that operators will later need to acquire on the secondary market to facilitate contiguity. See T-Mobile Comments at 9-11. While there are potential strategic benefits to bidders from the additional choices available if more bands are assigned together, we find that the public interest benefits in assigning the 24 GHz band sooner outweigh any such potential advantage. Moreover, for the reasons set forth above, we find that the potential efficiencies from assigning the 24 GHz band at the same time as the higher frequency bands T-Mobile cites are significantly less strong than the synergies among the higher frequency bands themselves.

<sup>34</sup> See CCA Comments at 4; T-Mobile Apr. 23, 2018 *Ex Parte* at 3-4; T-Mobile Apr. 3, 2018 *Ex Parte* at 3-4.

(continued....)

Auctions 101 and 102, respectively.<sup>35</sup> Bidding in Auction 101 for 28 GHz band licenses is scheduled to commence on November 14, 2018.<sup>36</sup> Bidding will commence in Auction 102 for 24 GHz band licenses after the close of bidding in Auction 101.<sup>37</sup>

16. For the reasons discussed in the *Auctions 101 and 102 Comment Public Notice*,<sup>38</sup> we also adopt the Commission's proposal to use separate application and bidding processes for Auctions 101 and 102.<sup>39</sup> In addition, we adopt the Commission's proposal to accept auction applications during separate application filing windows—one for Auction 101 and one for Auction 102.<sup>40</sup> As explained in more detail below, we adopt the Commission's proposal to use our standard simultaneous multiple-round (SMR) auction format for Auction 101 (28 GHz) and a clock auction format, similar to that used for the forward auction portion (Auction 1002) of the Broadcast Incentive Auction, for Auction 102 (24 GHz).

17. Further, we determine that the filing window for Auction 102 will run concurrently with the filing window for Auction 101. As recognized above, assigning new spectrum licenses in the millimeter wave bands will further the United States' efforts to achieve robust 5G deployment as soon as possible, which will provide significant benefits to the United States' economy, including by enabling the development and deployment of new services and technologies.<sup>41</sup> Establishing concurrent filing windows will permit the Commission to proceed as quickly as possible to Auction 102 after the close of Auction 101, thus enabling prompt assignment of 24 GHz licenses and speedy deployment by auction winners.<sup>42</sup>

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<sup>35</sup> See *Auctions 101 and 102 Comment Public Notice* at 6, para. 11; see also, e.g., CCA Comments at 3 (“[S]eparating Auction 101 from other mmW bidding could promote efficient use of mmW spectrum to quickly deploy 5G.”); CCS Comments at 4 (agreeing with the Commission's proposal to hold separate auctions using a standard SMR format and a clock auction); T-Mobile Apr. 23, 2018 *Ex Parte* at 4 (urging “the Commission to separate clearly the 28 GHz band and 24 GHz band auctions”); US Cellular Comments at 2 (supporting the Commission's proposal “to offer UMFUS licenses for the 24 GHz and 28 GHz bands in separate auctions”).

<sup>36</sup> See, e.g., CCA Comments at 2 (“CCA supports the FCC's proposal to first auction 28 GHz spectrum . . . commencing on November 14, 2018.”); Letter from Scott K. Bergmann, Senior Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-85 et al., at 2 (filed May 24, 2018) (urging “the Commission to move forward with auctioning the 28 GHz band in Auction 101 starting in November”).

<sup>37</sup> See CCA Comments at 5 (“[T]he Commission should clarify that Auction 102 will commence after the conclusion of Auction 101.”); CCS Comments at 4 (agreeing with the Commission's proposal to commence bidding in Auction 102 for 24 GHz band licenses after the close of bidding in Auction 101); Verizon Comments at 1 (supporting the proposal to begin the bidding in Auction 102 after Auction 101 has concluded).

<sup>38</sup> See *Auctions 101 and 102 Comment Public Notice* at 6, para. 12 (explaining that different auction formats for Auctions 101 and 102 “will accommodate differences in the characteristics of the specific inventories of licenses available in these two bands and simplify the bidding process for participants”).

<sup>39</sup> See CCS Comments at 4 (agreeing with the Commission's proposals on issues related to the separate application and bidding processes).

<sup>40</sup> See *Auctions 101 and 102 Comment Public Notice* at 6, para. 12.

<sup>41</sup> See, e.g., CTIA May 31, 2018 *Ex Parte* at 2 (citing the potential for next-generation wireless to generate \$500 billion in economic growth and \$3 million new jobs, but arguing that “[t]o realize these benefits, the Commission must expeditiously make spectrum available for 5G use”); T-Mobile Mar. 15, 2018 *Ex Parte* at 3 (“T-Mobile is well positioned to launch 5G services in high-band spectrum, but the Commission must act soon to make this additional spectrum available to ensure that consumer expectations can be met.”); see also CTIA, *The Global Race to 5G*, April, 2018, <https://api.ctia.org/wp-content/uploads/2018/04/Race-to-5G-Report.pdf>.

<sup>42</sup> See CCS Comments at 10 (supporting “the Commission's plans to move ahead quickly with the planned auctions of the 24 GHz and 28 GHz spectrum, because the technology is already available to fully exploit this spectrum resource”); Blooston Comments at 1 (applauding the Commission for its efforts to make mmW spectrum available for bidding and licensing as quickly as possible); CCA Comments at 3 (“[S]eparating Auction 101 from other mmW bidding could promote efficient use of mmW spectrum to quickly deploy 5G.”); AT&T Reply Comments at 4

(continued....)

Further, given similarities in potential uses of the 28 GHz and 24 GHz bands, we anticipate that potential bidders would plan for both auctions in the same time period. Moreover, proceeding as quickly as possible to Auction 102 will expedite auctions of other spectrum bands, continuing to provide a spectrum pipeline for providers to offer new and innovative services to American consumers.<sup>43</sup> We therefore conclude that taking this approach for these auctions promotes the goal of the Communications Act to, among other things, make a rapid, efficient, nationwide radio communication service available to all the people of the Nation.<sup>44</sup>

18. Since parties interested in participating in either auction will be applicants during overlapping periods of time, the *Auctions 101 and 102 Comment Public Notice* proposed to apply across both auctions our rules regarding certain application requirements and certifications (e.g., joint bidding agreements relating to the licenses subject to auction), the rule prohibiting certain communications,<sup>45</sup> and our procedures regarding information available during the auction process across both auctions, as detailed below.<sup>46</sup> We adopt that proposal here. Because the licenses to be offered in both Auctions 101 and 102 cover UMFUS spectrum and are subject to many of the same service rules, applicants may view the licenses to be offered in these auctions as a means to provide similar types of services, and therefore may be interested in participating in both auctions. In that regard, we find that applying these rules and procedures in the manner described below will promote both participation and competition in the auctions, thereby furthering the public interest objectives of assigning licenses by competitive bidding.<sup>47</sup>

19. Certain commenters express concern that establishing concurrent filing windows for Auction 101 and 102 and applying certain rules and processes across both auctions will provide potential auction participants with insufficient information and planning time to participate meaningfully in these auctions. As discussed below, we have adapted our proposed rules and procedures to balance three goals: (1) to promote competition in the auction; (2) to avoid undue burdens on the applicants; and (3) to assign mmW band licenses as expeditiously as possible. For example, we note that, while we are applying our limited information disclosure procedures across both auctions, certain bidding information is publicly available during the bidding process, including, for each license offered in Auction 101: the amount of every bid placed, the number of bidders that placed a bid, and whether a bid was withdrawn after each

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(urging the Commission to continue to act diligently to get all mmW bands to auction quickly). *But see* AT&T Comments at 5 (urging the Commission to “run the 28 GHz auction to its conclusion and announce the winners of Auction 101 before accepting applications for Auction 102”); Blooston Comments at 3 (acknowledging that opening the Auction 102 filing window after Auction 101 closes would delay the start of bidding in Auction 102 but arguing that “delay of just a few months shouldn’t appreciably delay the development or rollout of new 5G services for which equipment is only now being developed”); Verizon Comments at 4-5 (arguing that the time savings of overlapping application periods is outweighed by the cost to market and auction efficiencies).

<sup>43</sup> See AT&T Reply at 4-5 (supporting “a rapid auction of 28 GHz spectrum, followed as soon as possible thereafter with as few discrete follow-on auctions as are necessary to get spectrum in the 24 GHz, 37.6-40.0 GHz, and 47 GHz bands working for the American public”).

<sup>44</sup> 47 U.S.C. § 151.

<sup>45</sup> As discussed below, an applicant seeking to participate in both auctions must submit an application in each auction. We note that the same applicant, filing two applications, one in each auction, is a single applicant for purposes of the rule. Accordingly, that applicant’s internal communications regarding the two auctions are not covered by the prohibition. See Sections II.A (General Information Regarding Short-Form Applications), II.H.1 (Entities Subject to Section 1.2105(c)), below.

<sup>46</sup> See *Auctions 101 and 102 Comment Public Notice* at 6 n.29.

<sup>47</sup> *But see* Blooston Comments at 1-2 (arguing that overlapping application periods would create confusion regarding prohibited communications and prevent small and rural service providers from being able to pursue reasonable back-up strategies, which “could depress auction participation and result in a significant number of licenses . . . going unsold”).

(continued...)

round. At the end of Auction 101 (i.e., after the last round of Auction 101), potential bidders in Auction 102 will have access to the public results data from each round of Auction 101, including the gross winning bid amounts.<sup>48</sup> Further, in order to reduce the financial burden on potential auction participants, as well as to reduce potential exposure risk, we will defer the acceptance of upfront payments for Auction 102 until after the close of Auction 101.<sup>49</sup> We also will apply our bidding credit cap separately to each auction, which should provide additional opportunities for participation by small businesses and rural service providers. In addition, we anticipate that the bidding for Auction 102 will start no earlier than four weeks after the release of a public notice announcing the closing of Auction 101.

20. We find that our application and bidding procedures appropriately balance our other statutory objectives in the design of competitive bidding systems, including “the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas, without administrative or judicial delays,” “promoting economic opportunity and competition and ensuring that new and innovative technologies are readily accessible to the American people,” and promoting “efficient and intensive use of the electromagnetic spectrum . . . .”<sup>50</sup> The speed with which we make spectrum available, with respect to these specific auctions, is critical for realizing the other benefits that we seek to promote, and given the available options for the timing of the auctions and application of Part 1 rules, this is the quickest path forward that the Commission can implement at this time. While we have not provided as much time between the issuance of this Public Notice and the start of each auction as some commenters have requested, in our predictive judgment, our auction application and bidding procedures will, nonetheless, promote Section 309(j)(3)’s objective of “ensur[ing] that, in the scheduling of any competitive bidding under this subsection, an adequate period is allowed after issuance of bidding rules, to ensure that interested parties have a sufficient time to develop business plans, assess market conditions, and evaluate the availability of equipment for the relevant services.”<sup>51</sup>

21. In sum, based on our expertise and experience with auction design, and after due consideration of the entire record herein, we conclude that the design we are adopting for the auction of licenses in the 28 and 24 GHz bands, including the rules and procedures for participating in these

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<sup>48</sup> See generally *2015 Part 1 Report and Order*, 30 FCC Rcd at 7569-82, paras. 177-210; *id.* at 7570, para. 180 (“[W]e must ensure that our policies and rules facilitate access to spectrum licenses in a manner that promotes competition within auctions and in the current wireless marketplace.”). As discussed in Section II.G (Information Procedures During the Auction Process), we expect that potential bidders in Auction 102 will have sufficient information to analyze and understand price levels and demand for UMFUS licenses in Auction 101 prior to bidding in Auction 102. See, e.g., AT&T Comments at 5 (arguing that “it would seem beneficial to permit bidders to determine—and understand—the 28 GHz outcomes before committing to bid, or actually starting to bid, in the 24 GHz auction”); CTIA Comments at 9 (advocating that Auction 102 applicants “be able to receive bidding results from Auction 101 prior to competing in Auction 102”); T-Mobile Comments at 4-5 (requesting that the Commission “release the Auction 101 results in advance of Auction 102”); T-Mobile Reply at 3 (identifying issues that could result from the “lack of an opportunity to analyze auction results and revisit auction strategies in light of those results”); Verizon Comments at 1 (arguing that bidding in Auction 102 should begin “after Auction 101 has concluded and the 28 GHz results are known”).

<sup>49</sup> See Blooston Comments at 3 (arguing that requiring bidders to “simultaneously manage their bidding and application process for two auctions” would “lead to financial and administrative difficulties for smaller bidders and rural service providers”); Charter Comments at 2 (“[D]eferred the application window for Auction 102 until the results of Auction 101 are known will enable participants in Auction 101 to better assess their desired level of participation in Auction 102 before having to file in the latter auction.”). The deadline for submitting upfront payments for Auction 102 will occur before the start of bidding Auction 102, and will be announced in a later public notice. See Section III.F, below.

<sup>50</sup> See 47 U.S.C. § 309(j)(3).

<sup>51</sup> *Id.* § 309(j)(3)(E)(i).

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auctions, represent a reasonable balance of the various statutory objectives in Section 309(j).

**2. Auction Title and Start Date**

22. The auction of licenses in the 28 GHz band will be referred to as “Auction 101 – 28 GHz Band.” Bidding in Auction 101 will begin on Wednesday, November 14, 2018. Pre-auction dates and deadlines are listed below. The initial schedule for bidding rounds in Auction 101 will be announced by public notice at least one week before bidding in each auction starts. Moreover, unless otherwise announced, bidding on all licenses will be conducted on each business day until bidding has stopped on all licenses.

23. The auction of licenses in the 24 GHz band will be referred to as “Auction 102 – 24 GHz Band.” The clock phase of Auction 102 will begin no sooner than four weeks after the release of a public notice announcing the closing of Auction 101. Unless otherwise announced, bidding on all generic spectrum blocks in all PEAs will be conducted on each business day until bidding has stopped on all spectrum blocks in all PEAs. Following the conclusion of the clock phase, the Auction System will make available more detailed information about the assignment phase to the winning clock phase bidders not less than five business days before starting the assignment phase.<sup>52</sup>

**3. Auction Dates and Deadlines**

24. The following dates and deadlines apply to Auction 101:

- Auction Tutorial Available (via Internet) ..... August 28, 2018
- Short-Form Application (FCC Form 175)
- Filing Window Opens ..... September 5, 2018; 12:00 noon Eastern Time (ET)
- Short-Form Application (FCC Form 175)
- Filing Window Deadline..... September 18, 2018; 6:00 p.m. ET
- Upfront Payments (via wire transfer)..... October 23, 2018; 6:00 p.m. ET
- Mock Auction ..... November 8, 2018
- Bidding Begins in Auction 101..... November 14, 2018

25. The following dates and deadlines apply to Auction 102:

- Auction Application Tutorial Available (via Internet)..... August 28, 2018
- Short-Form Application (FCC Form 175)
- Filing Window Opens ..... September 5, 2018; 12:00 noon Eastern Time (ET)
- Short-Form Application (FCC Form 175)
- Filing Window Deadline..... September 18, 2018; 6:00 p.m. ET

26. The remainder of the pre-auction dates and deadlines for Auction 102 will be announced in a later public notice.<sup>53</sup> Specifically, that public notice will announce when the bidding tutorial will become available, the upfront payment deadline, the date of the clock and assignment phase mock auction, and when bidding will begin in the clock phase of Auction 102.

<sup>52</sup> Winning bidders from the clock phase will be given scheduling information and bidding options for the assignment round in the Auction System.

<sup>53</sup> We direct the Bureau to prepare and release after the close of bidding in Auction 101 a public notice announcing the remainder of the pre-auction dates and deadlines for the Auction 102 pre-auction process.

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#### 4. Requirements for Participation

27. Those wishing to participate in Auction 101 and/or Auction 102 must:

- Submit a separate short-form application (FCC Form 175) electronically for each auction in which they seek to participate prior to 6:00 p.m. ET on September 18, 2018, following the electronic filing procedures set forth in the FCC Form 175 Instructions.<sup>54</sup>
- Submit a sufficient upfront payment and an FCC Remittance Advice Form (FCC Form 159) for the particular auction by 6:00 p.m. ET on the applicable deadline, following the procedures and instructions set forth in the FCC Form 159 Instructions.<sup>55</sup>
  - For Auction 101, the deadline for submitting upfront payments and FCC Form 159 is October 23, 2018.
  - For Auction 102, the deadline for submitting upfront payments and FCC Form 159 will be announced in a later public notice.<sup>56</sup>
- Comply with all provisions outlined in this Public Notice and applicable Commission rules.

## II. APPLYING TO PARTICIPATE IN AUCTIONS 101 AND 102

### A. General Information Regarding Short-Form Applications

28. An application to participate in Auction 101 or Auction 102, referred to as a short-form application or FCC Form 175, provides information that the Commission uses to determine whether the applicant has the legal, technical, and financial qualifications to participate in a Commission auction for spectrum licenses.<sup>57</sup> The short-form application is the first part of the Commission's two-phased auction application process. In the first phase, a party seeking to participate in Auction 101 and/or Auction 102 must file a separate short-form application for each auction in which it seeks to participate, in which it certifies, under penalty of perjury, its qualifications.<sup>58</sup> Eligibility to participate in Auction 101 and/or Auction 102 is based on an applicant's short-form application(s) and certifications and on the applicant's submission of a sufficient upfront payment for the auction(s).<sup>59</sup> In the second phase of the process, each winning bidder must file a more comprehensive post-auction, long-form application (FCC Form 601) for the licenses it wins in each auction, and it must have a complete and accurate ownership disclosure information report (FCC Form 602) on file with the Commission.<sup>60</sup>

29. A party seeking to participate in Auction 101 and/or Auction 102 must file a separate FCC Form 175 electronically for each auction in which it wishes to participate via the Auction Application System prior to 6:00 p.m. ET on September 18, 2018, following the procedures prescribed in

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<sup>54</sup> We direct the Bureau to prepare and release, concurrent with this Public Notice, detailed instructions for submitting an FCC Form 175 for Auction 101 or Auction 102 (FCC Form 175 Instructions).

<sup>55</sup> We direct the Bureau to prepare and release, concurrent with this Public Notice, detailed instructions for submitting an FCC Form 159 for Auction 101 or Auction 102 (FCC Form 159 Instructions).

<sup>56</sup> See note 53, above.

<sup>57</sup> See 47 CFR § 1.2105; see also *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2376, para. 165.

<sup>58</sup> *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2376, para. 165.

<sup>59</sup> See Section III.F.2 (Upfront Payments and Bidding Eligibility), below.

<sup>60</sup> 47 CFR § 1.2107. The Commission reminds applicants that being deemed qualified to bid in Auction 101 or Auction 102 does not constitute a determination that a party is qualified to hold a Commission license or is eligible for a designated entity bidding credit.

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the FCC Form 175 Instructions. If an applicant claims eligibility for a bidding credit, the information provided in its FCC Form 175 as of the filing date will be used to determine whether the applicant may request the claimed bidding credit. Below we describe more fully the information disclosures and certifications required in the short-form application. An applicant that files an FCC Form 175 for Auction 101 and/or Auction 102 will be subject to the Commission's rule prohibiting certain communications.<sup>61</sup> An applicant is subject to the prohibition beginning at the deadline for filing short-form applications—6:00 p.m. ET on September 18, 2018.<sup>62</sup>

30. An applicant bears full responsibility for submitting an accurate, complete, and timely short-form application. Each applicant must make a series of certifications under penalty of perjury on its FCC Form 175 related to the information provided in its application and its participation in the auction, and it must confirm that it is legally, technically, financially, and otherwise qualified to hold a license.<sup>63</sup> If an Auction 101 or Auction 102 applicant fails to make the required certifications in its FCC Form 175 by the filing deadline, its application will be deemed unacceptable for filing and cannot be corrected after the filing deadline.<sup>64</sup>

31. An applicant should note that submitting an FCC Form 175 (and any amendments thereto) constitutes a representation by the certifying official that he or she is an authorized representative of the applicant with authority to bind the applicant, that he or she has read the form's instructions and certifications, and that the contents of the application, its certifications, and any attachments are true and correct.<sup>65</sup> Submitting a false certification to the Commission may result in penalties, including monetary forfeitures, license forfeitures, ineligibility to participate in future auctions, and/or criminal prosecution.

32. With respect to a particular auction (i.e., Auction 101 or Auction 102), the same party may not bid based on more than one auction application, i.e., as more than one applicant.<sup>66</sup> Therefore, a party may not submit more than one short-form application for Auction 101 or for Auction 102.<sup>67</sup> If a party submits multiple short-form applications for either auction, only one application may be the basis for that party to become qualified to bid in that auction.<sup>68</sup>

33. Similarly, and consistent with the Commission's general prohibition on joint bidding agreements, a party is generally permitted to participate in a Commission auction only through a single

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<sup>61</sup> As discussed below, the prohibition of certain communications will apply across both auctions (i.e., will apply to any applicant in either Auction 101 or 102). *See* Section II.H (Prohibited Communications and Compliance with Antitrust Laws), below.

<sup>62</sup> As discussed below, the prohibition will end for applicants in both auctions on the post-auction down payment deadline for Auction 102. *See* Section II.H.2 (Prohibition Applies Until Down Payment Deadline), below.

<sup>63</sup> 47 CFR § 1.2105(a)(2).

<sup>64</sup> *See id.* § 1.2105(b)(1).

<sup>65</sup> As more fully explained below in Section II.M (Modifications to FCC Form 175), applicants are not permitted to make major modifications to their FCC Form 175 applications after the filing deadline. *See* 47 CFR § 1.2105(b)(2). A change in the official certifying the application is considered a major change and would therefore not be permitted.

<sup>66</sup> *See* 47 CFR § 1.2105(a)(3); *see also* 2015 Part 1 Report and Order, 30 FCC Rcd at 7579, para. 205.

<sup>67</sup> For clarification, a party that wishes to participate in both Auctions 101 and 102 must file a separate auction application for each auction—one for Auction 101 and one for Auction 102. That same party, however, may not file more than one short-form application for a particular auction (e.g., may not file two short-form applications for Auction 101).

<sup>68</sup> *See* 47 CFR § 1.2105(a)(3); *id.* § 1.2105(b)(1)(ii).

(continued...)

bidding entity.<sup>69</sup> Accordingly, the filing of applications in a single auction (i.e., either Auction 101 or Auction 102) by multiple entities controlled by the same individual or set of individuals will generally not be permitted.<sup>70</sup> In addition, since parties interested in participating in either auction will be applicants during overlapping periods of time, consistent with our decision to apply across both auctions our rules regarding certain application requirements and certifications (e.g., joint bidding agreements relating to the licenses subject to auction) and the rule prohibiting certain communications, the filing of applications in both auctions (i.e., one application for Auction 101 and one application for Auction 102) by entities controlled by the same individual or set of individuals will generally only be permitted if the two applicants are identical (i.e., the same entity applies as an applicant in both auctions). As noted by the Commission in adopting the prohibition on applications by commonly controlled entities, this rule, in conjunction with the prohibition against joint bidding agreements protects the competitiveness of our auctions and we conclude that it will do so for these closely related auctions with overlapping application periods.<sup>71</sup>

34. After the initial short-form application filing deadline, Commission staff will review all timely submitted applications for Auctions 101 and 102 to determine whether each application complies with the application requirements and whether it has provided all required information concerning the applicant's qualifications for bidding. After this review is completed for a particular auction, a public notice will be released announcing the status of applications for that auction and identifying the applications that are complete and those that are incomplete because of minor defects that may be corrected. This public notice also will establish an application resubmission filing window, during which an applicant may make permissible minor modifications to its application to address identified deficiencies.<sup>72</sup> The public notice will include the deadline for resubmitting modified applications. To become a qualified bidder, an applicant must have a complete application (i.e., have timely corrected any identified deficiencies) and make a timely and sufficient upfront payment. Qualified bidders for each auction will be identified by public notice at least 10 days prior to the respective mock auction.

35. Below we discuss additional details regarding certain information required to be submitted in the FCC Form 175. An applicant should consult the Commission's rules to ensure that, in addition to the materials described below, all required information is included in its short-form application. To the extent the information in this Public Notice does not address a potential applicant's specific operating structure, or if the applicant needs additional information or guidance concerning the following disclosure requirements, the applicant should review the educational materials for Auctions 101 and 102 and/or use the contact information provided in this Public Notice to consult with Commission staff to better understand the information it must submit in its short-form application.

## **B. Authorized Bidders**

36. An applicant must designate at least one individual as an authorized bidder, and no more than three, in its FCC Form 175. The Commission's rules prohibit an individual from serving as an

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<sup>69</sup> See *2015 Part 1 Report and Order*, 30 FCC Rcd at 7580-81, paras. 206–08.

<sup>70</sup> See 47 CFR § 1.2105(a)(3), (a)(4)(i), (b)(1)(ii); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7580-81, paras. 206-08. This restriction applies across all applications in each auction (i.e., Auction 101 or Auction 102), without regard to the licenses or geographic areas selected. See *2015 Part 1 Report and Order*, 30 FCC Rcd at 7580, para. 206. The Commission adopted a limited exception to the general prohibition on the filing of multiple applications by commonly-controlled entities for qualified rural wireless partnerships and individual members of such partnerships. See 47 CFR § 1.2105(a)(3). Under this limited exception, each qualifying rural wireless partnership and its individual members will be permitted to participate separately in an auction. See 47 CFR § 1.2105(a)(3); see also *2015 Part 1 Report and Order*, 30 FCC Rcd at 7582, para. 210.

<sup>71</sup> See *2015 Part 1 Report and Order*, 30 FCC Rcd at 7580, para. 206

<sup>72</sup> 47 CFR § 1.2105(b)(2).

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authorized bidder for more than one auction applicant.<sup>73</sup> Accordingly, for Auctions 101 and 102, the same individual may not be listed as an authorized bidder in more than one FCC Form 175 submitted for a particular auction. This prohibition ensures that a single individual with knowledge of the bidding strategies of more than one applicant cannot become even an unwitting conduit of bidding information between those applicants in violation of our rule prohibiting certain communications among auction applicants.<sup>74</sup> Since parties interested in participating in either auction will be applicants during overlapping periods of time, consistent with our decision to apply across both auctions our rules regarding certain application requirements and certifications and the rule prohibiting certain communications, an applicant may not use an individual as an authorized bidder in one auction, if that individual is identified as an authorized bidder in the other, unless the two applicants are identical.<sup>75</sup>

### C. License or License Area Selection

37. An applicant must select all of the licenses (Auction 101) or license areas (Auction 102) on which it may want to bid from the list of available licenses or PEAs on its FCC Form 175 for the appropriate auction.<sup>76</sup> An applicant must carefully review and verify its license or PEA selections, as applicable, before the FCC Form 175 filing deadline because those selections cannot be changed after the auction application filing deadline.<sup>77</sup> The auction system will not accept bids on licenses or generic blocks in PEAs that were not selected on the applicant's FCC Form 175.

### D. Disclosure of Agreements and Bidding Arrangements

38. An applicant must provide in its FCC Form 175 a brief description of, and identify each party to, any partnerships, joint ventures, consortia, or agreements, arrangements, or understandings of any kind relating to the licenses being auctioned, including any agreements that address or communicate directly or indirectly bids (including specific prices), bidding strategies (including the specific licenses on which to bid or not to bid), or the post-auction market structure, to which the applicant, or any party that controls or is controlled by the applicant, is a party.<sup>78</sup> In connection with the agreement disclosure requirement, the applicant must certify under penalty of perjury in its FCC Form 175 that it has described, and identified each party to, any such agreements, arrangements, or understanding into which it has entered.<sup>79</sup> An auction applicant that enters into any agreement relating to the licenses being auctioned during an auction is subject to the same disclosure obligations it would be for agreements existing at the

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<sup>73</sup> See 47 CFR § 1.2105(a)(2)(iii); see also *2015 Part 1 Report and Order*, 30 FCC Rcd at 7577, para. 200.

<sup>74</sup> See *2015 Part 1 Report and Order*, 30 FCC Rcd at 7577, para. 200; see also 47 CFR § 1.2105(c).

<sup>75</sup> In other words, an individual may be listed as an authorized bidder in an application filed in Auction 101 and in another application filed in Auction 102 only if both applications are filed by the same entity.

<sup>76</sup> Under our adopted SMR auction design for Auction 101, an applicant will identify on its auction application the licenses offered on which it may wish to bid during the auction. Under our adopted clock auction design for Auction 102, an applicant will select on its auction application all of the PEA(s) on which it may want to bid from the list of available PEAs.

<sup>77</sup> 47 CFR § 1.2105(b)(2).

<sup>78</sup> *Id.* § 1.2105(a)(2)(viii), (a)(4). As defined for purposes of this rule, a controlling interest includes all individuals or entities with positive or negative *de jure* or *de facto* control of the licensee. See *id.* § 1.2105(a)(4)(i). This definition is modeled on a similar term used in Section 1.2110(c) (definitions for designated entities), though it differs in some respects from that rule. Compare 47 CFR § 1.2105(a)(4)(i) with *id.* § 1.2110(c).

<sup>79</sup> *Id.* § 1.2105(a)(2)(viii). As discussed below, an applicant may continue negotiating, discussing, or communicating with respect to a new agreement after the FCC Form 175 filing deadline, provided that the communications involved do not relate both to the licenses being auctioned and to bids or bidding strategies or post-auction market structure. See Section II.H.3 (Scope of Prohibition on Communications; Prohibition on Joint Bidding Agreements), below.

(continued....)

FCC Form 175 filing deadline, and it must maintain the accuracy and completeness of the information in its pending auction application.<sup>80</sup>

39. For purposes of making the required agreement disclosures on the FCC Form 175, if parties agree in principle on all material terms prior to the application filing deadline, each party to the agreement that is submitting an auction application must provide a brief description of, and identify the other party or parties to, the agreement on its respective FCC Form 175,<sup>81</sup> even if the agreement has not been reduced to writing. However, if the parties have not agreed in principle by the FCC Form 175 filing deadline, they should not describe, or include the names of parties to, the discussions on their applications.<sup>82</sup>

40. The Commission's rules now generally prohibit joint bidding and other arrangements involving auction applicants (including any party that controls or is controlled by, such applicants).<sup>83</sup> For purposes of the prohibition on joint bidding arrangements, "joint bidding arrangements" include arrangements relating to the licenses being auctioned that address or communicate, directly or indirectly, bidding at the auction, bidding strategies, including arrangements regarding price or the specific licenses on which to bid, and any such arrangements relating to the post-auction market structure.<sup>84</sup> We observe that some commenters have expressed views on how this prohibition might apply to specific arrangements.<sup>85</sup> We emphasize here that our actions are limited to setting up generally applicable procedures for Auctions 101 and 102, and we do not address here how these might apply in the context of specific agreements or arrangements. We note that application of this prohibition requires a case-by-case determination based on the details of a specific arrangement.

41. This prohibition applies to joint bidding arrangements involving two or more nationwide providers,<sup>86</sup> as well as joint bidding arrangements involving a nationwide provider and one or more non-nationwide providers, where any party to the arrangement is an applicant for the auction.<sup>87</sup> Non-nationwide providers may enter into agreements to form a consortium or a joint venture (as applicable) that result in a single party applying to participate in an auction.<sup>88</sup> Specifically, a designated entity (DE)

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<sup>80</sup> See *Guidance Regarding the Prohibition of Certain Communications During the Incentive Auction, Auction 1000*, Public Notice, 30 FCC Rcd 10794, 10806-07, para. 34 (WTB 2015) (*Prohibited Communications Guidance Public Notice*); see also 47 CFR §§ 1.65, 1.2105(b)(4); *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, 8418, para. 109 (2014) (discussing applicants' obligation to maintain accuracy and completeness of information in pending auction applications).

<sup>81</sup> 47 CFR § 1.2105(a)(2)(viii), (c)(1).

<sup>82</sup> See generally *Wireless Telecommunications Bureau Clarifies Spectrum Auction Anti-Collusion Rules*, Public Notice, 11 FCC Rcd 9645, 9646 (WTB 1995) (*Anti-Collusion Public Notice*) (clarifying standard for determining when a disclosable agreement exists, discussed in connection with an earlier version of Section 1.2105 of the Commission's rules).

<sup>83</sup> See 47 CFR § 1.2105(a)(2)(ix); see also *2015 Part 1 Report and Order*, 30 FCC Rcd at 7569-77, paras. 177-98.

<sup>84</sup> See *2015 Part 1 Report and Order*, 30 FCC Rcd at 7575, para. 195.

<sup>85</sup> See, e.g., CCA Comments at 9; T-Mobile Comments at 6 n.12.

<sup>86</sup> A "non-nationwide provider" refers to any provider of communications services that is not a "nationwide provider." See *2015 Part 1 Report and Order*, 30 FCC Rcd at 7575, para. 195.

<sup>87</sup> See 47 CFR § 1.2105(a)(2)(ix); see also *2015 Part 1 Report and Order*, 30 FCC Rcd at 7571, 7573, 7574, 7575, paras. 182, 186, 191, 193.

<sup>88</sup> See *2015 Part 1 Report and Order*, 30 FCC Rcd at 7573-74, 7576, paras. 187, 190, 198. While two or more non-nationwide providers may participate in an auction through a joint venture, a nationwide and a non-nationwide

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can participate in only one consortium or joint venture in an auction,<sup>89</sup> which shall be the exclusive bidding vehicle for its members in that auction, and non-nationwide providers that are not designated entities may participate in an auction through only one joint venture, which also shall be the exclusive bidding vehicle for its members in that auction.<sup>90</sup> The general prohibition on joint bidding arrangements excludes certain agreements, including those that are solely operational in nature,<sup>91</sup> as defined in Section 1.2105(a)(2)(ix)(A)-(C) of the Commission's rules.<sup>92</sup>

42. To implement the prohibition on joint bidding arrangements, the Commission's rules require each auction applicant to certify in its short-form application that it has disclosed any arrangements or understandings of any kind relating to the licenses being auctioned to which it (or any party that controls or is controlled by it) is a part. The applicant must also certify that it (or any party that controls or is controlled by it) has not entered and will not enter into any arrangement or understanding of any kind relating directly or indirectly to bidding at auction with, among others, "any other applicant" or a nationwide provider.<sup>93</sup>

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provider may not do so. *See id.* at 7575, para. 194.

<sup>89</sup> *See id.* at 7576, para. 198. Pursuant to Section 1.2105(a)(4)(ii), a consortium is an entity formed to apply as a single applicant to bid at auction pursuant to an agreement by two or more separate and distinct legal entities that individually are eligible to claim the same designated entity benefits under Section 1.2110, provided that no member of the consortium may be a nationwide provider. 47 CFR § 1.2105(a)(4)(ii).

<sup>90</sup> *See 2015 Part 1 Report and Order*, 30 FCC Rcd at 7576, para. 198. Under the Commission's rule, a joint venture means a legally cognizable entity formed to apply as a single applicant to bid at auction pursuant to an agreement by two or more separate and distinct legal entities, provided that no member of the joint venture may be a nationwide provider. 47 CFR § 1.2105(a)(4)(iii); *see also 2015 Part 1 Report and Order*, 30 FCC Rcd at 7575, para. 194.

<sup>91</sup> *See* 47 CFR § 1.2105(a)(2)(ix)(A), (a)(4). Under the Commission's rules, agreements that are solely operational in nature are those that address operational aspects of providing a mobile service, such as agreements for roaming, spectrum leasing and other spectrum use arrangements, or device acquisition, as well as agreements for assignment or transfer of licenses, provided that any such agreement does not both relate to the licenses at auction and address or communicate, directly or indirectly, bidding at auction (including specific prices to be bid) or bidding strategies (including the specific licenses on which to bid or not to bid) or post-auction market structure. *See id.* § 1.2105(a)(4); *see also 2015 Part 1 Report and Order*, 30 FCC Rcd at 7576, para. 197.

<sup>92</sup> *See* 47 CFR § 1.2105(a)(2)(ix); *see also 2015 Part 1 Report and Order*, 30 FCC Rcd at 7575-76, paras. 195-97.

<sup>93</sup> "The short-form application must contain . . .

(viii) Certification that the applicant has provided in its application a brief description of, and identified each party to, any partnerships, joint ventures, consortia or other agreements, arrangements or understandings of any kind relating to the licenses being auctioned, including any agreements that address or communicate directly or indirectly bids (including specific prices), bidding strategies (including the specific licenses on which to bid or not to bid), or the post-auction market structure, to which the applicant, or any party that controls as defined in paragraph (a)(4) of this Section or is controlled by the applicant, is a party.

(ix) Certification that the applicant (or any party that controls as defined in paragraph (a)(4) of this Section or is controlled by the applicant) has not entered and will not enter into any partnerships, joint ventures, consortia or other agreements, arrangements, or understandings of any kind relating to the licenses being auctioned that address or communicate, directly or indirectly, bidding at auction (including specific prices to be bid) or bidding strategies (including the specific licenses on which to bid or not to bid), or post-auction market structure with: any other applicant (or any party that controls or is controlled by another applicant); with a nationwide provider that is not an applicant (or any party that controls or is controlled by such a nationwide provider); or, if the applicant is a nationwide provider, with any non-nationwide provider that is not an applicant (or with any party that controls or is controlled by such a non-nationwide provider), other than:

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43. For the reasons discussed in the *Auctions 101 and 102 Comment Public Notice*,<sup>94</sup> we adopt our proposal to identify AT&T, Sprint, T-Mobile, and Verizon Wireless as “nationwide providers” for the purpose of implementing our competitive bidding rules in Auctions 101 and 102. Further, since parties wishing to participate in either auction will be applicants during overlapping periods of time,<sup>95</sup> we adopt our proposal to apply the rule prohibiting joint bidding arrangements to any applicant for Auction 101 or Auction 102.<sup>96</sup> Thus, the rule prohibiting joint bidding arrangements will apply to “all applicants” (including any party that controls or is controlled by, such applicants) to participate in either auction, and not just to applicants for the same auction. Moreover, a party wishing to participate in either auction will be required to disclose in its short-form application any bidding arrangements or understandings of any kind relating to the licenses being offered in either Auction 101 or Auction 102.<sup>97</sup> That is, for the purpose of implementing our competitive bidding rules in Auctions 101 and 102, we will apply the prohibition against joint bidding agreements such that the “licenses being auctioned” and “licenses at auction” include all of the licenses being offered in Auctions 101 and 102.<sup>98</sup> This approach is consistent with our decision to apply the rule prohibiting certain communications across both auctions and serves the same purpose—to protect and foster competition in both auctions.<sup>99</sup>

44. Although the Commission’s rules do not prohibit auction applicants from communicating about matters that are within the scope of an excepted agreement that has been disclosed in an FCC Form

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(A) Agreements, arrangements, or understandings of any kind that are solely operational as defined under paragraph (a)(4) of this Section;

(B) Agreements, arrangements, or understandings of any kind to form consortia or joint ventures as defined under paragraph (a)(4) of this Section;

(C) Agreements, arrangements or understandings of any kind with respect to the transfer or assignment of licenses, provided that such agreements, arrangements or understandings do not both relate to the licenses at auction and address or communicate, directly or indirectly, bidding at auction (including specific prices to be bid), or bidding strategies (including the specific licenses on which to bid or not to bid), or post-auction market structure.”

47 CFR § 1.2105(a)(2)(viii)-(ix); *see also* 2015 Part 1 Report and Order, 30 FCC Rcd at 7570-78, paras. 180-201.

<sup>94</sup> *Auctions 101 and 102 Comment Public Notice* at 10, para. 26; *see also* CCS Comments at 4 (strongly agreeing with the proposal to identify AT&T, Sprint, T-Mobile, and Verizon Wireless as nationwide providers).

<sup>95</sup> As decided above, we will accept applications for Auctions 101 and 102 during separate but concurrent filing windows. *See* Section I.D.1 (Separate Auction Application and Bidding Processes), above.

<sup>96</sup> *See Auctions 101 and 102 Comment Public Notice* at 11, para. 28 (proposing that “[i]f, based on our final procedures for these auctions, the Auction 102 short-form window occurs before the close of bidding in Auction 101, because parties wishing to participate in either auction would be applicants during overlapping periods of time,” the rule prohibiting joint bidding arrangements would apply to any applicant for Auction 101 or 102).

<sup>97</sup> *See Auctions 101 and 102 Comment Public Notice* at 11, para. 28.

<sup>98</sup> *See id.*; 47 CFR § 1.2105(a)(viii)-(ix), (c)(3); *see also* CCS Comments at 4.

<sup>99</sup> *See* Section II.H (Prohibited Communications and Compliance with Antitrust Laws), below. We disagree with T-Mobile’s assertion that the “perceived breadth of the . . . joint bidding rules exacerbates the risk that the Commission’s proposed auction schedule will impair business activity more generally.” T-Mobile Reply at 3. As discussed in more detail below, the prohibition on joint bidding agreements is limited in scope. *See* Section II.H.3 (Scope of Prohibition on Communications; Prohibition on Joint Bidding Agreements), below. Specifically, an applicant may be party to or enter into agreements, arrangements, or understandings that are solely operational or that provide for the transfer or assignment of licenses, provided that such agreements, arrangements or understandings do not involve the communication or coordination of bids (including amounts), bidding strategies, or the particular permits or licenses on which to bid and provided that such agreements, arrangements or understandings are disclosed on its application.

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175,<sup>100</sup> the Commission reminds applicants that certain discussions or exchanges could nonetheless touch upon impermissible subject matters,<sup>101</sup> and that compliance with the Commission's rules will not insulate a party from enforcement of the antitrust laws.<sup>102</sup>

45. Applicants should bear in mind that a winning bidder will be required to disclose in its FCC Form 601 post-auction application the specific terms, conditions, and parties involved in any agreement relating to the licenses being auctioned into which it had entered prior to the time bidding was completed.<sup>103</sup> This applies to any bidding consortium, joint venture, partnership, or other agreement, arrangement, or understanding of any kind entered into relating to the competitive bidding process, including any agreements relating to the licenses being auctioned that address or communicate directly or indirectly bids (including specific prices), bidding strategies (including the specific licenses on which to bid or not to bid), or the post-auction market structure, to which the applicant, or any party that controls or is controlled by the applicant, is a party.<sup>104</sup>

#### **E. Ownership Disclosure Requirements**

46. Each applicant must comply with the applicable Part 1 ownership disclosure requirements and provide information required by Sections 1.2105 and 1.2112, and, where applicable, Section 1.2110, of the Commission's rules.<sup>105</sup> Specifically, in completing FCC Form 175, an applicant must fully disclose information regarding the real party- or parties-in-interest in the applicant or application and the ownership structure of the applicant, including both direct and indirect ownership interests of 10 percent or more, as prescribed in Sections 1.2105 and 1.2112, and, where applicable, Section 1.2110, of the Commission's rules.<sup>106</sup> Each applicant is responsible for ensuring that information submitted in its short-form application is complete and accurate.

47. In certain circumstances, an applicant may have previously filed an FCC Form 602 ownership disclosure information report or filed an auction application for a previous auction in which ownership information was disclosed. The most current ownership information contained in any FCC Form 602 or previous auction application on file with the Commission that used the same FRN the applicant is using to submit its FCC Form 175 will automatically be pre-filled into certain ownership sections on the applicant's FCC Form 175, if such information is in an electronic format compatible with FCC Form 175.<sup>107</sup> Each applicant must carefully review any ownership information automatically entered into its FCC Form 175, including any ownership attachments, to confirm that all information supplied on FCC Form 175 is complete and accurate as of the application filing deadline. Any information that needs to be corrected or updated must be changed directly in FCC Form 175.

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<sup>100</sup> 47 CFR § 1.2105(a)(2)(viii), (a)(2)(ix)(A)-(C), (a)(2)(viii), (c)(1); *see also* note 99, above.

<sup>101</sup> *See Amendment of Part 1 of the Commission's Rules—Competitive Bidding Procedures*, Third Report and Order and Second Further Notice of Proposed Rule Making, 13 FCC Rcd 374, 467-68, para. 163 (1997); *see generally Prohibited Communications Guidance Public Notice*, 30 FCC Rcd 10794.

<sup>102</sup> 47 CFR § 1.2105(a)(2)(ix)(A)-(C), (a)(2)(viii); *see also Part 1 Report and Order*, 30 FCC Rcd at 7571, para. 181; *Prohibited Communications Guidance Public Notice*, 30 FCC Rcd at 10809, para. 43.

<sup>103</sup> 47 CFR § 1.2107(d); *see also id.* § 1.2105(a)(2)(ix)(A)-(C), (a)(2)(viii).

<sup>104</sup> *Id.* § 1.2107(d); *see also id.* § 1.2105(a)(2)(ix)(A)-(C), (a)(2)(viii).

<sup>105</sup> Section 1.2105 requires the disclosure on the FCC Form 175 of the applicant's ownership information as set forth in Sections 1.2105 and 1.2112. *See id.* § 1.2105. In addition, each applicant should ensure that its disclosures comply with the ownership disclosure requirements in the recently amended Part 1 rules. *See generally 2015 Part 1 Report and Order*, 30 FCC Rcd 7493.

<sup>106</sup> 47 CFR §§ 1.2105, 1.2112.

<sup>107</sup> The FCC Form 175 instructions provide additional details on pre-filled information.

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## F. Foreign Ownership Disclosure Requirements

48. Section 310 of the Communications Act requires the Commission to review foreign investment in radio station licenses and imposes specific restrictions on who may hold certain types of radio licenses.<sup>108</sup> The provisions of Section 310 apply to applications for initial radio licenses, applications for assignments and transfers of control of radio licenses, and spectrum leasing arrangements under the Commission's secondary market rules.<sup>109</sup> In completing the FCC Form 175, an applicant will be required to disclose information concerning any foreign ownership of the applicant. If an applicant has a foreign owner(s) with ownership interests in excess of the applicable limit or benchmark set forth in Section 310, it may seek to participate in Auction 101 and/or Auction 102 as long as it has filed a petition for declaratory ruling with the Commission prior to the FCC Form 175 filing deadline. An applicant must certify in its FCC Form 175 that, as of the deadline for filing its application to participate in a particular auction, the applicant either is in compliance with the foreign ownership provisions of Section 310 or has filed a petition for declaratory ruling requesting Commission approval to exceed the applicable foreign ownership limit or benchmark in Section 310(b) that is pending before, or has been granted by, the Commission.<sup>110</sup>

## G. Information Procedures During the Auction Process

49. Consistent with past practice in several prior spectrum license auctions,<sup>111</sup> we adopt the Commission's proposal to limit information available in Auctions 101 and 102 in order to prevent the identification of bidders placing particular bids until after the bidding has closed in both auctions.<sup>112</sup> More specifically, we will not make public until after bidding in both auctions has closed: (1) the licenses or PEAs that an applicant selects for bidding in its FCC Form 175, (2) the amount of any upfront payment made by or on behalf of an applicant for Auction 101 or 102, (3) any applicant's bidding eligibility, and (4) any other bidding-related information that might reveal the identity of the bidder placing a bid.

50. The limited information disclosure procedures used in past auctions have helped safeguard against potential anticompetitive behavior such as retaliatory bidding and collusion,<sup>113</sup> and after

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<sup>108</sup> See 47 U.S.C. § 310(a), (b).

<sup>109</sup> See *Review of Foreign Ownership Policies for Common Carrier and Aeronautical Radio Licensees under Section 310(b)(4) of the Communications Act of 1934, as Amended*, Second Report and Order, 28 FCC Rcd 5741, 5747-48, para. 7 (2013) (*Foreign Ownership Second Report and Order*).

<sup>110</sup> See 47 CFR § 1.2105(a)(2)(v), (vi). Additional information concerning foreign ownership disclosure requirements is provided in the FCC Form 175 Filing Instructions.

<sup>111</sup> See, e.g., *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*); *Auction of 700 MHz Band Licenses Scheduled for July 19, 2011; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 92*, Public Notice, 26 FCC Rcd 3342, 3372-73, paras. 126-29 (WTB 2011); *Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 66*, Public Notice, 21 FCC Rcd 4562, 4600-05, paras. 140-57 (2006); see also 47 CFR § 1.2104(h).

<sup>112</sup> *Auctions 101 and 102 Comment Public Notice* at 7, paras. 15-18.

<sup>113</sup> See *Auction of AWS-1 and Broadband PCS Licenses Rescheduled for August 13, 2008; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 78*, Public Notice, 23 FCC Rcd 7496, 7536, para. 157 (WTB 2008) (recognizing that limited information procedures may have overall competitive benefits from reduced opportunities for bid signaling, retaliatory bidding, or other anti-competitive

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carefully considering the record on this issue,<sup>114</sup> we find nothing that persuades us that we should depart from our now-established practice of implementing these procedures in wireless spectrum auctions. We find that the competitive benefits associated with limiting information disclosure support adoption of such procedures and outweigh the potential benefits of full disclosure.<sup>115</sup>

51. Under our adopted limited information procedures (sometimes also referred to as anonymous bidding), information to be made public after each round of bidding in Auction 101 will include, for each license, the number of bidders that placed a bid on the license, the amount of every bid placed, whether a bid was withdrawn, the minimum acceptable bid amount for the next round, and whether the license has a provisionally winning bid. Furthermore, the Auction System will indicate whether any proactive waivers were submitted in each round and the stage transition percentage—the percentages of licenses (as measured in bidding units) on which there were new bids—for the round. After the last round in Auction 101, we will also make public the gross winning bid amount for each license. In Auction 102, information to be made public after each round of bidding in the clock phase will include, for each category of license in each geographic area, the supply, the aggregate demand, the price at the end of the last completed round, and the price for the next round.<sup>116</sup>

52. Since we will open and close the Auction 102 application window concurrently with the Auction 101 window,<sup>117</sup> we adopt the Commission’s proposal that information relating to either auction that is non-public under our limited information procedures will remain non-public until after bidding has closed in both auctions. This approach will protect against disclosure, prior to the close of both auctions, of information relating to either auction that may indicate bidding strategies in one or the other. Since the licenses offered in both auctions are subject to the same service rules and applicants may be interested in participating in both auctions, we find that the benefits of protecting competition both within and across the auctions outweighs the alleged burdens identified by commenters.<sup>118</sup>

53. Specifically, we are not persuaded by one commenter’s argument that the non-public information from Auction 102 is crucial to bidders in Auction 101.<sup>119</sup> Under the limited information disclosure procedures we adopt above, we will make public after each round of Auction 101 the number of bidders that placed a bid on each license and the amount of every bid placed on each license. Further,

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strategic bidding) (*Auction 78 Procedures Public Notice*); *Auction of 700 MHz Band Licenses Scheduled for July 19, 2011; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 92*, Public Notice, 26 FCC Rcd 3342, 3372, para. 128 (WTB 2011) (finding that the competitive benefits associated with limited information disclosure procedures support adoption of such procedures).

<sup>114</sup> See Blooston Comments at 4 (supporting the Commission’s proposal to use limited information procedures in Auctions 101 and 102 “to level the playing field among bidders”).

<sup>115</sup> See *Auction 78 Procedures Public Notice*, 23 FCC Rcd at 7536, para. 157.

<sup>116</sup> See Section IV.B (Auction 102 — 24 GHz), below.

<sup>117</sup> As discussed above, under our adopted scheduling scenario, parties wishing to participate in either auction will be applicants during overlapping periods of time. See Section I.D.1 (Separate Auction Application and Bidding Processes), above.

<sup>118</sup> See US Cellular Comments at 4 (acknowledging that “theoretically there is some risk of retaliatory bidding in Auction 102 based on the results of Auction 101”). We disagree with US Cellular’s assertion that the risk of retaliatory bidding in Auction 102 “would be no greater here than for any other non-simultaneous auctions offering licenses for different spectrum bands” because while the licenses offered in Auctions 101 and 102 are in different bands, they will be used to provide the same services and are subject to the same service rules. *Id.* Accordingly, the licenses’ location in separate bands does not, on its own, obviate the need to safeguard against potential anticompetitive behavior within and across Auctions 101 and 102.

<sup>119</sup> See *id.* at 5.

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at the end of Auction 101, we will make public the gross winning bid amount for each license.<sup>120</sup> These public data on Auction 101 results will provide potential Auction 102 bidders with sufficient information to analyze and understand price levels and demand for UMFUS licenses in Auction 101.<sup>121</sup> We find that the limited added benefit to potential Auction 102 bidders of knowing the identities of winning bidders in Auction 101 is outweighed by the risk that such knowledge could be used for anticompetitive purposes and may threaten competition in Auction 102.<sup>122</sup>

54. Accordingly, we will make non-public information relating to Auctions 101 and 102, including the results of the respective auctions, available only after the close bidding in Auction 102. More specifically, bidders' license and/or PEA selections, as applicable, upfront payment amounts, bidding eligibility, bids, and other bidding-related actions concerning Auctions 101 and 102 will be made publicly available after the close of bidding in Auction 102.<sup>123</sup> Likewise, the identities of bidders placing specific bids or withdrawals (as applicable) and the net bid amounts (reflecting bidding credits) for Auctions 101 and 102 will not be disclosed until after the close of bidding in Auction 102. Bidders will have access to additional information related to their own bidding and bid eligibility. For example, bidders will be able to view their own level of eligibility, before and during each respective auction, through the FCC auction bidding system.

55. We warn applicants that the direct or indirect communication to other applicants or the public disclosure of non-public information (e.g., bid withdrawals, proactive waivers submitted, reductions in eligibility, identities of bidders) could violate the Commission's rule prohibiting certain communications.<sup>124</sup> **Therefore, to the extent an applicant believes that such a disclosure is required by law or regulation, including regulations issued by the SEC, we strongly urge that the applicant consult with the Commission staff in the Auctions and Spectrum Access Division before making such disclosure.**

#### H. Prohibited Communications and Compliance with Antitrust Laws

56. The rules prohibiting certain communications set forth in Section 1.2105(c) apply to each applicant that files a short-form application (FCC Form 175) in Auction 101 or Auction 102.<sup>125</sup> 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

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<sup>120</sup> See note 48, above.

<sup>121</sup> See US Cellular Reply at 2. For this reason, we are not persuaded that smaller bidders who participate only in Auction 102 will "go into Auction 102 with a dearth of relevant valuation information unless the Commission releases the non-public information from Auction 101 prior to the Auction 102 filing deadline." See US Cellular Comments at 5-7 (arguing that bidders who participate in Auction 101 will have better valuation information than others who participate only in Auction 102).

<sup>122</sup> See AT&T Comments at 5 (arguing that the FCC should announce the winners of Auction 101 before accepting applications for Auction 102).

<sup>123</sup> We retain the discretion not to use limited information procedures if the Bureau, after examining the level of potential competition based on the short-form applications filed for Auction 101 and Auction 102, determines that the circumstances indicate that limited information procedures would not be an effective tool for deterring anti-competitive behavior.

<sup>124</sup> See 47 CFR § 1.2105(c); see also Section II.H (Prohibited Communications and Compliance with Antitrust Laws), below.

<sup>125</sup> See 47 CFR § 1.2105(c).

(continued...)

any other applicants' bids or bidding strategies (including post-auction market structure), or discussing or negotiating settlement agreements, until after the down payment deadline[.]”<sup>126</sup>

57. Since short-form applications for Auction 101 and Auction 102 have the same filing deadline and parties interested in participating in either auction will be applicants during overlapping periods of time, we adopt the proposal to apply the Commission's rule prohibiting certain communications across both auctions, using the Auction 102 down payment deadline to determine when the prohibition ends for applicants in either auction.<sup>127</sup> We reject concerns that applying the prohibited communications rule across both auctions would be overly restrictive.<sup>128</sup> We find that, because the UMFUS licenses to be offered in Auctions 101 and 102 cover similar spectrum and are subject to many of the same service rules, the risk of anticompetitive harm associated with allowing separate applicants in Auctions 101 and 102 to discuss bidding strategies outweighs the potential burden to applicants of applying the rule across both auctions.<sup>129</sup> Accordingly, the rule prohibiting certain communications will apply to communications, etc. between every applicant to participate in either auction regarding any such applicant's bids or bidding strategies relating to either auction.

### 1. Entities Subject to Section 1.2105(c)

58. An “applicant” for purposes of this rule includes all “controlling interests” in the entity submitting the FCC Form 175 auction application, as well as all holders of interests amounting to 10 percent or more of the entity, and all officers and directors of that entity.<sup>130</sup> Under Section 1.2105(c), as we will apply it for Auctions 101 and 102, a party that submits an application for either auction becomes an “applicant” for both auctions under the rule at the application deadline, and that status does not change based on later developments.<sup>131</sup>

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<sup>126</sup> *Id.* Above we adopted the proposal to identify AT&T, Sprint, T-Mobile, and Verizon Wireless as “nationwide providers” for the purpose of implementing the Commission's competitive bidding rules in Auctions 101 and 102. *See* Section II.D (Disclosure of Agreements and Bidding Arrangements), above.

<sup>127</sup> *See Auctions 101 and 102 Comment Public Notice* at 8-9, para. 22.

<sup>128</sup> *See, e.g.,* CCA Comments at 6-8; CTIA Comments at 9; T-Mobile Reply Comments at 3-4; US Cellular Comments at 4, 7-8; Verizon Comments at 4-5; *see also* Blooston Comments at 4; CCA Comments at 10; T-Mobile Comments at 2; US Cellular Comments at 2, 4.

<sup>129</sup> *See Service Rules for the 698-746, 747-762 and 777-792 MHz Bands et al.*, Second Report and Order, 22 FCC Rcd 15289, 15405, para. 316 (2007) (concluding that because licenses for the same spectrum would be offered in Auctions 73 and 76, and the auctions would take place relatively close in time, “the purpose of our anti-collusion rule requires that the provisions of that rule continue to apply until the down payment deadline for the subsequent auction”) (700 MHz Second Report and Order); *see also 2015 Part 1 Report and Order*, 30 FCC Rcd at 7498, para. 9 (“In establishing the Commission's auction authority, Congress vested the Commission with broad discretion to balance a number of competing objectives.”); *Star Wireless, LLC v. FCC*, 522 F.3d 469, 475 (D.C. Cir. 2008) (“[G]eneral bright-line prophylactic measures, such as the anti-collusion rule, are appropriate when ‘the probability of abuse in transactions between related organizations is significant enough that it is more efficient to prevent the opportunity for abuse from arising than it is to try to detect actual incidents of abuse.’”).

<sup>130</sup> 47 CFR § 1.2105(c)(5)(i).

<sup>131</sup> *See Star Wireless*, 522 F.3d at 473-74. Thus, an auction applicant that does not correct deficiencies in its application, fails to submit a timely and sufficient upfront payment, or does not otherwise become qualified, remains an “applicant” for purposes of the rule and remains subject to the prohibition on certain communications until the Auction 102 down payment deadline.

(continued....)

## 2. Prohibition Applies Until Down Payment Deadline

59. Section 1.2105(c)'s prohibition on certain communications begins at an auction's short-form application filing deadline and ends at the auction's down payment deadline after the auction closes, which will be announced in a future public notice.<sup>132</sup>

60. Consistent with our decision to apply the rule prohibiting certain communications across both Auctions 101 and 102, we will use Auction 102's post-auction down payment deadline to determine when the prohibition ends for applicants in either auction.<sup>133</sup> Accordingly, the prohibition on certain communications for applicants in either Auction 101 or Auction 102 will begin at the short-form application filing deadline for both auctions and will end at the down payment deadline for Auction 102.

## 3. Scope of Prohibition on Communications; Prohibition on Joint Bidding Agreements

61. The Commission updated and revised Section 1.2105(c)'s prohibition on communications by auction applicants twice in recent years.<sup>134</sup> Significantly, the Commission in 2015 amended Section 1.2105(c) to extend the prohibition on communications to cover all applicants for an auction regardless of whether the applicants seek permits or licenses in the same geographic area, or market.<sup>135</sup> In addition, the rule now applies to communications by applicants with non-applicant nationwide providers of communications services and by nationwide applicants with non-applicant non-nationwide providers.<sup>136</sup> In connection with those 2015 amendments to the competitive bidding rules, and as discussed above, the Commission now prohibits a "joint bidding arrangement," including arrangements relating to the permits or licenses being auctioned that address or communicate, directly or indirectly, bidding at the auction, bidding strategies, including arrangements regarding price or the specific permits or licenses on which to bid, and any such arrangements relating to the post-auction market structure.<sup>137</sup> The revised rule provides limited exceptions for a communication within the scope of any arrangement consistent with the exclusion from our rule prohibiting joint bidding, provided such arrangement is disclosed on the applicant's auction application.<sup>138</sup> Applicants may continue to communicate pursuant to any pre-existing agreements, arrangements, or understandings that are solely operational or that provide for the transfer or assignment of licenses, provided that such agreements, arrangements or understandings are disclosed on their applications and do not both relate to the licenses at auction and address or communicate bids (including amounts), bidding strategies, or the particular permits or licenses on which to bid or the post-auction market structure.<sup>139</sup>

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<sup>132</sup> 47 CFR § 1.2105(c)(1).

<sup>133</sup> *But see* CCA Comments at 10 (arguing that "the FCC should adopt its proposal to separately apply the post-auction down payment deadline when determining when the quiet period ends for each auction."); US Cellular Comments at 2, 4 (urging the Commission to use "each auction's post-auction down payment deadline to determine when the prohibition ends for applicants in that auction.").

<sup>134</sup> *See, e.g., 2015 Part 1 Report and Order*, 30 FCC Rcd 7494; *Procedural Amendments to Commission Part 1 Competitive Bidding Rules*, Order, 25 FCC Rcd 521 (2010) (*Part 1 Procedural Amendments Order*).

<sup>135</sup> *2015 Part 1 Report and Order*, 30 FCC Rcd at 7577, para. 199; *see also* 47 CFR § 1.2105(a)(2)(ix), (c)(1).

<sup>136</sup> *2015 Part 1 Report and Order*, 30 FCC Rcd at 7577, para. 199; 47 CFR § 1.2105(c)(1).

<sup>137</sup> 47 CFR § 1.2105(a)(2)(ix); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7575-76, para. 195.

<sup>138</sup> *2015 Part 1 Report and Order*, 30 FCC Rcd at 7576-77, paras. 197-99. *See* 47 CFR § 1.2105(a)(2)(ix).

<sup>139</sup> *Id.*; *see also generally Prohibited Communications Guidance Public Notice*, 30 FCC Rcd 10794; CCA Comments at 8.

(continued...)

62. In addition to express statements of bids and bidding strategies, the prohibition against communicating “in any manner” includes public disclosures as well as private communications and indirect or implicit communications.<sup>140</sup> Consequently, an applicant must take care to determine whether its auction-related communications may reach another applicant.<sup>141</sup>

63. Parties subject to Section 1.2105(c) should take special care in circumstances where their officers, directors, and employees may receive information directly or indirectly relating to any applicant’s bids or bidding strategies. Such information may be deemed to have been received by the applicant under certain circumstances. For example, Commission staff have found that, where an individual serves as an officer and director for two or more applicants, the bids and bidding strategies of one applicant are presumed conveyed to the other applicant through the shared officer, which creates an apparent violation of the rule.<sup>142</sup>

64. Subject to the exception described above, Section 1.2105(c)(1) prohibits applicants from communicating with specified other parties only with respect to “their own, or each other’s, or any other applicant’s bids or bidding strategies.”<sup>143</sup> Moreover, as the Commission explained in the *Prohibited Communications Guidance Public Notice*, a communication conveying “bids or bidding strategies (including post-auction market structure)” must also relate to the “licenses being auctioned” in order to be covered by the prohibition.<sup>144</sup> Thus, the prohibition is limited in scope and does not apply to all communications between or among the specified parties.<sup>145</sup>

65. Business discussions and negotiations that are *unrelated* to bidding in Auction 101 or Auction 102 and that do not convey information about the bids or bidding strategies, including the post-auction market structure, of an applicant in either auction, are not prohibited by the rule.<sup>146</sup> Moreover, not all auction-related information is covered by the prohibition. For example, communicating merely whether a party has or has not applied to participate in Auction 101 or Auction 102 will not violate the rule.<sup>147</sup> In contrast, communicating, among other things, how a party will participate, including specific geographic areas selected, specific bid amounts, and/or whether or not the party is placing bids, would convey bids or bidding strategies and would be prohibited.<sup>148</sup>

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<sup>140</sup> See generally *2015 Part 1 Report and Order*, 30 FCC Rcd at 7577, para. 199; *Cascade Access, LLC*, Forfeiture Order, 28 FCC Rcd 141, 144, para. 7 (EB 2013) (rejecting argument that the communication was not prohibited because it did not reveal the “substance” of Cascade’s bids or bidding strategies).

<sup>141</sup> We remind applicants that they must determine whether their communications with other parties are permissible under the rule once the prohibition begins at the deadline for submitting applications, even before the public notice identifying applicants is released.

<sup>142</sup> See, e.g., Letter from Barbara A. Kreisman, Chief, Video Division, FCC Media Bureau, and Margaret W. Wiener, Chief, Auctions and Spectrum Access Division, FCC Wireless Telecommunications Bureau, to Colby M. May, TCCSA, Inc., d/b/a Trinity Broadcasting Network, 20 FCC Rcd 14648, 14648-49 (2005) (finding apparent violation of communication prohibitions of Section 1.2105(c) where applicants with mutually exclusive applications reported sharing same individual as an officer and director and reported having no bidding agreement, which under the rule then in effect would have made an exception to the prohibition applicable).

<sup>143</sup> 47 CFR § 1.2105(c)(1).

<sup>144</sup> *Prohibited Communications Guidance Public Notice*, 30 FCC Rcd at 10806, para. 32; see also CCA Comments at 7.

<sup>145</sup> Cf. CCA Comments at 6.

<sup>146</sup> *Prohibited Communications Guidance Public Notice*, 30 FCC Rcd at 10806, para. 32; cf. CCA Comments at 9.

<sup>147</sup> *Prohibited Communications Guidance Public Notice*, 30 FCC Rcd at 10796, paras. 6-7.

<sup>148</sup> *Id.* at 10796-97, paras. 8-9.

(continued....)

66. While Section 1.2105(c) does not prohibit business discussions and negotiations among auction applicants that are not auction related, each applicant must remain vigilant not to communicate, directly or indirectly, information that affects, or could affect, bids or bidding strategy. Certain discussions might touch upon subject matters that could convey price or geographic information related to bidding strategies. Such subject areas include, but are not limited to, management, sales, local marketing agreements, and other transactional agreements.

67. We caution applicants that bids or bidding strategies may be communicated outside of situations that involve one party subject to the prohibition communicating privately and directly with another such party. For example, the Commission has warned that prohibited “communications concerning bids and bidding strategies may include communications regarding capital calls or requests for additional funds in support of bids or bidding strategies to the extent such communications convey information concerning the bids and bidding strategies directly or indirectly.”<sup>149</sup> Moreover, the Commission found a violation of the rule against prohibited communications when an applicant used the Commission’s bidding system to disclose “its bidding strategy in a manner that explicitly invited other auction participants to cooperate and collaborate . . . in specific markets”<sup>150</sup> and has placed auction participants on notice that the use of its bidding system “to disclose market information to competitors will not be tolerated and will subject bidders to sanctions.”<sup>151</sup>

68. Likewise, when completing a short-form application, each applicant should avoid any statements or disclosures that may violate Section 1.2105(c), particularly in light of the limited information procedures in effect for Auctions 101 and 102. Specifically, an applicant should avoid including any information in its short-form application that might convey information regarding its license or PEA selection, as applicable, such as referring to certain licenses or markets in describing agreements, including any information in application attachments that will be publicly available that may otherwise disclose the applicant’s license or PEA selections, or using applicant names that refer to licenses being offered.

69. Applicants also should be mindful that communicating non-public application or bidding information publicly or privately to another applicant may violate Section 1.2105(c) even though that information subsequently may be made public during later periods of the application or bidding processes.

#### 4. Communicating with Third Parties

70. Section 1.2105(c) does not prohibit an applicant from communicating bids or bidding strategies to a third-party, such as a consultant or consulting firm, counsel, or lender. The applicant should take appropriate steps, however, to ensure that any third party it employs for advice pertaining to its bids or bidding strategies does not become a conduit for prohibited communications to other specified parties, as that would violate the rule.<sup>152</sup> For example, an applicant might require a third party, such as a lender, to sign a non-disclosure agreement before the applicant communicates any information regarding bids or bidding strategy to the third party.<sup>153</sup> Within third-party firms, separate individual employees, such as attorneys or auction consultants, may advise individual applicants on bids or bidding strategies, as long as such firms implement firewalls and other compliance procedures that prevent such individuals

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<sup>149</sup> *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Memorandum Opinion and Order, 9 FCC Rcd 7684, 7689, para. 12 (1994) (*Competitive Bidding Memorandum Opinion and Order*).

<sup>150</sup> *Mercury PCS II, LLC*, Notice of Apparent Liability for Forfeiture, 12 FCC Rcd 17970, 17976, para. 17 (1997).

<sup>151</sup> *Mercury PCS II, LLC*, Memorandum Opinion and Order, 13 FCC Rcd 23755, 23760, para. 11 (1998).

<sup>152</sup> See, e.g., *Prohibited Communications Guidance Public Notice*, 30 FCC Rcd at 10798, para. 13 (describing the use of non-disclosure agreements and, for third parties that may be advising multiple applicants, firewalls).

<sup>153</sup> *Id.*

(continued....)

from communicating the bids or bidding strategies of one applicant to other individuals representing separate applicants.<sup>154</sup> Although firewalls and/or other procedures should be used, their existence is not an absolute defense to liability if a violation of the rule has occurred.<sup>155</sup>

71. As Commission staff have explained in the context of the Broadcast Incentive Auction, in the case of an individual, the objective precautionary measure of a firewall is not available.<sup>156</sup> As a result, an individual that is privy to bids or bidding information of more than one applicant presents a greater risk of becoming a conduit for a prohibited communication.<sup>157</sup> We will take the same approach to interpreting the prohibited communications rule in Auctions 101 and 102. We emphasize that whether a prohibited communication has taken place in a given case will depend on all the facts pertaining to the case, including who possessed what information, what information was conveyed to whom, and the course of bidding in the auction.<sup>158</sup>

72. As discussed above, for purposes of Auctions 101 and 102, our rules prohibit separate applicants for each auction (i.e., within one auction) or separate applicants for either auction (e.g., one applicant for Auction 101 and another for Auction 102) from designating the same individual on their short-form applications to serve as an authorized bidder.<sup>159</sup> This prevents a single individual with knowledge of the bidding strategies of more than one applicant from conveying (even unintentionally) advice to either of those applicants that is influenced by his or her knowledge about another applicant's bids or bidding strategies in violation of our rule prohibiting certain communications among auction applicants.<sup>160</sup> A violation of the rule could also occur if the authorized bidders are different individuals employed by the same organization (e.g., a law firm, engineering firm, or consulting firm).<sup>161</sup> In the latter case, at a minimum, applicants should certify on their applications that precautionary steps have been taken to prevent communication between authorized bidders and that the applicant and its bidders will comply with Section 1.2105(c).<sup>162</sup>

73. We remind potential applicants that they may discuss the short-form application or bids for specific licenses or license areas with the counsel, consultant, or expert of their choice *before* the short-form application deadline. Furthermore, the same third-party individual could continue to give advice after the short-form deadline regarding the application, provided that no information pertaining to bids or bidding strategies, including licenses or PEAs selected on the short-form application, is conveyed to that individual. To the extent potential applicants can develop bidding instructions prior to the short-form deadline that a third party could implement without changes during bidding, the third party could

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<sup>154</sup> *Id.*; see also *Application of Nevada Wireless*, Memorandum Opinion and Order, 13 FCC Rcd 11973, 11978, para. 12 (1998) (*Nevada Wireless Order*) (strongly encouraging applicants to implement any firewall procedures necessary and to provide information in their auction applications regarding the procedures).

<sup>155</sup> See *Prohibited Communications Guidance Public Notice*, 30 FCC Rcd at 10799, para. 14; *Nevada Wireless Order*, 13 FCC Rcd at 11978, para. 13.

<sup>156</sup> *Prohibited Communications Guidance Public Notice*, 30 FCC Rcd at 10800, para. 15.

<sup>157</sup> *Id.*

<sup>158</sup> See *id.*

<sup>159</sup> Each applicant must specify at least one and up to three individuals (or authorized bidders) to place bids in the bidding system on behalf of the applicant. 47 CFR § 1.2105(a)(2)(iii).

<sup>160</sup> See *2015 Part 1 Report and Order*, 30 FCC Rcd at 75XX, para. 200; 47 CFR § 1.2105(c). See also *Prohibited Communications Guidance Public Notice*, 30 FCC Rcd at 10800, para. 15.

<sup>161</sup> See *Nevada Wireless Order*, 13 FCC Rcd at 11977-78, paras. 11-12.

<sup>162</sup> See *id.* We caution that filing a certifying statement that precautionary steps have been taken will not outweigh specific evidence of an actual violation. *Id.* at 11978, para. 13.

(continued...)

follow such instructions for multiple applicants provided that those applicants do not communicate with the third party during the prohibition period.<sup>163</sup>

74. Applicants also should use caution in their dealings with other parties, such as members of the press, financial analysts, or others who might become conduits for the communication of prohibited bidding information. For example, even though communicating that it has applied to participate in either auction will not violate the rule, an applicant's statement to the press that it intends to stop bidding in an auction could give rise to a finding of a Section 1.2105 violation.<sup>164</sup> Similarly, an applicant's public statement of intent not to place bids during bidding in Auction 101 or Auction 102 could also violate the rule.

## 5. Section 1.2105(c) Certifications

75. By electronically submitting its FCC Form 175 auction application, each applicant for Auction 101 and Auction 102 certifies its compliance with Section 1.2105(c) of the rules.<sup>165</sup> However, the mere filing of a certifying statement as part of an application will not outweigh specific evidence that a prohibited communication has occurred, nor will it preclude the initiation of an investigation when warranted.<sup>166</sup> Any applicant found to have violated these communication prohibitions may be subject to sanctions.<sup>167</sup>

## 6. Duty to Report Prohibited Communications

76. Section 1.2105(c)(4) requires that any applicant that makes or receives a communication that appears to violate Section 1.2105(c) must report such communication in writing to the Commission immediately, and in no case later than five business days after the communication occurs.<sup>168</sup> Each applicant's obligation to report any such communication continues beyond the five-day period after the communication is made, even if the report is not made within the five-day period.<sup>169</sup>

## 7. Procedures for Reporting Prohibited Communications

77. A party reporting any information or communication pursuant to Sections 1.65, 1.2105(a)(2), or 1.2105(c)(4) must take care to ensure that any report of a prohibited communication does not itself give rise to a violation of Section 1.2105(c). For example, a party's report of a prohibited communication could violate the rule by communicating prohibited information to other parties specified

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<sup>163</sup> *Prohibited Communications Guidance Public Notice*, 30 FCC Rcd at 10802, para. 20.

<sup>164</sup> *Cf. Wireless Telecommunications Bureau Responds to Questions About the Local Multipoint Distribution Service Auction*, Public Notice, 13 FCC Rcd 341, 347-48 (WTB 1998) ("Public statements can give rise to collusion concerns. This has occurred in the antitrust context, where certain public statements can support other evidence which tends to indicate the existence of a conspiracy.").

<sup>165</sup> 47 CFR § 1.2105(a)(2)(ix). In accordance with the *2015 Part 1 Report and Order*, if an applicant has a non-controlling interest with respect to more than one application, the applicant must certify that it has established internal control procedures to preclude any person acting on behalf of the applicant from possessing information about the bids or bidding strategies of more than one applicant or communicating such information with respect to either applicant to another person acting on behalf of and possessing such information regarding another applicant. *2015 Part 1 Report and Order*, 30 FCC Rcd at 7577, para. 199.

<sup>166</sup> *Nevada Wireless Order*, 13 FCC Rcd at 11978, para. 13; *see also Competitive Bidding Memorandum Opinion and Order*, 9 FCC Rcd at 7689, para. 12.

<sup>167</sup> *See* 47 CFR §§ 1.2105(c), 1.2107(d), 1.2109(d).

<sup>168</sup> 47 CFR § 1.2105(c)(4); *see also Part 1 Seventh Report and Order*, 16 FCC Rcd at 17553-55 paras. 13-17.

<sup>169</sup> *700 MHz Second Report and Order*, 22 FCC Rcd at 15395, paras. 285-86; *see Part 1 Procedural Amendments Order*, 25 FCC Rcd at 523, para. 8; *see also* 47 CFR § 1.65; *Part 1 Seventh Report and Order*, 16 FCC Rcd at 17550-51, para. 9.

(continued...)

under the rule through the use of Commission filing procedures that allow such materials to be made available for public inspection.

78. Parties must file only a single report concerning a prohibited communication and must file that report with the Commission personnel expressly charged with administering the Commission's auctions.<sup>170</sup> This rule is designed to minimize the risk of inadvertent dissemination of information in such reports. Any reports required by Section 1.2105(c) must be filed consistent with the instructions set forth in this Public Notice.<sup>171</sup> For Auctions 101 and 102, such reports must be filed with Margaret W. Wiener, the Chief of the Auctions and Spectrum Access Division, Wireless Telecommunications Bureau, by the most expeditious means available. Any such report should be submitted by email to Ms. Wiener sent to both [auction101@fcc.gov](mailto:auction101@fcc.gov) and [auction102@fcc.gov](mailto:auction102@fcc.gov). If you choose instead to submit a report in hard copy, any such report must be delivered only to: Margaret W. Wiener, Chief, Auctions and Spectrum Access Division, Wireless Telecommunications Bureau, Federal Communications Commission, 445 12<sup>th</sup> Street, SW, Room 6-C217, Washington, DC 20554.

79. Given the potential competitive sensitivity of public disclosure of information in such a report, a party seeking to report such a prohibited communication should consider submitting its report with a request that the report or portions of the submission be withheld from public inspection by following the procedures specified in Section 0.459 of the Commission's rules.<sup>172</sup> We encourage such parties to coordinate with the Auctions and Spectrum Access Division staff about the procedures for submitting such reports.<sup>173</sup>

#### **8. Winning Bidders Must Disclose Terms of Agreements**

80. Each applicant that is a winning bidder will be required to provide as part of its long-form application any agreement or arrangement it has entered into and a summary of the specific terms, conditions, and parties involved in any agreement it has entered into.<sup>174</sup> This applies to any bidding consortia, joint venture, partnership, or agreement, understanding, or other arrangement entered into relating to the competitive bidding process, including any agreement relating to the post-auction market structure.<sup>175</sup> Failure to comply with the Commission's rules can result in enforcement action.

#### **9. Additional Information Concerning Prohibition of Certain Communications in Commission Auctions**

81. A summary listing of documents issued by the Commission and the Bureau addressing the application of Section 1.2105(c) is available on the Commission's auction web page at

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<sup>170</sup> *Part 1 Procedural Amendments Order*, 25 FCC Rcd at 522, para. 4. This process differs from filing procedures used in connection with other Commission rules and processes, which may call for submission of filings to the Commission's Office of the Secretary or ECFS. Filing through the Office of Secretary or ECFS could allow the report to become publicly available and might result in the communication of prohibited information to other auction applicants.

<sup>171</sup> *Id.*

<sup>172</sup> See 47 CFR § 0.459. Filers requesting confidential treatment of documents must be sure that the cover page of the filing prominently displays that the documents seek confidential treatment. For example, a filing might include a cover page stamped with "Request for Confidential Treatment Attached" or "Not for Public Inspection." Any such request must cover all the material to which the request applies. *Id.* § 0.459(a)(1).

<sup>173</sup> See Section VII (Contact Information), below.

<sup>174</sup> 47 CFR § 1.2107(d); see also Section V.C (Long-Form Application (FCC Form 601)), below. Such agreements must have been entered into prior to the filing of short-form applications pursuant to Section 1.2105. 47 CFR § 1.2107(d); see *id.* § 1.2105.

<sup>175</sup> 47 CFR § 1.2107(d).

(continued....)

<https://www.fcc.gov/summary-listing-documents-addressing-application-rule-prohibiting-certain-communications>.

## 10. Antitrust Laws

82. Regardless of compliance with the Commission's rules, applicants remain subject to the antitrust laws, which are designed to prevent anticompetitive behavior in the marketplace.<sup>176</sup> Compliance with the disclosure requirements of Section 1.2105(c)(4) will not insulate a party from enforcement of the antitrust laws.<sup>177</sup> For instance, a violation of the antitrust laws could arise out of actions taking place well before any party submits a short-form application.<sup>178</sup> The Commission has cited a number of examples of potentially anticompetitive actions that would be prohibited under antitrust laws: for example, actual or potential competitors may not agree to divide territories in order to minimize competition, regardless of whether they split a market in which they both do business, or whether they merely reserve one market for one and another market for the other.<sup>179</sup>

83. To the extent the Commission becomes aware of specific allegations that suggest that violations of the federal antitrust laws may have occurred, the Commission may refer such allegations to the United States Department of Justice for investigation.<sup>180</sup> If an applicant is found to have violated the antitrust laws or the Commission's rules in connection with its participation in the competitive bidding process, it may be subject to a forfeiture and may be prohibited from participating further in Auction 101, Auction 102, and in future auctions, among other sanctions.<sup>181</sup>

### I. Provisions for Small Businesses and Rural Service Providers

84. In the *2015 Part 1 Report and Order*, the Commission revised the designated entity rules that apply to all licenses acquired with bidding credits, including those won in Auctions 101 and 102. A bidding credit represents an amount by which a bidder's winning bid will be discounted, subject to the caps discussed below.<sup>182</sup> As set forth in Section 1.2110 of the Commission's rules,<sup>183</sup> and as described below, these rule revisions include, but are not limited to: (1) adopting a two-pronged standard for evaluating eligibility for small business benefits and eliminating the attributable material relationship (AMR) rule;<sup>184</sup> (2) establishing a new attribution rule for certain disclosable interest holders of applicants

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<sup>176</sup> See *Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures*, Third Further Notice of Proposed Rulemaking, 14 FCC Rcd 21558, 21560-61, para. 4 & n.17 (1999) (quoting *Competitive Bidding Memorandum Opinion and Order*, 9 FCC Rcd at 7689, para. 12) (“[W]e wish to emphasize that all applicants and their owners continue to be subject to existing antitrust laws. Applicants should note that conduct that is permissible under the Commission's Rules may be prohibited by the antitrust laws.”); *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Fourth Memorandum Opinion and Order, 9 FCC Rcd 6858, 6869, para. 64 n.134 (1994) (“[A]pplicants will also be subject to existing antitrust laws.”) (*Fourth Memorandum Opinion and Order*).

<sup>177</sup> See *Competitive Bidding Memorandum Opinion and Order*, 9 FCC Rcd at 7689, para. 12; see also Press Release, Dep't of Justice, Justice Department Sues Three Firms Over FCC Auction Practices (Nov. 10, 1998).

<sup>178</sup> See, e.g., *Fourth Memorandum Opinion and Order*, 9 FCC Rcd at 6869, para. 64 n.134.

<sup>179</sup> *Id.*

<sup>180</sup> *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2388, para. 226.

<sup>181</sup> See *id.*; 47 CFR § 1.2109(d).

<sup>182</sup> Applicants should note that all references to a “winning bid” discussed herein in the context of designated entity bidding credits for Auction 102 (e.g., the application of a small business discount to an applicant's winning bid) refer to the calculated license price discussed in Section IV.B.4 (Calculating Individual License Prices), below.

<sup>183</sup> 47 CFR § 1.2110.

<sup>184</sup> *Id.* § 1.2110(b)(3); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7502-10, paras. 18-34.

(continued....)

claiming designated entity benefits;<sup>185</sup> (3) updating the gross revenue amounts defining eligibility for small business benefits;<sup>186</sup> (4) creating a separate bidding credit for eligible rural service providers;<sup>187</sup> and (5) establishing caps on the total amount of designated entity benefits any eligible winning bidder may receive.<sup>188</sup>

85. In Auctions 101 and 102, bidding credits will be available to applicants demonstrating eligibility for a small business or a rural service provider bidding credit and subsequently winning license(s). Bidding credits will not be cumulative—for each auction, an applicant is permitted to claim either a small business bidding credit or a rural service provider bidding credit, but not both.<sup>189</sup> Each applicant must also certify that it is eligible for the claimed bidding credit in its FCC Form 175. In addition to the information provided below, each applicant should review carefully the Commission's decisions regarding the designated entity provisions as well as the Part 1 rules.<sup>190</sup>

86. In particular, 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.<sup>191</sup> These rules include a prohibition, which applies to all applicants (whether or not seeking bidding credits), against changes in ownership of the applicant that would constitute an assignment or transfer of control.<sup>192</sup> **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.** We believe that this policy will help to ensure compliance with the Commission's rules applicable to the award of bidding credits prior to the conduct of these auctions, which will involve competing bids from those who do and do not seek bidding credits, and thus preserves the integrity of the auction process. We also believe that this will meet the Commission's

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<sup>185</sup> 47 CFR § 1.2110(c)(2)(ii)(J); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7512-16, paras. 42-53. For purposes of this rule, a disclosable interest holder of an applicant seeking designated entity benefits is defined as any individual or entity holding a ten percent or greater interest of any kind in the applicant, including but not limited to, a ten percent or greater interest in any class of stock, warrants, options or debt securities in the applicant or licensee. 47 CFR § 1.2110(c)(2)(ii)(J). The Commission also clarified its designated entity reporting requirements under 47 CFR § 1.2110(n).

<sup>186</sup> 47 CFR § 1.2110(f)(2); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7523-25, paras. 72-75.

<sup>187</sup> 47 CFR § 1.2110(f)(4); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7530-38, paras. 88-108.

<sup>188</sup> See 47 CFR § 1.2110(f)(2)(ii), (f)(4)(ii); see also *2015 Part 1 Report and Order*, 30 FCC Rcd at 7539-48, paras. 110-30.

<sup>189</sup> See *2015 Part 1 Report and Order*, 30 FCC Rcd at 7538, para. 108.

<sup>190</sup> See generally *2015 Part 1 Report and Order*, 30 FCC Rcd 7493; see also, e.g., *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 (2006) (*CSEA/Part 1 Report and Order*); *Second Report and Order and Second Further Notice of Proposed Rule Making*, 21 FCC Rcd 4753 (2006); *Order on Reconsideration of the Second Report and Order*, 21 FCC Rcd 6703 (2006).

<sup>191</sup> See, e.g., 47 CFR §§ 1.2110-11.

<sup>192</sup> *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).

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objectives in awarding licenses through the competitive bidding process.<sup>193</sup> No commenter has disagreed with our views on these issues, as set forth in the *Auctions 101 and 102 Comment Public Notice*.<sup>194</sup>

### 1. Small Business Bidding Credit

87. For Auctions 101 and 102, bidding credits will be available to eligible small businesses and consortia thereof, subject to the caps discussed below.<sup>195</sup> Under the service rules applicable to the UMFUS licenses to be offered in Auctions 101 and 102, the level of bidding credit available is determined as follows:

- A bidder with attributed average annual gross revenues that do not exceed \$55 million for the preceding three years is eligible to receive a 15 percent discount on its winning bid.<sup>196</sup>
- A bidder with attributed average annual gross revenues that do not exceed \$20 million for the preceding three years is eligible to receive a 25 percent discount on its winning bid.<sup>197</sup>

88. Small business bidding credits are not cumulative; for each auction, an eligible applicant may receive either the 15 percent or the 25 percent bidding credit on its winning bid, but not both. The Commission's unjust enrichment provisions also apply to a winning bidder that uses a bidding credit and subsequently seeks to assign or transfer control of its license within a certain period to an entity not qualifying for the same level of small business bidding credit.<sup>198</sup>

89. Each applicant claiming a small business bidding credit must disclose the gross revenues for the preceding three years for each of the following: (1) the applicant, (2) its affiliates, (3) its controlling interests, and (4) the affiliates of its controlling interests.<sup>199</sup> The applicant must also submit an attachment that lists all parties with which the applicant has entered into any spectrum use agreements or arrangements for any licenses that he may win by the applicant in Auction 101 or Auction 102, as applicable.<sup>200</sup> In addition, to the extent that an applicant has an agreement with any disclosable interest holder for the use of more than 25 percent of the spectrum capacity of any license that may be won in Auction 101 or Auction 102, the identity and the attributable gross revenues of any such disclosable interest holder must be disclosed. This attribution rule will be applied on a license-by-license basis.<sup>201</sup> As

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<sup>193</sup> 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); *see also* 2016 *Spectrum Frontiers Order*, 31 FCC Rcd at 8097-101, paras. 244-54.

<sup>194</sup> *Auctions 101 and 102 Comment Public Notice* at 14, para. 35.

<sup>195</sup> *See* Section II.I.3 (Caps on Bidding Credits), below.

<sup>196</sup> *See* 47 CFR §§ 1.2110(f)(2)(i)(C), 30.302(a)(1), (b).

<sup>197</sup> *See id.* §§ 1.2110(f)(2)(i)(B), 30.302(a)(2), (b).

<sup>198</sup> *See id.* § 1.2111. Thus, for example, the Commission's unjust enrichment provisions would not apply to a winning bidder that uses the 15 percent small business bidding credit and seeks to transfer control of its license to an entity that qualifies for either the 15 percent small business bidding credit or the rural service provider bidding credit. *See* Section II.I.2 (Rural Service Provider Bidding Credit), below. The provisions would apply, however, if that same winning bidder uses the 25 percent small business bidding credit, unless the proposed transferee also qualifies for the 25 percent small business bidding credit.

<sup>199</sup> 47 CFR §§ 1.2110(b)(1)(i), 1.2112(b)(1)(iv).

<sup>200</sup> *See id.* § 1.2112(b)(1)(iii).

<sup>201</sup> *See id.* § 1.2110(c)(2)(ii)(J).

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a result, an applicant may be eligible for a bidding credit on some, but not all, of the licenses for which it is bidding in Auction 101 or Auction 102.<sup>202</sup> If an applicant is applying as a consortium of small businesses, the disclosures described in this paragraph must be provided for each consortium member.<sup>203</sup>

## 2. Rural Service Provider Bidding Credit

90. An eligible applicant may request a 15 percent discount on its winning bid using a rural service provider bidding credit,<sup>204</sup> subject to the \$10 million cap discussed below.<sup>205</sup> To be eligible for a rural service provider bidding credit, an applicant must: (1) be a service provider that is in the business of providing commercial communications services and, together with its controlling interests, affiliates, and the affiliates of its controlling interests, has fewer than 250,000 combined wireless, wireline, broadband, and cable subscribers; and (2) serve predominantly rural areas, defined as counties with a population density of 100 or fewer persons per square mile.<sup>206</sup> These eligibility requirements must be satisfied by the FCC Form 175 filing deadline. Additionally, an applicant may count any subscriber as a single subscriber even if that subscriber receives more than one service.<sup>207</sup>

91. Each applicant seeking a rural service provider bidding credit must disclose the number of subscribers it has, along with the number of subscribers of its affiliates, controlling interests, and the affiliates of its controlling interests.<sup>208</sup> The applicant must also submit an attachment that lists all parties with which the applicant has entered into any spectrum use agreements or arrangements for any licenses that be may won by the applicant in Auction 101 or Auction 102, as applicable.<sup>209</sup> In addition, to the extent that an applicant has an agreement with any disclosable interest holder for the use of more than 25 percent of the spectrum capacity of any license that may be won in Auction 101 or Auction 102, the identity and the attributable subscribers of any such disclosable interest holder must be disclosed.<sup>210</sup> Like applicants seeking eligibility for small business bidding credits, eligible rural service providers may also form a consortium.<sup>211</sup> If an applicant is applying as a consortium of rural service providers, the disclosures described in this paragraph, including the certification, must be provided for each consortium member.<sup>212</sup>

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<sup>202</sup> *See id.*

<sup>203</sup> *Id.* §§ 1.2110(b)(4)(i), 1.2110(c)(6), 1.2110(k), 1.2112(b)(1)(vi).

<sup>204</sup> *2016 Spectrum Frontiers Order*, 31 FCC Rcd at 8100, para. 251; *see also* 47 CFR § 30.302(c). 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 2015 Part 1 Report and Order*, 30 FCC Rcd at 7529, para. 85.

<sup>205</sup> *See* Section II.I.3 (Caps on Bidding Credits), below.

<sup>206</sup> 47 CFR § 1.2110(f)(4)(i); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7536-37, para. 104 & n.340. As noted in the *2015 Part 1 Report and Order*, the Commission declined “to adopt a specific threshold for the proportion of an applicant’s customers who are located in rural areas, but put prospective applicants on notice that it is [the Commission’s] intent that in order for an applicant to be eligible for a rural service provider bidding credit, the primary focus of its business activity must be the provision of services to rural areas.” *2015 Part 1 Report and Order*, 30 FCC Rcd at 7533, para. 94 n.312.

<sup>207</sup> For instance, a subscriber receiving both wireline and telephone service and broadband would be counted as a single subscriber. *2015 Part 1 Report and Order*, 30 FCC Rcd at 7534, para. 98 n.326.

<sup>208</sup> *See* 47 CFR § 1.2112(b)(1)(v); *see also* 47 CFR § 1.2110(f)(4)(i)(C).

<sup>209</sup> *See id.* § 1.2112(b)(1)(iii).

<sup>210</sup> *See id.* § 1.2110(c)(2)(ii)(J).

<sup>211</sup> *See id.* § 1.2110(b)(4)(i), (c)(6).

<sup>212</sup> *Id.* § 1.2112(b)(1)(vi).

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### 3. Caps on Bidding Credits

92. As noted above, eligible applicants claiming either a small business or rural service provider bidding credit will be subject to certain caps on the total amount of bidding credits that any eligible applicant may receive.<sup>213</sup> For the reasons discussed in the *Auctions 101 and 102 Comment Public Notice* and consistent with the record, we adopt the Commission's proposals concerning bidding credit caps for Auctions 101 and 102.<sup>214</sup> Specifically, we adopt a \$25 million cap on the total amount of bidding credits that may be awarded to an eligible small business in Auction 101 and Auction 102 (i.e., \$25 million in each auction).<sup>215</sup> Additionally, we adopt a \$10 million cap on the total amount of bidding credits that may be awarded to an eligible rural service provider in Auction 101 and Auction 102 (i.e., \$10 million in each auction).<sup>216</sup> To create parity in Auctions 101 and 102 among eligible small businesses and rural service providers competing against each other in smaller markets, no winning designated entity bidder will be able to obtain more than \$10 million in bidding credits in total for licenses won in markets with a population of 500,000 or less.<sup>217</sup>

### 4. Attributable Interests

#### a. Controlling Interests and Affiliates

93. Pursuant to Section 1.2110 of the Commission's rules, an applicant's eligibility for designated entity benefits is determined by attributing the gross revenues (for those seeking small business benefits) or subscribers (for those seeking rural service provider benefits) of the applicant, its affiliates, its controlling interests, and the affiliates of its controlling interests. Controlling interests of an applicant include individuals and entities with either *de facto* or *de jure* control of the applicant. Typically, ownership of greater than 50 percent of an entity's voting stock evidences *de jure* control.<sup>218</sup> *De facto* control is determined on a case-by-case basis based on the totality of the circumstances.<sup>219</sup> The following are some common indicia of *de facto* control:

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<sup>213</sup> See *2015 Part 1 Report and Order*, 30 FCC Rcd at 7541, para. 114; see also 47 CFR § 1.2110(f)(2)(ii), (4)(ii).

<sup>214</sup> See *Auctions 101 and 102 Comment Public Notice* at 12-13, paras. 32-33.

<sup>215</sup> See Blooston Comments at 5 (supporting the proposed small business cap "because it will prevent deep-pocketed startups from abusing the DE program and potentially running up bid prices for licenses in rural areas"); CCS Comments at 4-5 (supporting the proposed bidding credit caps and agreeing that the proposed small business cap will promote small business "participation in auctions and in the provision of spectrum-based services").

<sup>216</sup> See *Auctions 101 and 102 Comment Public Notice* at 13, para. 33 ("Based on our analysis of data from the Broadcast Incentive Auction, in which no rural service provider exceeded the \$10 million cap, 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 101 or Auction 102."); see also Blooston Comments at 5 ("The proposed cap on rural service provider credits should not constrain the ability of legitimate rural service providers to participate fully and fairly in UMFUS auctions."); CCS Comments at 4-5 (supporting the proposed bidding credit caps and agreeing that the proposed rural service provider cap will promote rural service provider "participation in auctions and in the provision of spectrum-based services"). 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).

<sup>217</sup> See *Auctions 101 and 102 Comment Public Notice* at 13, para. 33. Thus, to the extent an applicant seeking a small business bidding credit does not claim the full \$10 million in bidding credits in those smaller markets, it may apply the remaining balance to its winning bids on licenses in larger markets, up to the aggregate \$25 million cap.

<sup>218</sup> 47 CFR § 1.2110(c)(2).

<sup>219</sup> See *id.*; see also, e.g., *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, Fifth Memorandum Opinion & Order, 10 FCC Rcd 403, 447-49, 451, 455-56, paras. 80-82, 85-86, 95-96 (1994); *Intermountain Microwave*, Public Notice, 12 FCC 2d 559, 559-60 (1963) (*Intermountain Microwave*); *Application of Ellis Thompson Corp.*, Memorandum Opinion and Order and Hearing Designation Order, 9 FCC Rcd 7138, 7138-39, paras. 9-11 (1994); *Baker Creek Commc'ns, L.P.*, Memorandum Opinion and Order, 13 FCC Rcd 18709, 18713-

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- the entity constitutes or appoints more than 50 percent of the board of directors or management committee;
- the entity has authority to appoint, promote, demote, and fire senior executives that control the day-to-day activities of the licensee;
- the entity plays an integral role in management decisions.<sup>220</sup>

94. Applicants should refer to Section 1.2110(c)(2) of the Commission’s rules and the FCC Form 175 Instructions to understand how certain interests are calculated in determining control for purposes of attributing gross revenues. For example, officers and directors of an applicant are considered to have a controlling interest in the applicant.<sup>221</sup>

95. Affiliates of an applicant or controlling interest include an individual or entity that (1) directly or indirectly controls or has the power to control the applicant, (2) is directly or indirectly controlled by the applicant, (3) is directly or indirectly controlled by a third party that also controls or has the power to control the applicant, or (4) has an “identity of interest” with the applicant.<sup>222</sup> The Commission’s definition of an affiliate of the applicant encompasses both controlling interests of the applicant and affiliates of controlling interests of the applicant.<sup>223</sup> For more information on the application requirements regarding controlling interests and affiliates, applicants should refer to Sections 1.2110(c)(2) and (c)(5) respectively, as well as the FCC Form 175 Instructions.<sup>224</sup>

96. An applicant seeking a small business bidding credit must demonstrate its eligibility for the bidding credit by: (1) meeting the applicable small business size standard, based on the controlling interest and affiliation rules discussed above, and (2) retaining control, on a license-by-license basis, over the spectrum associated with the licenses for which it seeks small business benefits.<sup>225</sup> For purposes of the first prong of the standard, applicants should note that control and affiliation may arise through, among other things, ownership interests, voting interests, management and other operating agreements, or the terms of any other types of agreements—including spectrum lease agreements—that independently or together create a controlling, or potentially controlling, interest in the applicant’s or licensee’s business as a whole.<sup>226</sup> In addition, once an applicant demonstrates eligibility as a small business under the first prong, it must also be eligible for benefits on a license-by-license basis under the second prong. As part

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14, paras. 7-8 (WTB 1998); *Northstar Wireless, LLC, SNR Wireless LicenseCo, LLC, Applications for New Licenses in the 1695-1710 MHz, 1755-1780 MHz and 2155-2180 MHz Bands*, Memorandum Opinion and Order, 30 FCC Rcd 8887, 8889-91, paras. 4-9 (2015), *aff’d on this issue and remanded on other grounds sub nom SNR Wireless LicenseCo, LLC, et al. v. FCC*, 868 F.3d 1021 (D.C. Cir. 2017), *cert. denied* No. 17-1058, 2018 WL 587426 (June 25, 2018).

<sup>220</sup> 47 CFR § 1.2110(c)(2)(i)(A)-(C).

<sup>221</sup> *Id.* § 1.2110(c)(2)(ii)(F).

<sup>222</sup> *Id.* § 1.2110(c)(5).

<sup>223</sup> *Id.*

<sup>224</sup> *Id.* § 1.2110(c)(2), (c)(5).

<sup>225</sup> *See id.* § 1.2110(b)(3); *see also 2015 Part 1 Report and Order*, 30 FCC Rcd at 7507-10, paras. 29-34.

<sup>226</sup> *See* 47 CFR § 1.2105(a)(2)(iv); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7507-09, paras. 29-33; *see also, e.g.,* 47 CFR § 1.2110(c)(5)(vii)-(x) (explaining how affiliation can arise where one concern has the power to control or potentially control the other concern). As discussed below, except under the limited provisions provided for spectrum manager lessors, the Commission’s decision to discontinue its policy requiring designated entity licensees to operate as primarily facilities-based providers of service directly to the public does not alter the rules that require the Commission to consider whether any particular use agreement may confer control of or create affiliation with the applicant. *See 2015 Part 1 Report and Order*, 30 FCC Rcd at 7509, para. 33.

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of making the FCC Form 175 certification that it is qualified as a designated entity under Section 1.2110, an applicant is certifying that it does not have any spectrum use or other agreements that would confer *de jure* and *de facto* control of any license it seeks to acquire with bidding credits.<sup>227</sup>

97. Applicants should note that, under this new standard for evaluating eligibility for small business bidding credits, if an applicant executes a spectrum use agreement that does not comply with the Commission's relevant standard of *de facto* control,<sup>228</sup> it will be subject to unjust enrichment obligations for the benefits associated with that particular license, as well as the penalties associated with any violation of Section 310(d) of the Communications Act and related regulations, which require Commission approval of transfers of control.<sup>229</sup> If that spectrum use agreement (either alone or in combination with the designated entity controlling interest and attribution rules described above), goes so far as to confer control of the applicant's overall business, the gross revenues of the additional interest holders will be attributed to the applicant, which could render the applicant ineligible for all current and future small business benefits on all licenses.<sup>230</sup>

#### **b. Limitation on Spectrum Use**

98. The Commission determined that a new attribution rule will apply going forward under which the gross revenues (or the subscribers, in the case of a rural service provider) of an applicant's disclosable interest holder are attributable to the applicant, on a license-by-license basis, if the disclosable interest holder has an agreement with the applicant to use, in any manner, more than 25 percent of the spectrum capacity of any license won by the applicant and acquired with a bidding credit during the five-year unjust enrichment period for the applicable license.<sup>231</sup> For purposes of this rule, a disclosable interest holder of an applicant seeking designated entity benefits is defined as any individual or entity holding a ten percent or greater interest of any kind in the applicant, including but not limited to, a ten percent or greater interest in any class of stock, warrants, options or debt securities in the applicant or licensee.<sup>232</sup>

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<sup>227</sup> See 47 CFR § 1.2105(a)(2)(iv); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7509-10, paras. 33-34; see also 47 CFR § 1.2110(c)(2)(ii)(A). For instance, if an applicant has a spectrum use agreement on a particular license that calls into question whether, under the Commission's affiliation rules, the user's revenues should be attributed to the applicant for that particular license, rather than for its overall business operations, the applicant could be ineligible to acquire or retain benefits with respect to that particular license. By taking this license-by-license approach, an applicant need not be eligible for small business benefits on each of the spectrum licenses it holds in order to demonstrate its overall eligibility for such benefits. *2015 Part 1 Report and Order*, 30 FCC Rcd at 7509, para. 33.

<sup>228</sup> See 47 CFR § 1.9010 (defining *de facto* control for spectrum leasing arrangements); see also *Intermountain Microwave*, 12 FCC 2d at 559-60 (describing *de facto* control for non-leasing situations); 47 CFR § 1.2110(c)(2) (defining *de facto* control for designated entities); *Part 1 Fifth Report and Order*, 15 FCC Rcd at 15324, para. 61 (incorporating the *Intermountain Microwave* principles of control into Section 1.2110 of the Commission's rules).

<sup>229</sup> Although in this scenario the applicant may not be eligible for a bidding credit and may be subject to the Commission's unjust enrichment rules, the applicant need not be eligible for small business benefits on each of the spectrum licenses it holds in order to demonstrate its overall eligibility for such benefits.

<sup>230</sup> This rule does not alter the requirement of full dilution in 47 CFR § 1.2110(c)(2)(ii)(A). Except where the leasing standard of *de facto* control applies under Sections 1.9010 and 1.9020 of the secondary market rules, the criteria of *Intermountain Microwave* and *Ellis Thompson* will continue to apply to every Commission licensee for purposes of assessing whether it can demonstrate that it retains *de facto* control of its business venture and spectrum license. 47 CFR §§ 1.9010, 1.9020; *Application of Ellis Thompson Corporation*, Summary Decision, 10 FCC Rcd 12554, 12555-56, para. 9 (ALJ decision 1995). In the *2015 Part 1 Report and Order*, the Commission also modified Section 1.9020 of its rules so as to apply the same *de facto* control standard to designated entity spectrum manager lessors that is applied to non-designated entity spectrum manager lessors. *2015 Part 1 Report and Order*, 30 FCC Rcd at 7510-11, paras. 35-39; see 47 CFR § 1.9020.

<sup>231</sup> See 47 CFR § 1.2110(c)(2)(ii)(J); see also *2015 Part 1 Report and Order*, 30 FCC Rcd at 7512-16, paras. 42-53.

<sup>232</sup> 47 CFR § 1.2110(c)(2)(ii)(J).

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Any applicant seeking a bidding credit for licenses won in Auction 101 or Auction 102 will be subject to this attribution rule and must make the requisite disclosures set forth above.<sup>233</sup>

99. The Commission also determined that certain disclosable interest holders may be excluded from this attribution rule. Specifically, an applicant claiming the rural service provider bidding credit may have spectrum license use agreements with a disclosable interest holder, without having to attribute the disclosable interest holder's subscribers, so long as the disclosable interest holder is independently eligible for a rural service provider credit and the use agreement is otherwise permissible under the Commission's existing rules.<sup>234</sup> If applicable, the applicant must attach to its FCC Form 175 any additional information as may be required to indicate any license (or license area) that may be subject to this attribution rule or to demonstrate its eligibility for the exception from this attribution rule.<sup>235</sup> Consistent with the Commission's limited information procedures, the Commission intends to withhold from public disclosure all information contained in any such attachments until after the close of Auction 102.

**c. Exceptions from Attribution Rules for Small Businesses and Rural Service Providers**

100. Applicants claiming designated entity benefits may be eligible for certain exceptions from the Commission's attribution rules.<sup>236</sup> For example, in calculating an applicant's gross revenues under the controlling interest standard, it will not attribute to the applicant the personal net worth, including personal income, of its officers and directors.<sup>237</sup> The Commission has also exempted from attribution to the applicant the gross revenues of the affiliates of a rural telephone cooperative's officers and directors, if certain conditions specified in Section 1.2110(b)(4)(iii) of the Commission's rules are met.<sup>238</sup> An applicant claiming this exemption must provide, in an attachment, an affirmative statement that the applicant, affiliate and/or controlling interest is an eligible rural telephone cooperative within the meaning of Section 1.2110(b)(4)(iii), and the applicant must supply any additional information as may be required to demonstrate eligibility for the exemption from the attribution rule.<sup>239</sup>

101. An applicant claiming a rural service provider bidding credit may be eligible for an exception from the Commission's attribution rules as an existing rural partnership. To qualify for this exception, an applicant must be a rural partnership providing service as of July 16, 2015, and each member of the rural partnership must individually have fewer than 250,000 combined wireless, wireline,

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<sup>233</sup> See Sections II.I.1 (Small Business Bidding Credit), II.I.2 (Rural Service Provider Bidding Credit), above.

<sup>234</sup> 47 CFR § 1.2110(c)(2)(ii)(J); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7513, para. 46.

<sup>235</sup> To the extent an Auction 101 or Auction 102 applicant is required to submit any such additional information, the applicant must not disclose details of its submission to others as it would reveal information regarding its license or PEA selection(s), respectively.

<sup>236</sup> See, e.g., 47 CFR § 1.2110(b)(4).

<sup>237</sup> See *id.* § 1.2110(c)(2)(ii)(F); see also *Part 1 Third R&O Second Recon/Part 1 Fifth R&O Recon*, 18 FCC Rcd at 10185-86, paras. 8-9. However, to the extent that the officers and directors of the applicant are controlling interest holders of other entities, the gross revenues of those entities will be attributed to the applicant. Moreover, if an officer or director operates a separate business, the gross revenues derived from that separate business would be attributed to the applicant, although any personal income from such separate business would not be attributed. See *Part 1 Third R&O Second Recon/Part 1 Fifth R&O Recon*, 18 FCC Rcd at 10186, para. 9.

<sup>238</sup> *Part 1 Third R&O Second Recon/Part 1 Fifth R&O Recon*, 18 FCC Rcd at 10186-94, paras. 10-18; *Part 1 Fifth R&O Second Recon*, 20 FCC Rcd at 1945-50, paras. 9-18.

<sup>239</sup> 47 CFR § 1.2110(b)(4)(iii); see also *Part 1 Third R&O Second Recon/Part 1 Fifth R&O Recon*, 18 FCC Rcd at 10186-95, paras. 10-20; *Part 1 Fifth R&O Second Recon*, 20 FCC Rcd at 1945-50, paras. 9-18.

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broadband, and cable subscribers.<sup>240</sup> Because each member of the rural partnership must individually qualify for the bidding credit, by definition, a partnership that includes a nationwide provider as a member will not be eligible for the benefit.<sup>241</sup>

102. Finally, a consortium of small businesses or rural service providers may seek an exception from the Commission's attribution rules. Under the Commission's rules, a consortium of small businesses or rural service providers is a conglomerate organization composed of two or more entities, each of which individually satisfies the definition of small business or rural service provider.<sup>242</sup> As set forth above, a consortium must provide additional information for each member demonstrating each member's eligibility for the claimed bidding credit in order to show that the applicant satisfies the eligibility criteria for the bidding credit.<sup>243</sup> The gross revenue or subscriber information of each consortium member will not be aggregated for purposes of determining the consortium's eligibility for the claimed bidding credit. However, this information must be provided to ensure that each consortium member qualifies for the bidding credit sought by the consortium.

#### **J. Tribal Lands Bidding Credit**

103. A winning bidder that intends to use its license(s) to deploy facilities and provide services to federally recognized tribal lands that are unserved by any telecommunications carrier or that have a wireline penetration rate equal to or below 85 percent is eligible to receive a tribal lands bidding credit as set forth in Sections 1.2107 and 1.2110(f) of the Commission's rules.<sup>244</sup> A tribal lands bidding credit is in addition to, and separate from, any other bidding credit for which a winning bidder may qualify.

104. Unlike other bidding credits that are requested prior to an auction, a winning bidder applies for a tribal lands bidding credit after the auction when it files its FCC Form 601 post-auction application. When initially filing the post-auction application, the winning bidder will be required to advise the Commission whether it intends to seek a tribal lands bidding credit, for each license won in a particular auction, by checking the designated box(es). After stating its intent to seek a tribal lands bidding credit, the winning bidder will have 180 days from the close of the applicable post-auction application filing window to amend its application to select the specific tribal lands to be served and provide the required tribal government certifications. Licensees receiving a tribal lands bidding credit are subject to performance criteria as set forth in Section 1.2110(f)(3)(vii).<sup>245</sup> For additional information on the tribal lands bidding credit, including how the amount of the credit is calculated, applicants should review the Commission's rulemaking proceeding regarding tribal lands bidding credits and related public notices.<sup>246</sup>

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<sup>240</sup> See 47 CFR § 1.2110(f)(4)(i)(C)(2); 2015 *Part 1 Report and Order*, 30 FCC Rcd at 7536, para. 102. Thus, the Commission will evaluate eligibility for an existing rural wireless partnership on the same basis as it would for an applicant applying for a bidding credit as a consortium of rural service providers. See 2015 *Part 1 Report and Order*, 30 FCC Rcd at 7536, para. 102 n.336.

<sup>241</sup> 2015 *Part 1 Report and Order*, 30 FCC Rcd at 7536, para. 103. The Commission also notes that members of such partnerships that fall under this exception may also apply as individual applicants or members of a consortium (to the extent that it is otherwise permissible to do so under the Commission's rules) and seek eligibility for a rural service provider bidding credit. *Id.* at 7536, 7582, paras. 102-03, 210.

<sup>242</sup> 47 CFR § 1.2110(c)(6).

<sup>243</sup> See paragraphs 100 (for small businesses) and 101 (for rural service providers), above.

<sup>244</sup> 47 CFR §§ 1.2107, 1.2110(f); see also 2016 *Spectrum Frontiers Order*, 31 FCC Rcd at 8101, para. 253.

<sup>245</sup> See 47 CFR § 1.2110(f)(3)(ii)-(vii).

<sup>246</sup> See generally *Extending Wireless Telecommunications Services to Tribal Lands*, Report and Order and Further Notice of Proposed Rule Making, 15 FCC Rcd 11794 (2000); Second Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 4775, 4778-79, para. 10 (2003); Third Report and Order, 19 FCC Rcd 17652

(continued....)

## K. Provisions Regarding Former and Current Defaulters

105. Pursuant to the rules governing competitive bidding, each applicant must make certifications regarding whether it is a current or former defaulter or delinquent. A current defaulter or delinquent is not eligible to participate in Auction 101 or Auction 102,<sup>247</sup> but a former defaulter or delinquent may participate so long as it is otherwise qualified and, as discussed below,<sup>248</sup> makes an upfront payment that is fifty percent more than would otherwise be necessary.<sup>249</sup> Accordingly, each applicant must certify under penalty of perjury on its FCC Form 175 that it, its affiliates, its controlling interests, and the affiliates of its controlling interests are not in default on any payment for a Commission construction permit or license (including down payments) and that it is not delinquent on any non-tax debt owed to any Federal agency.<sup>250</sup> Additionally, an applicant must certify under penalty of perjury whether it (along with its controlling interests) has ever been in default on any payment for a Commission construction permit or license (including down payments) or has ever been delinquent on any non-tax debt owed to any Federal agency, subject to the exclusions described below.<sup>251</sup> For purposes of making

(2004); *see also* *Wireless Telecommunications Bureau Announces Enhancements to the Universal Licensing System to Help Winning Bidders of FCC Auctions File for Tribal Land Bidding Credits*, Public Notice, 16 FCC Rcd 5355 (2001); *Wireless Telecommunications Bureau Releases Additional Information Regarding the Procedures for Obtaining a Tribal Lands Bidding Credit and List of Tribal Lands*, Public Notice, 15 FCC Rcd 24838 (2000); *Wireless Telecommunications Bureau Announces Availability of Bidding Credits for Providing Wireless Services to Qualifying Tribal Lands: Tribal Lands Bidding Credits to be Available Beginning in Auction No. 36 (800 MHz Specialized Mobile Radio (SMR) Lower 80 Channels) and in Future Auctions*, Public Notice, 15 FCC Rcd 18351 (2000). Relevant documents can be viewed on the Commission's website by going to <http://wireless.fcc.gov/auctions/> and clicking on the Tribal Lands Credits link.

<sup>247</sup> An applicant is considered a "current defaulter" or a "current delinquent" when it, any of its affiliates, any of its controlling interests, or any of the affiliates of its controlling interests, is in default on any payment for any Commission construction permit or license (including a down payment) or is delinquent on any non-tax debt owed to any Federal agency as of the filing deadline for auction applications. *See Part 1 Fifth Report and Order*, 15 FCC Rcd at 15317, para. 42 & n.142; *Wireless Telecommunications Bureau Reminds Prospective Broadband PCS Spectrum Auction Applicants of Default and Delinquency Disclosure Requirements*, Public Notice, DA 04-3491, 19 FCC Rcd 21920 (2004) (*Auction Default Disclosure Public Notice*). This public notice may be found at <http://wireless.fcc.gov/auctions/58/>.

<sup>248</sup> *See* Section III.F (Upfront Payments), below.

<sup>249</sup> 47 CFR §§ 1.2105(a)(2)(xi), (xii), 1.2105(b)(1), 1.2106(a). For purposes of evaluating the certifications under Section 1.2105(a)(2)(xi) and (xii), we clarify that "non-tax debt owed to any Federal agency" includes, within the meaning of the rule, all amounts owed under Federal programs, including contributions to the Universal Service Fund, Telecommunications Relay Services Fund, and the North American Numbering Plan Administration, notwithstanding that the administrator of any such fund may not be considered a Federal "agency" under the Debt Collection Improvement Act of 1996. Pub. L. No. 104-134, 110 Stat. 1321 (1996) (codified in relevant parts at 31 U.S.C. §§ 3716 (administrative offset) and 3717 (interest and penalty on claims)); *see also* 47 CFR §§ 1.1901, 1.1911, 1.1912, 1.1940. For example, an applicant with a past due USF contribution as of the auction application filing deadline would be disqualified from participating in Auctions 101 and 102 under the Commission's rules. 47 CFR § 1.2105(a)(2)(xi) and (b)(1). If, however, the applicant cures the overdue debt prior to the auction application filing deadline (and such debt does not fall within one of the exclusions described in paragraph 106 of this Public Notice), it may be eligible to participate in Auctions 101 and 102 as a former defaulter under the Commission's rules. 47 CFR §§ 1.2105(a)(2)(xii), 1.2106(a)

<sup>250</sup> 47 CFR § 1.2105(a)(2)(x); *see also Part 1 Fifth Report and Order*, 15 FCC Rcd at 15317, para. 42 & n.142 142 ("If any one of an applicant's controlling interests or their affiliates . . . is in default on any Commission licenses or is delinquent on any non-tax debt owed to any Federal agency at the time the applicant files it[s] FCC Form 175, the applicant will not be able to make the certification required by section 1.2105(a)(2)(x). . . and will not be eligible to participate in Commission auctions.").

<sup>251</sup> 47 CFR § 1.2105(a)(2)(xii).

(continued...)

these certifications, the term “controlling interest” is defined in Section 1.2105(a)(4)(i) of the Commission rules.<sup>252</sup>

106. Under the Commission’s rule regarding applications by former defaulters, an applicant is considered a “former defaulter” or a “former delinquent” when, as of the FCC Form 175 deadline, the applicant or any of its controlling interests has defaulted on any Commission construction permit or license or has been delinquent on any non-tax debt owed to any Federal agency, but has since remedied all such defaults and cured all of the outstanding non-tax delinquencies.<sup>253</sup> For purposes of the certification under Section 1.2105(a)(2)(xii), the applicant may exclude from consideration any cured default on a Commission construction permit or license or cured delinquency on a non-tax debt owed to a Federal agency for which any of the following criteria are met: (1) the notice of the final payment deadline or delinquency was received more than seven years before the FCC Form 175 filing deadline; (2) the default or delinquency amounted to less than \$100,000; (3) the default or delinquency was paid within two quarters (i.e., six months) after receiving the notice of the final payment deadline or delinquency; or (4) the default or delinquency was the subject of a legal or arbitration proceeding and was cured upon resolution of the proceeding.<sup>254</sup> With respect to the first exclusion, notice to a debtor may include notice of a final payment deadline or notice of delinquency and may be express or implied depending on the origin of any Federal non-tax debt giving rise to a default or delinquency.<sup>255</sup> Additionally, for the third exclusion, the date of receipt of the notice of a final default deadline or delinquency by the intended party or debtor will be used for purposes of verifying receipt of notice.<sup>256</sup>

107. In addition to this Public Notice, applicants are encouraged to review the Bureau’s previous guidance on default and delinquency disclosure requirements in the context of the auction short-form application process.<sup>257</sup> Parties are also encouraged to consult with the Bureau’s Auctions and Spectrum Access Division staff if they have any questions about default and delinquency disclosure requirements.

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<sup>252</sup> 47 CFR § 1.2105(a)(4)(i).

<sup>253</sup> In 2015, the Commission narrowed the scope of the individuals and entities to be considered for purposes of the former defaulter rule. *See* 47 CFR § 1.2105(a)(2)(xii), (a)(4); *see also* 2015 Part 1 Report and Order, 30 FCC Rcd at 7568, para. 175.

<sup>254</sup> *See* 47 CFR § 1.2105(a)(2)(xii), (a)(4); *see also* 2015 Part 1 Report and Order, 30 FCC Rcd at 7566-68, paras. 173-75. Additionally, for purposes of the certification required on an FCC Form 175, a debt will not be deemed to be in default or delinquent until after the expiration of a final payment deadline. *See, e.g.*, Letter to Cheryl A. Tritt, Esq., from Margaret W. Wiener, Chief, Auctions and Spectrum Access Division, Wireless Telecommunications Bureau, 19 FCC Rcd 22907 (2004) (*Cheryl A. Tritt Letter*). Thus, to the extent that the rules providing for payment of a specific federal debt permit payment after an original payment deadline accompanied by late fee(s), such debts would not be in default or delinquent for purposes of applying the former defaulter rules until after the late payment deadline. In addition, we provide the following clarification with regard to defaults on Commission licenses. Any winning bidder that fails timely to pay its post-auction down payment or the balance of its final winning bid amount(s) or is disqualified for any reason after the close of an auction will be in default and subject to a default payment. *See* 47 CFR § 1.2109(c). Commission staff provide individual notice of the amount of such a default payment as well as procedures and information required by the Debt Collection Improvement Act of 1996, including the payment due date and any charges, interest, and/or penalties that accrue in the event of delinquency. *See, e.g.*, 31 U.S.C. §§ 3716, 3717; 47 CFR §§ 1.1911, 1.1912, 1.1940. For purposes of the certifications required on an FCC Form 175, such notice provided by Commission staff assessing a default payment arising out of a default on a winning bid, constitutes notice of the final payment deadline with respect to a default on a Commission license.

<sup>255</sup> 2015 Part 1 Report and Order, 30 FCC Rcd at 7566, para. 173 n.556.

<sup>256</sup> *See id.* at 7567, para. 173 n.559.

<sup>257</sup> *Auction Default Disclosure Public Notice*, 19 FCC Rcd at 21920.

(continued...)

108. The Commission considers outstanding debts owed to the United States Government, in any amount, to be a serious matter. The Commission adopted rules, including a provision referred to as the “red light rule” that implement its obligations under the Debt Collection Improvement Act of 1996, which governs the collection of debts owed to the United States.<sup>258</sup> Under the red light rule, applications and other requests for benefits filed by parties that have outstanding debts owed to the Commission will not be processed. When adopting that rule, the Commission explicitly declared, however, that its competitive bidding rules “are not affected” by the red light rule.<sup>259</sup> As a consequence, the Commission’s adoption of the red light rule does not alter the applicability of any of its competitive bidding rules, including the provisions and certifications of Sections 1.2105 and 1.2106, with regard to current and former defaults or delinquencies.

109. The Commission reminds each applicant, however, that its Red Light Display System, which provides information regarding debts currently owed to the Commission, may not be determinative of an auction applicant’s ability to comply with the default and delinquency disclosure requirements of Section 1.2105.<sup>260</sup> Thus, while the red light rule ultimately may prevent the processing of long-form applications by auction winners, an auction applicant’s lack of current “red light” status is not necessarily determinative of its eligibility to participate in an auction (or whether it may be subject to an increased upfront payment obligation). Moreover, a prospective applicant in Auctions 101 and/or 102 should note that any long-form applications filed after the close of bidding in the respective auction will be reviewed for compliance with the Commission’s red light rule,<sup>261</sup> and such review may result in the dismissal of a winning bidder’s long-form application.<sup>262</sup> The Commission strongly encourages each applicant to carefully review all records and other available Federal agency databases and information sources to determine whether the applicant, or any of its affiliates, or any of its controlling interests, or any of the affiliates of its controlling interests, owes or was ever delinquent in the payment of non-tax debt owed to any Federal agency.

#### **L. Optional Applicant Status Identification**

110. Applicants owned by members of minority groups and/or women, as defined in Section 1.2110(c)(3),<sup>263</sup> and rural telephone companies, as defined in Section 1.2110(c)(4),<sup>264</sup> may identify themselves regarding this status in filling out their FCC Form 175 applications. This applicant status information is collected for statistical purposes only and assists the Commission in monitoring the participation of various groups in its auctions.<sup>265</sup>

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<sup>258</sup> *Amendment of Parts 0 and 1 of the Commission's Rules; Implementation of the Debt Collection Improvement Act of 1996 and Adoption of Rules Governing Applications or Requests for Benefits by Delinquent Debtors*, Report and Order, 19 FCC Rcd 6540 (2004) (implementing Pub. L. No. 104-134, 110 Stat. 1321, 1358 (1996)) (*Debt Collection Report and Order*).

<sup>259</sup> *Id.* at 6541, para. 3 n.11 (specifically noting the current defaulter and former defaulter certifications of 47 CFR § 1.2105(a)(2)(x) and (xi) and stating that “[t]hese rules are not affected by the red light rule.”).

<sup>260</sup> *Auction Default Disclosure Public Notice*, 19 FCC Rcd at 21920 (addressing relationship between Commission’s Red Light Display System and short-form application default and delinquency disclosure requirements for auction applicants). To access the Commission’s Red Light Display system, go to: <https://apps.fcc.gov/redlight/login.cfm>.

<sup>261</sup> *Debt Collection Report and Order*, 19 FCC Rcd at 6540-42, paras. 1, 3-5; *see also* 47 CFR § 1.1114.

<sup>262</sup> Applicants that have their long-form applications dismissed will be deemed to have defaulted and will be subject to default payments under 47 CFR §§ 1.2104(g) and 1.2109(c).

<sup>263</sup> 47 CFR § 1.2110(c)(3).

<sup>264</sup> *Id.* § 1.2110(c)(4).

<sup>265</sup> For instance, designated entities are defined as small businesses (including businesses owned by members of

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**M. Modifications to FCC Form 175****1. Only Minor Modifications Allowed**

111. After the initial FCC Form 175 filing deadline, an Auction 101 and/or Auction 102 applicant will be permitted to make only minor changes to its application(s) consistent with the Commission's rules.<sup>266</sup> Examples of minor changes include the deletion or addition of authorized bidders (to a maximum of three); the revision of addresses and telephone numbers of the applicant, its responsible party, and its contact person; and change in the applicant's selected bidding option (electronic or telephonic). Major modification to an FCC Form 175 (e.g., change of license or PEA selection, certain changes in ownership that would constitute an assignment or transfer of control of the applicant, change in the required certifications, change in applicant's legal classification that results in a change in control, or change in claimed eligibility for a higher percentage of bidding credit) will not be permitted after the initial FCC Form 175 filing deadline.<sup>267</sup> If an amendment reporting changes is a "major amendment," as described in Section 1.2105(b)(2), the major amendment will not be accepted and may result in the dismissal of the application.<sup>268</sup>

**2. Duty to Maintain Accuracy and Completeness of FCC Form 175**

112. Pursuant to Section 1.65 of the Commission's rules, each applicant has a continuing obligation to maintain the accuracy and completeness of information furnished in a pending application, including a pending application to participate in Auction 101 or Auction 102.<sup>269</sup> Consistent with the requirements for our spectrum auctions, an applicant for Auction 101 or Auction 102 must furnish additional or corrected information to the Commission within five business days after a significant occurrence, or amend its FCC Form 175 no more than five business days after the applicant becomes aware of the need for the amendment.<sup>270</sup> An applicant is obligated to amend its pending application(s) even if a reported change may result in the dismissal of the application because it is subsequently determined to be a major modification.

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minority groups and/or women), rural telephone companies, and rural service providers. *Id.* § 1.2110(a).

<sup>266</sup> See *id.* § 1.2105(b)(2). Minor amendments include any changes that are not major, such as correcting typographical errors and supplying or correcting information as requested to support the certifications made in the application.

<sup>267</sup> See *id.* § 1.2105(b)(2); see also *Two Way Radio of Carolina, Inc., Memorandum Opinion and Order*, 14 FCC Rcd 12035 (1999) (*Two Way Radio*) (auction applicant not allowed to change its designated entity status after application filing deadline).

<sup>268</sup> See 47 CFR § 1.2105(b)(2). Any change in control of an applicant—resulting from a merger, for example—will be considered a major modification, and the application will consequently be dismissed. The Commission reiterates that, even if an applicant's FCC Form 175 is dismissed, the applicant would remain subject to the communication prohibitions of 47 CFR § 1.2105(c) until the down-payment deadline for Auction 102, which will be established after Auction 102 closes.

<sup>269</sup> See *id.* §§ 1.65; 1.2105(b)(4). For purposes of Sections 1.65 and 1.2105(b)(4), an applicant's FCC Form 175 and associated attachments for a particular auction will remain pending until the release of a public notice announcing the close of that auction. However, we remind Auction 101 and Auction 102 applicants that they remain subject to the Section 1.2105(c) prohibition of certain communications until the post-auction deadline for making down payments on winning bids in Auction 102. See Section II.H.2 (Prohibition Applies Until Down Payment Deadline), above. An applicant's post-auction application (FCC Form 601) is considered pending from the time it is accepted for filing by the Commission until a Commission grant or denial of the application is no longer subject to reconsideration by the Commission or to review by any court. See 47 CFR § 1.65.

<sup>270</sup> See 47 CFR §§ 1.65; 1.2105(b)(4). We remind each applicant of its duty to continuously maintain the accuracy of information submitted in its auction application. See, e.g., *Vermont Telephone Company, Inc.*, Notice of Apparent Liability for Forfeiture, 26 FCC Rcd 14130, 14134, para. 11 (EB 2011).

(continued...)

### 3. Modifying an FCC Form 175

113. As noted above, a party seeking to participate in Auction 101 and/or Auction 102 must file an FCC Form 175 electronically for each auction via the FCC's Auction Application System. During the initial filing window for both auctions, an applicant will be able to make any necessary modifications to its respective FCC Form 175 in the Auction Application System. An applicant that has certified and submitted its FCC Form 175 before the close of the initial filing window may continue to make modifications as often as necessary until the close of that window; however, the applicant must re-certify and re-submit its FCC Form 175 before the close of the initial filing window to confirm and effect its latest application changes. After each submission, a confirmation page will be displayed stating the submission time and submission date.<sup>271</sup>

114. An applicant will also be allowed to modify its FCC Form 175 in the Auction Application System, except for certain fields,<sup>272</sup> during the resubmission filing window and after the release of the public notice announcing the qualified bidders for an auction. During these times, if an applicant needs to make permissible minor changes to its FCC Form 175, or must make changes in order to maintain the accuracy and completeness of its application pursuant to Sections 1.65 and 1.2105(b)(4), it must make the change(s) in the Auction Application System and then re-certify and re-submit its application to confirm and effect the change(s).

115. An applicant's ability to modify its FCC Form 175 in the Auction Application System will be limited between the closing of the initial filing window and the opening of the application resubmission filing window appropriate for each auction and between the closing of the resubmission filing window and the release of the public notice announcing the qualified bidders for an auction. During these periods, an applicant will be able to view its submitted application, but will be permitted to modify only the applicant's address, responsible party address, contact information (e.g., name, address, telephone number, etc.), and bidding preference (telephonic or electronic) in the Auction Application System. An applicant will not be able to modify any other pages of the FCC Form 175 in the Auction Application System during these periods. If, during these periods, an applicant needs to make other permissible minor changes to its FCC Form 175, or changes to maintain the accuracy and completeness of its application pursuant to Sections 1.65 and 1.2105(b)(4), the applicant must submit a letter briefly summarizing the changes to its FCC Form 175 via email to [auction101@fcc.gov](mailto:auction101@fcc.gov) for Auction 101 and [auction102@fcc.gov](mailto:auction102@fcc.gov) for Auction 102. The email summarizing the changes must include a subject line referring to Auction 101 or Auction 102, as appropriate, and the name of the applicant, for example, "Re: Changes to Auction 101 Auction Application of XYZ Corp." Any attachments to the email must be formatted as Adobe® Acrobat® (PDF) or Microsoft® Word documents. An applicant that submits its changes in this manner must subsequently modify, certify, and submit its FCC Form 175 application(s) electronically in the Auction Application System once it is again open and available to applicants.

116. Applicants should also note that even at times when the Auction Application System is open and available to applicants, the system will not allow an applicant to make certain other permissible changes itself (e.g., correcting a misstatement of the applicant's legal classification).<sup>273</sup> If an applicant needs to make a permissible minor change of this nature, it must submit a written request by email to [auction101@fcc.gov](mailto:auction101@fcc.gov) for Auction 101, and [auction102@fcc.gov](mailto:auction102@fcc.gov) for Auction 102, requesting that the Commission manually make the change on the applicant's behalf. Once Commission staff has informed the applicant that the change has been made in the Auction Application System, the applicant must then

<sup>271</sup> We strongly advise applicants to retain a copy of this confirmation page.

<sup>272</sup> Specifically, an applicant will not be allowed to modify electronically in the Auction Application System the applicant's legal classification, the applicant's name, or the certifying official.

<sup>273</sup> This is the case because certain fields on the FCC Form 175 will no longer be available to/changeable by the applicant after the initial filing window closes.

re-certify and re-submit its FCC Form 175 in the Auction Application System to confirm and effect the change(s).

117. As with filing the FCC Form 175, any amendment(s) to the application and related statements of fact must be certified by an authorized representative of the applicant with authority to bind the applicant. Applicants should note that submission of any such amendment or related statement of fact constitutes a representation by the person certifying that he or she is an authorized representative with such authority and that the contents of the amendment or statement of fact are true and correct.

118. Applicants must not submit application-specific material through the Commission's Electronic Comment Filing System. Further, as discussed above, parties submitting information related to their applications should use caution to ensure that their submissions do not contain confidential information or communicate information that would violate Section 1.2105(c) or the limited information procedures adopted for Auctions 101 and 102. An applicant seeking to submit, outside of the Auction Application System, information that might reflect non-public information, such as an applicant's license or PEA selection(s), upfront payment amount, or bidding eligibility, should consider including in its email a request that the filing or portions of the filing be withheld from public inspection until the end of the prohibition of certain communications pursuant to Section 1.2105(c).

119. Questions about FCC Form 175 amendments should be directed to the Auctions and Spectrum Access Division at (202) 418-0660.

### III. PREPARING FOR BIDDING IN AUCTIONS 101 AND 102

#### A. Due Diligence

120. We remind each potential bidder that it is solely responsible for investigating and evaluating all technical and marketplace factors that may have a bearing on the value of the licenses that it is seeking in Auction 101 and/or Auction 102. **The Commission makes no representations or warranties about the use of this spectrum or these licenses 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.<sup>274</sup> 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.**

121. An applicant should perform its due diligence research and analysis before proceeding, as it would with any new business venture. In particular, the Commission strongly encourages each potential bidder to perform technical analyses and/or refresh its previous analyses to assure itself that, should it become a winning bidder for any Auction 101 or Auction 102 license, it will be able to build and operate facilities that will fully comply with all applicable technical and legal requirements. We strongly encourage each applicant to inspect any prospective sites for communications facilities located in, or near, the geographic area for which it plans to bid, confirm the availability of such sites, and to familiarize itself with the Commission's rules regarding the National Environmental Policy Act.<sup>275</sup>

122. We also strongly encourage each applicant in Auction 101 and Auction 102 to continue to conduct its own research throughout the applicable auction(s) in order to determine the existence of pending or future administrative or judicial proceedings that might affect its decision on continued participation in the auction(s). Each applicant is responsible for assessing the likelihood of the various possible outcomes and for considering the potential impact on licenses available in an auction. The due

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<sup>274</sup> See, e.g., *Cellco P'ship v. FCC*, 700 F.3d 534, 542 (D.C. Cir. 2012); *Celtronix Telemetry, Inc. v. FCC*, 272 F.3d 585, 589 (D.C. Cir. 2001) (citing 47 U.S.C. § 309(j)(6)(D)).

<sup>275</sup> 47 CFR Part 1, Subpart I.

diligence considerations mentioned in this Public Notice do not constitute an exhaustive list of steps that should be undertaken prior to participating in Auction 101 or Auction 102. As always, the burden is on the potential bidder to determine how much research to undertake, depending upon the specific facts and circumstances related to its interests.

123. **Applicants are solely responsible for identifying associated risks and for investigating and evaluating the degree to which such matters may affect their ability to bid on, otherwise acquire, or make use of the licenses available in Auctions 101 and 102.** Each potential bidder is responsible for undertaking research to ensure that any licenses won in these auctions will be suitable for its business plans and needs. Each potential bidder must undertake its own assessment of the relevance and importance of information gathered as part of its due diligence efforts.

124. The Commission makes no representations or guarantees regarding the accuracy or completeness of information in its databases or any third-party databases, including, for example, court docketing systems. To the extent the Commission's databases may not include all information deemed necessary or desirable by an applicant, it must obtain or verify such information from independent sources or assume the risk of any incompleteness or inaccuracy in said databases. Furthermore, the Commission makes no representations or guarantees regarding the accuracy or completeness of information that has been provided by incumbent licensees and incorporated into its databases.

## **B. Licensing Considerations**

### **1. Incumbency and Sharing Issues**

125. Potential applicants in Auctions 101 and 102 should consider carefully the operations of incumbent licensees in the 28 GHz and 24 GHz bands when developing business plans, assessing market conditions, and evaluating the availability of equipment for mmW services. As discussed above, active licenses in the 28 GHz band cover 1,696 full counties and one partial county; active licenses in the 24 GHz band currently cover nine PEAs and are the subject of pending applications for license modification.<sup>276</sup> Detailed information about existing incumbent licenses is available publicly in the Universal Licensing System (ULS) through interactive searches<sup>277</sup> and database downloads.<sup>278</sup>

126. In addition to incumbent licensees, potential applicants in Auctions 101 and 102 should consider carefully the implications of the Commission's sharing schemes for the 28 GHz and 24 GHz bands.<sup>279</sup> Most recently, in the *2018 Spectrum Frontiers Order*, the Commission decided to license FSS earth stations in the 24.75–25.25 GHz band on a co-primary basis under the provisions in Section 25.136(d).<sup>280</sup> This means that the 24.75-25.25 GHz band would be available only for individually licensed FSS earth stations that meet specific requirements adopted in the *2018 Spectrum Frontiers Order* (e.g., limitations on population covered, number of earth station locations in a PEA, and a prohibition on

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<sup>276</sup> See paragraph 11, above.

<sup>277</sup> See <http://wireless2.fcc.gov/UlsApp/UlsSearch/searchAdvanced.jsp>. Incumbent licenses can be identified by searching for active, regular licenses within the UU radio service in the 27500 – 28350 MHz band. Incumbent licenses in the 24 GHz band can be identified by searching for active, regular licenses within the TZ radio service.

<sup>278</sup> See <http://wireless.fcc.gov/uls/index.htm?job=transaction&page=weekly>. Incumbent licenses are contained in the “Market Based Services” download file. As the names and geographic scope of existing licensees in the 28 GHz and 24 GHz bands are available to the public via ULS, we decline to include that information in Attachment A as requested by one commenter. See Neptuno Reply at 1-2.

<sup>279</sup> See *Auctions 101 and 102 Comment Public Notice* at 4-5, paras. 8-10.

<sup>280</sup> *2018 Spectrum Frontiers Order*, paras. 22-25.

(continued...)

earth stations in places where they would preclude terrestrial service to people or equipment that are in transit or are present at mass gatherings).<sup>281</sup>

127. Accordingly, in addition to the due diligence considerations discussed above, we call particular attention in Auctions 101 and 102 to the incumbency and spectrum-sharing issues concerning the 28 GHz and 24 GHz bands, respectively. Each applicant should follow closely releases from the Commission concerning these issues and consider carefully the technical and economic implications for commercial use of the UMFUS bands.

## 2. International Coordination

128. Potential bidders seeking licenses for geographic areas adjacent to the Canadian and Mexican border should be aware that the use of some or all of the upper microwave frequencies they acquire in Auction 101 and/or Auction 102 are subject to international agreements with Canada and Mexico.<sup>282</sup> The Commission routinely works with the United States Department of State and Canadian and Mexican government officials to ensure the efficient use of the spectrum as well as interference-free operations in the border areas near Canada and Mexico. Until such time as any adjusted agreements, as needed, between the United States, Mexico and/or Canada can be agreed to, operations in the upper microwave bands must not cause harmful interference across the border, consistent with the terms of the agreements currently in force.<sup>283</sup>

## 3. Quiet Zones

129. Upper microwave licensees must individually apply for and receive a separate license for each transmitter if the proposed operation would affect the radio quiet zones set forth in the Commission's rules.<sup>284</sup>

## 4. Environmental Review Requirements

130. Licensees must comply with the Commission's rules regarding implementation of the National Environmental Policy Act and other federal environmental statutes.<sup>285</sup> The construction of a wireless antenna facility under certain circumstances may be considered a federal action, and where it is, the licensee must comply with the Commission's environmental rules for each such facility.<sup>286</sup> Where applicable, these environmental rules require, among other things, that the licensee (i) consult with expert agencies having environmental responsibilities, including the U.S. Fish and Wildlife Service, the State Historic Preservation Office, the U.S. Army Corps of Engineers, and the Federal Emergency Management Agency (through the local authority with jurisdiction over floodplains); (ii) assess the effect of facility construction on historic properties by following the provisions of the Commission's Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process;<sup>287</sup> and (iii) prepare an environmental assessment for any facility that may have a significant impact in or on wilderness areas, wildlife preserves, threatened or endangered species, designated critical habitats, historical or archaeological sites, Native American religious sites, floodplains (if the facility

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<sup>281</sup> *Id.*

<sup>282</sup> See *2016 Spectrum Frontiers Order*, 31 FCC Rcd at 8125, paras. 315-16; 47 CFR § 30.206.

<sup>283</sup> *2016 Spectrum Frontiers Order*, 31 FCC Rcd at 8125, paras. 315-16.

<sup>284</sup> 47 CFR § 1.924.

<sup>285</sup> 47 CFR Chapter 1, Part 1, Subpart I.

<sup>286</sup> 47 CFR §§ 1.1301–1.1319.

<sup>287</sup> 47 CFR Part 1, App. C. See also <https://www.fcc.gov/encyclopedia/tower-and-antenna-siting>.

(continued...)

cannot be elevated above the base flood elevation), surface features, or migratory birds; or that includes high intensity white lights in residential neighborhoods or excessive radio frequency emission.

## 5. Mobile Spectrum Holdings Policies

131. We remind bidders of the Commission's mobile spectrum holding policies applicable to the mmW bands. Specifically, for purposes of reviewing proposed secondary market transactions, the Commission adopted a threshold of 1850 megahertz of combined mmW spectrum in the 24 GHz, 28 GHz, 37 GHz, 39 GHz, and 47 GHz bands.<sup>288</sup> In addition, the Commission has eliminated the pre-auction limit of 1250 megahertz that had been adopted for the 28 GHz, 37 GHz, and 39 GHz bands, consistent with the Commission's conclusion not to adopt a pre-auction limit for the 24 GHz and 47 GHz bands.<sup>289</sup> Further, the Commission will conduct an *ex post* case-by-case review of the acquisition through auction of spectrum in the UMFUS bands. In particular, the Commission found that it is in the public interest to review applications for initial licenses filed post-auction on a case-by-case basis using the same 1850 megahertz threshold it uses for reviewing applications for secondary market transactions.<sup>290</sup>

### C. Bidder Education

132. Before the opening of the concurrent short-form filing windows for Auctions 101 and 102 on September 5, 2018, detailed educational information will be provided in various formats to would-be participants on the Auction 101 and Auction 102 web pages, respectively.

133. Specifically, we direct the Bureau to provide various materials on the pre-auction processes in advance of the opening of the concurrent short-form application windows for Auctions 101 and 102, beginning with the release of step-by-step instructions for completing the FCC Form 175. In addition, the Bureau will provide an online application procedures tutorial for the auctions covering information on pre-auction preparation, completing short-form applications, and the application review process.

134. The Bureau will provide separate educational materials on the bidding processes for Auction 101 and Auction 102 in advance of the start of each mock auction, beginning with release of a user guide for each bidding system, followed by online bidding procedures tutorials for the respective auctions.

135. The Commission believes parties interested in participating in Auctions 101 and 102 will find the interactive, online tutorial an efficient and effective way to further their understanding of the application and bidding processes. The online tutorials will allow viewers to navigate the presentation outline, review written notes, listen to audio of the notes, and search for topics using a text search function. Additional features of this web-based tool include links to auction-specific Commission releases, email links for contacting Commission staff, and screen shots of the online application and bidding systems. The online tutorials will be accessible on the "Education" tab of the Auction 101 and Auction 102 websites at [www.fcc.gov/auction/101](http://www.fcc.gov/auction/101) and [www.fcc.gov/auction/102](http://www.fcc.gov/auction/102), respectively. Once posted, the tutorials will be accessible anytime.

### D. Short-Form Applications: Due Before 6:00 p.m. ET on September 18, 2018

136. In order to be eligible to bid in Auction 101 or Auction 102, an applicant must first follow the procedures to submit a short-form application (FCC Form 175) for the relevant auction electronically via the Auction Application System, following the instructions set forth in the FCC Form 175 Instructions. The short-form application for each auction will become available with the opening of

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<sup>288</sup> 2017 *Spectrum Frontiers Order*, 32 FCC Rcd at 11011, para. 74.

<sup>289</sup> 2018 *Spectrum Frontiers Order* at paras. 32-33.

<sup>290</sup> *Id.* at para. 34.

the initial filing window and must be submitted **prior to 6:00 p.m. ET on September 18, 2018. Late applications will not be accepted.** No application fee is required.

137. Applications may be filed for Auction 101 and/or Auction 102 at any time beginning at noon ET on September 5, 2018, until the respective filing window closes at 6:00 p.m. ET on September 18, 2018. Applicants are strongly encouraged to file early and are responsible for allowing adequate time for filing their applications. There are no limits or restrictions on the number of times an application can be updated or amended until the initial filing deadline for each auction on September 18, 2018.

138. An applicant must always click on the CERTIFY & SUBMIT button on the “Certify & Submit” screen to successfully submit its FCC Form 175 and any modifications; otherwise, the application or changes to the application will not be received or reviewed by Commission staff. Additional information about accessing, completing, and viewing the FCC Form 175 is provided in the FCC Form 175 Instructions. Applicants requiring technical assistance should contact FCC Auctions Technical Support at (877) 480-3201, option nine; (202) 414-1250; or (202) 414-1255 (text telephone (TTY)); hours of service are Monday through Friday, from 8:00 a.m. to 6:00 p.m. ET. In order to provide better service to the public, all calls to Technical Support are recorded.

## **E. Application Processing and Minor Modifications**

### **1. Public Notice of Applicant’s Initial Application Status and Opportunity for Minor Modifications**

139. After the deadline for filing auction applications, the Commission will process all timely submitted applications to determine whether each applicant has complied with the application requirements and provided all information concerning its qualifications for bidding. With respect to each auction, the Bureau will issue a public notice with applicants’ initial application status identifying (1) those that are complete and (2) those that are incomplete or deficient because of defects that may be corrected. The public notice will include the deadline for resubmitting corrected applications and a paper copy will be sent to the contact address listed in the FCC Form 175 for each applicant by overnight delivery. In addition, each applicant with an incomplete application will be sent information on the nature of the deficiencies in its application, along with the name and phone number of a Commission staff member who can answer questions specific to the application.

140. After the initial application filing deadline on September 18, 2018, applicants can make only minor modifications to their applications.<sup>291</sup> Major modifications (e.g., change of license or PEA selection, certain changes in ownership that would constitute an assignment or transfer of control of the applicant, change in the required certifications, change in applicant’s legal classification that results in a change in control, or change in claimed eligibility for a higher percentage of bidding credit) will not be permitted.<sup>292</sup> After the deadline for resubmitting corrected applications, an applicant will have no further opportunity to cure any deficiencies in its application or provide any additional information that may affect Commission staff’s ultimate determination of whether and to what extent the applicant is qualified to participate in Auction 101 or Auction 102.

141. Commission staff will communicate only with an applicant’s contact person or certifying official, as designated on the applicant’s FCC Form 175, unless the applicant’s certifying official or contact person notifies Commission staff in writing that another representative is authorized to speak on

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<sup>291</sup> See Section II.M (Modifications to FCC Form 175), above.

<sup>292</sup> 47 CFR § 1.2105(b); see also *Two Way Radio of Carolina, Inc.*, Memorandum Opinion and Order, 14 FCC Rcd 12035, 12039, para. 8 (1999).

(continued...)

the applicant's behalf.<sup>293</sup> Authorizations may be sent by email to [auCTION101@fcc.gov](mailto:auCTION101@fcc.gov) for Auction 101 and [auCTION102@fcc.gov](mailto:auCTION102@fcc.gov) for Auction 102.

## **2. Public Notice of Applicant's Final Application Status After Upfront Payment Deadline**

142. After Commission staff review resubmitted applications for a particular auction, the Bureau will release a public notice identifying applicants that have become qualified bidders for that auction. For each auction, a *Qualified Bidders Public Notice* will be issued before bidding in the auction begins. Qualified bidders are those applicants with submitted FCC Form 175 applications that are deemed timely filed and complete.

### **F. Upfront Payments**

143. In order to be eligible to bid in Auction 101 or Auction 102, a sufficient upfront payment and a complete and accurate FCC Remittance Advice Form (FCC Form 159, Revised 2/03) must be submitted for each auction before 6:00 p.m. ET on the applicable deadline.<sup>294</sup> After completing its short-form application, an applicant will have access to an electronic pre-filled version of the FCC Form 159. An accurate and complete FCC Form 159 must accompany each payment. Proper completion of this form is critical to ensuring correct crediting of upfront payments. Payers using the pre-filled FCC Form 159 are responsible for ensuring that all of the information on the form, including payment amounts, is accurate. Detailed instructions for completing FCC Form 159 will be released by the Bureau concurrently with the release of this Public Notice.

144. For Auction 101, the deadline for submitting an upfront payment and FCC Form 159 is October 23, 2018. The procedures for submitting an upfront payment are outlined below. For Auction 102, the Bureau will announce the deadline and procedures for the submission of upfront payments by public notice after bidding in Auction 101 concludes.<sup>295</sup> Under this approach, an Auction 102 applicant that participated in Auction 101 could take into account the licenses it won in Auction 101 when determining the amount of its upfront payment for Auction 102.

### **1. Making Upfront Payments by Wire Transfer for Auction 101**

145. As the Commission explained in the *Auctions 101 and 102 Comment Public Notice*,<sup>296</sup> Congress recently passed legislation amending the Communications Act to provide that upfront auction

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<sup>293</sup> In no event, however, will the Commission send auction registration materials to anyone other than the contact person listed on the applicant's FCC Form 175 or respond to a request for replacement registration materials from anyone other than the authorized bidder, contact person, or certifying official listed on the applicant's FCC Form 175. See Section III.G (Auction Registration), below.

<sup>294</sup> Since the upfront payments for Auctions 101 and 102 will be deposited and managed in separate accounts in the U.S. Treasury for each auction, an applicant interested in applying for both auctions will be required to make a separate upfront payment for each auction into the appropriate account. See Section III.F.1 (Making Upfront Payments by Wire Transfer for Auction 101), below. Accordingly, we decline to allow an auction applicant that participates in both Auctions 101 and 102 "to transfer the amount of the upfront payment associated with any unused eligibility in Auction 101 to Auction 102," as suggested by one commenter. See Charter Comments at 2-3.

<sup>295</sup> See para. 26 & n.53, above (directing the Bureau to prepare and release after the close of bidding in Auction 101 a public notice announcing the remainder of the pre-auction dates and deadlines for the Auction 102 pre-auction process). We also direct the Bureau to announce after the close of bidding in Auction 101 the procedures for the submission of upfront payments for Auction 102.

<sup>296</sup> *Auctions 101 and 102 Comment Public Notice* at 18, para. 52.

(continued...)

payments for future auctions are to be deposited in the U.S. Treasury.<sup>297</sup> Accordingly, upfront payments for Auctions 101 must be wired to, and will be deposited in, the U.S. Treasury.<sup>298</sup>

146. Wire transfer payments for Auction 101 must be received before 6:00 p.m. ET on October 23, 2018,<sup>299</sup> but no sooner than October 1, 2018.<sup>300</sup> No other payment method is acceptable.<sup>301</sup> To avoid untimely payments, applicants should discuss arrangements (including bank closing schedules) with their bankers several days before they plan to make the wire transfer, and allow sufficient time for the transfer to be initiated and completed before the deadline. The following information will be needed:

ABA Routing Number: 021030004  
 Receiving Bank: TREAS NYC  
 33 Liberty Street  
 New York, NY 10045

BENEFICIARY: FCC  
 445 12<sup>th</sup> Street, SW  
 Washington, DC 20554

ACCOUNT NUMBER: 827000001001

Originating Bank Information (OBI Field): (Skip one space between each information item)  
 "AUCTIONPAY"

APPLICANT FCC REGISTRATION NUMBER (FRN): (same as FCC Form 159, block 21)

PAYMENT TYPE CODE: (same as FCC Form 159, block 24A: "U101")

FCC CODE 1: (same as FCC Form 159, block 28A: "101")

PAYER NAME: (same as FCC Form 159, block 2)

PAYER FCC REGISTRATION NUMBER (FRN): (If different from applicant FRN)

NOTE: The beneficiary account number (BNF Account Number) is specific to the upfront payments for Auction 101. Do not use a BNF Account Number from a previous auction.

147. At least one hour before placing the order for the wire transfer (but on the same business day), applicants must print and fax a completed FCC Form 159 (Revised 2/03) to the FCC at (202) 418-2843. Alternatively, the completed form can be scanned and sent as an attachment to an email to [RROGWireFaxes@fcc.gov](mailto:RROGWireFaxes@fcc.gov). On the fax cover sheet or in the email subject header, write "Wire Transfer – Auction Payment for Auction 101". In order to meet the upfront payment deadline, an applicant's payment must be credited to the Commission's account for Auction 101 before the deadline.<sup>302</sup>

148. Each applicant is responsible for ensuring timely submission of its upfront payment and for timely filing of an accurate and complete FCC Form 159. An applicant should coordinate with its financial institution well ahead of the due date regarding its wire transfer and allow sufficient time for the transfer to be initiated and completed prior to the deadline. The Commission repeatedly has cautioned

<sup>297</sup> See Consolidated Appropriations Act, 2018, H.R. 1625, Pub. L. 115-141, Division P, Title 1 at § 101 (2018).

<sup>298</sup> See Section III.F.2 (Upfront Payments and Bidding Eligibility), below.

<sup>299</sup> An applicant must initiate the wire transfer through its bank, authorizing the bank to wire funds from the applicant's account to the Commission's auction payment lockbox bank.

<sup>300</sup> The legislation providing for upfront auction payments to be deposited in the U.S. Treasury is not effective until October 1, 2018. Consolidated Appropriations Act, 2018, H.R. 1625, Public Law 115-141, Division P, Title I at § 103 (2018).

<sup>301</sup> The Commission will not accept checks, credit cards, or automated clearing house (ACH) payments.

<sup>302</sup> Letter to Lee G. Petro, from Margaret W. Wiener, Chief, Auctions and Spectrum Access Division, Wireless Telecommunications Bureau, 25 FCC Rcd 9046 (WTB 2010).

(continued...)

auction participants about the importance of planning ahead to prepare for unforeseen last-minute difficulties in making payments by wire transfer.<sup>303</sup> **Each applicant also is responsible for obtaining confirmation from its financial institution that its wire transfer to the U.S. Treasury was successful and from Commission staff that its upfront payment was timely received and that it was deposited into the proper account.** To receive confirmation from Commission staff, contact Gail Glasser of the Office of Managing Director's Revenue & Receivables Operations Group/Auctions at (202) 418-0578, or alternatively, Theresa Meeks at (202) 418-2945.

149. Please note the following information regarding upfront payments:

- All payments must be made in U.S. dollars.
- All payments must be made by wire transfer.
- Upfront payments for Auction 101 go to an account number different from the accounts used in previous FCC auctions.

150. Failure to deliver a sufficient upfront payment as instructed herein by the applicable upfront payment deadline will result in dismissal of the short-form application and disqualification from participation in the auction.

## 2. Upfront Payments and Bidding Eligibility

151. The Commission has authority to determine appropriate upfront payments for each license being auctioned, taking into account such factors as the efficiency of the auction process and the potential value of similar licenses.<sup>304</sup> An upfront payment is a refundable deposit made by each applicant seeking to participate in bidding to establish its eligibility to bid on licenses. Upfront payments that are related to the inventory of licenses being auctioned 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.<sup>305</sup>

152. Applicants that are former defaulters, as described above, must pay upfront payments 50 percent greater than non-former defaulters.<sup>306</sup> For purposes of this classification as a former defaulter or a former delinquent, defaults and delinquencies of the applicant itself and its controlling interests are included.<sup>307</sup>

153. An applicant must make an upfront payment sufficient to obtain bidding eligibility on the licenses or generic blocks on which it will bid. We adopt the Commission's proposal that for Auctions 101 and 102, the amount of the upfront payment submitted by an applicant will determine its initial bidding eligibility, the maximum number of bidding units on which a bidder may place bids in any single

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<sup>303</sup> See, e.g., Letter to David G. O'Neil, Esq. from Margaret W. Wiener, Chief, Auctions and Spectrum Access Division, Wireless Telecommunications Bureau, 23 FCC Rcd 4765 (WTB 2008); Letter to Patrick Shannon, Esq., Counsel for Lynch 3G Communications Corp., from Margaret W. Wiener, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, 18 FCC Rcd 11552 (WTB 2003).

<sup>304</sup> See *Auction Procedures Consolidation Order*, 12 FCC Rcd at 5697-98, para 16; see also *Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures*, Third Report and Order and Second Further Notice of Proposed Rule Making, 13 FCC Rcd 374, 425, para. 86 (1997) (*Part 1 Third Report and Order*); *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2377-79, paras. 169-75.

<sup>305</sup> See *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2377-79, paras. 169-76.

<sup>306</sup> *Part 1 Fifth Report and Order*, 15 FCC Rcd at 15316-18, paras. 40-43; see also 47 CFR § 1.2106(a); Section II.K (Provisions Regarding Former and Current Defaulters), above.

<sup>307</sup> For this purpose, the term "controlling interest" is defined in 47 CFR § 1.2105(a)(4)(i).

(continued...)

round.<sup>308</sup> In order to bid on a license or generic block, qualified bidders must have a current eligibility level that meets or exceeds the number of bidding units assigned to that license or generic block in a PEA. **At a minimum, therefore, an applicant’s total upfront payment must be enough to establish eligibility to bid on at least one of the licenses or at least one generic block in a PEA selected on its FCC Form 175 for Auction 101 or Auction 102, respectively, or else the applicant will not be eligible to participate in the applicable auction.** An applicant does not have to make an upfront payment to cover all of the licenses or a block in all of the PEAs it selects on its FCC Form 175, but only enough to cover the maximum number of bidding units that are associated with the licenses or generic blocks in a PEA on which it wishes to place bids and hold provisionally winning bids in any given round, as applicable.<sup>309</sup> The total upfront payment does not affect the total dollar amount the bidder may bid on any given license or generic block.

154. In the *Auctions 101 and 102 Comment Public Notice*, the Commission proposed to base upfront payments for all licenses offered in Auctions 101 and 102 on \$0.001 per megahertz of bandwidth per population (per “MHz/pop”) and sought comment on this proposal.<sup>310</sup> Several commenters addressed the proposed upfront payment amounts.<sup>311</sup> We are persuaded by the recommendation of one commenter that we modify our proposal in a manner that would reduce upfront payments in less-densely populated markets—specifically, by adopting a tiered approach under which upfront payment amounts will vary by market population.<sup>312</sup> In setting upfront payments, as well as minimum opening bids, it is appropriate to reflect an approximation of relative value of licenses among markets. Calculating upfront payments in this way is likely to facilitate participation by applicants interested in rural or less-densely populated license areas,<sup>313</sup> and to promote a speedy auction by starting the bidding in each market closer to the final price. We conclude that calculating upfront payments using the tiers and per MHz/pop dollar amounts proposed in the record is a reasonable approximation of relative value and, in this case, would better serve our goals in setting upfront payments, compared to our original proposal. In particular, this modification is consistent with our experience in past auctions that the top PEAs by population are generally subject to the greatest level of demand and account for a substantial fraction of total auction revenues.<sup>314</sup> Accordingly, for the county-based licenses and generic blocks that fall within PEAs 1–50, upfront payments are based on \$0.001 per MHz/pop; for those licenses and generic blocks in PEAs 51–100, upfront payments are based on \$0.0002 per MHz/pop; and for all other licenses and generic blocks,

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<sup>308</sup> *Auctions 101 and 102 Comment Public Notice* at 17, 27, paras. 51, 94.

<sup>309</sup> For Auction 101, provisionally winning bids are bids that would become final winning bids if the auction were to close after the given round. See Section IV.A.2.c, (Provisionally Winning Bids), below. There will be no provisionally winning bids in Auction 102. See Section IV.B.2.e (Winning Bids in the Clock Phase), below.

<sup>310</sup> *Auctions 101 and 102 Comment Public Notice* at 17, 26, paras. 50, 93.

<sup>311</sup> See, e.g., Blooston Comments at 4 (supporting Commission’s proposal); CCS Comments at 5 (same); CCA Comments at 6 (suggesting the Commission consider reducing upfront payment amounts); T-Mobile Comments at 15 (urging Commission to reduce upfront payments to better reflect market realities).

<sup>312</sup> See T-Mobile Comments at 15. The commenter expressed concern that the Commission’s proposed upfront payment amounts may be excessive given the lack of reliable market data on mmW transactions. *Id.* at 3, 13.

<sup>313</sup> See US Cellular Reply at 9 (agreeing with T-Mobile that reducing upfront payment amounts would expand auction participation, encourage spectrum acquisition in rural areas, and allow for price discovery during the auctions); see also *Auctions 101 and 102 Comment Public Notice* at 17, para. 50.

<sup>314</sup> See *Comment Sought on Competitive Bidding Procedures for Broadcast Incentive Auction 1000, Including Auctions 1001 and 1002*, Public Notice, 29 FCC Rcd 15750, 15770, para. 51 (2014) (*Auction 1000 Comment Public Notice*).

(continued....)

upfront payments are based on \$0.0001 per MHz/pop.<sup>315</sup> A summary of the upfront payment amounts is set forth in Attachment A of this Public Notice. The specific upfront payment amounts and bidding units for each license offered in Auction 101 will be provided in electronic format only, available as a separate “Attachment A” file at [www.fcc.gov/auction/101](http://www.fcc.gov/auction/101). Likewise, the specific upfront payment amounts and bidding units for one generic block in each PEA offered in Auction 102 will be provided in electronic format only, available as a separate “Attachment A” file at [www.fcc.gov/auction/102](http://www.fcc.gov/auction/102).

155. In the *Auctions 101 and 102 Comment Public Notice*, the Commission proposed to assign each license and generic block in a PEA a specific number of bidding units, equal to one bidding unit per dollar of the upfront payment.<sup>316</sup> We adopt the Commission’s proposal to assign each license and generic block in a PEA a specific number of bidding units, but we do so with the number of bidding units equal to one bidding unit per \$10 of the upfront payment. This change, by itself, does not affect upfront payment amounts. The effect of this change is that the number of bidding units per license or generic block in a PEA will be lower by a factor of ten, which will simplify bidding system files and displays. The number of bidding units for a given license or generic block in a PEA is fixed and does not change during an auction as prices change. Thus, in calculating its upfront payment amount, an applicant should determine the **maximum** number of bidding units on which it may wish to be active (bid on or hold provisionally winning bids on, if applicable) in any single round for a particular auction, and submit an upfront payment amount for that auction covering that number of bidding units.<sup>317</sup> In order to make this calculation, an applicant should add together the bidding units for all of the licenses or generic blocks in PEAs, as applicable, on which it seeks to be active in any given round. **Applicants should check their calculations carefully, as there is no provision for increasing a bidder’s eligibility after the upfront payment deadline.**

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<sup>315</sup> The results of these calculations are subject to a minimum of \$100 and 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.

<sup>316</sup> See *Auctions 101 and 102 Comment Public Notice* at 17, 27, paras. 51, 94; CCS Comments at 6.

<sup>317</sup> In some cases, a qualified bidder’s maximum eligibility may be less than the amount of its upfront payment because the qualified bidder has either previously been in default on a Commission construction permit or license or delinquent on non-tax debt owed to a Federal agency (*see* 47 CFR § 1.2106(a)), or has submitted an upfront payment that exceeds the total amount of bidding units associated with the licenses or license areas it selected on its FCC Form 175.

(continued...)

**Table 2: Upfront Payments, Bidding Eligibility, and Bidding Flexibility Example**

County	State	Bidding Units	Upfront Payment
Tippecanoe	Indiana	1,500	\$15,000
Elkhart	Indiana	1,700	\$17,000

If a bidder wishes to bid on a license in both of the above counties in a round, it must have selected both on its FCC Form 175 and purchased at least 3,200 bidding units (1,500 + 1,700) of bidding eligibility. If a bidder only wishes to bid on one, but not both, purchasing 1,700 bidding units would meet the eligibility requirement for a license in either county. The bidder would be able to bid on a license in either county, but not both at the same time. If the bidder purchased only 1,500 bidding units, the bidder would have enough eligibility to bid for a license in Tippecanoe County but not for one in Elkhart County.

156. If an applicant is a former defaulter, it must calculate its upfront payment for all of its selected licenses or generic blocks in PEAs, as applicable, by multiplying the number of bidding units on which it wishes to be active by 1.5.<sup>318</sup> In order to calculate the number of bidding units to assign to former defaulters, the Commission will divide the upfront payment received by 1.5 and round the result up to the nearest bidding unit.<sup>319</sup>

#### **G. Auction Registration**

157. All qualified bidders for Auctions 101 and 102 are automatically registered for the respective auction. Registration materials will be distributed prior to the auctions by overnight delivery. The mailing will be sent only to the contact person at the contact address listed in the FCC Form 175 and will include the SecurID® tokens that will be required to place bids and the Auction Bidder Line phone number.

158. Qualified bidders that do not receive this registration mailing will not be able to submit bids. Therefore, any qualified bidder for Auction 101 that has not received this mailing by noon on November 6, 2018, should call the Auctions Hotline at (717) 338-2868.<sup>320</sup> Receipt of this registration mailing is critical to participating in the auctions, and each applicant is responsible for ensuring it has received all the registration materials.

159. In the event that SecurID® tokens are lost or damaged, only a person who has been designated as an authorized bidder, the contact person, or the certifying official on the applicant's short-form application may request replacements. To request replacement of these items, call the Auction

<sup>318</sup> 47 CFR § 1.2106(a).

<sup>319</sup> If a former defaulter fails to submit a sufficient upfront payment to establish eligibility to bid on at least one of the licenses or at least one generic block in a PEA listed in Attachment A of this Public Notice, the applicant will not be eligible to participate in Auction 101 or Auction 102. *Broadcast First Report and Order*, 13 FCC Rcd at 15979-80 para. 153. This applicant, however, will retain its status as an applicant in Auction 101 or Auction 102, as applicable, and will remain subject to 47 CFR § 1.2105(c). *See Star Wireless, LLC*, Forfeiture Order, 19 FCC Rcd 18626, 18628 para. 4 & n.19 (EB 2004), *order granted in part sub nom, Star Wireless, LLC and Northeast Communications of Wisconsin, Inc.*, Order on Review, 22 FCC Rcd 8943 (2007), *petition for review denied, Star Wireless, LLC v. FCC*, 522 F.3d 469 (D.C. Cir. 2008).

<sup>320</sup> As discussed above, the Bureau will release a public notice after Auction 101 concludes announcing the remaining pre-auction process dates and deadlines, as well as the start of bidding, for Auction 102. *See* note 53, above.

Bidder Line at the telephone number provided in the registration materials or the Auction Hotline at (717) 338-2868.

#### **H. Remote Electronic Bidding via the FCC Auction Bidding System**

160. Bidders will be able to participate in Auctions 101 and 102 over the Internet using the Commission's bidding system (Auction System). Only qualified bidders are permitted to bid. Each authorized bidder must have his or her own SecurID® token, which the Commission will provide at no charge. Each applicant with one authorized bidder will be issued two SecurID® tokens, while applicants with two or three authorized bidders will be issued three tokens. A bidder cannot bid without his or her SecurID tokens. **For security purposes, the SecurID® tokens and a telephone number for bidding questions are only mailed to the contact person at the contact address listed on the FCC Form 175.** Each SecurID® token is tailored to a specific auction. SecurID® tokens issued for other auctions or obtained from a source other than the FCC will not work for Auctions 101 or 102. Please note that the SecurID® tokens can be recycled, and the Commission encourages bidders to return the tokens to the FCC. Pre-addressed envelopes will be provided to return the tokens once the auction has ended.

**161. The Commission makes no warranties whatsoever, and shall not be deemed to have made any warranties, with respect to the Auction System, including any implied warranties of merchantability or fitness for a particular purpose. In no event shall the Commission, or any of its officers, employees, or agents, be liable for any damages whatsoever (including, but not limited to, loss of business profits, business interruption, loss of use, revenue, or business information, or any other direct, indirect, or consequential damages) arising out of or relating to the existence, furnishing, functioning, or use of the Auction System. Moreover, no obligation or liability will arise out of the Commission's technical, programming, or other advice or service provided in connection with the Auction System.**

162. To the extent an issue arises with the Auction System itself, the Commission will take all appropriate measures to resolve such issues quickly and equitably. Should an issue arise that is outside the Auction System or attributable to a bidder, including, but not limited to, a bidder's hardware, software, or Internet access problem that prevents the bidder from submitting a bid prior to the end of a round, the Commission shall have no obligation to resolve or remediate such an issue on behalf of the bidder. Similarly, if an issue arises due to bidder error using the Auction System, the Commission shall have no obligation to resolve or remediate such an issue on behalf of the bidder. Accordingly, after the close of a bidding round, the results of bid processing will not be altered absent evidence of any failure in the Auction System.

#### **I. Mock Auction**

163. All qualified bidders will be eligible to participate in a mock auction for whichever auctions they are qualified (i.e., Auction 101 and/or Auction 102), which will be scheduled during the week before the first day of bidding in the applicable auction.<sup>321</sup> The mock auctions will enable qualified bidders to become familiar with the Auction System and to practice submitting bids prior to the auctions. We strongly recommend that all qualified bidders, including all their authorized bidders, participate to assure that they can log in to the bidding system and gain experience with the bidding procedures. Participating in the mock auctions may reduce the likelihood of a bidder making a mistake during the auctions. Details regarding the mock auctions will be announced in the *Qualified Bidders Public Notice* for Auction 101 and Auction 102, respectively.

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<sup>321</sup> Only those bidders that are qualified to participate in Auction 101 will be eligible to participate in the mock auction for Auction 101. Likewise, only those bidders that are qualified to participate in Auction 102 will be eligible to participate in a mock auction for Auction 102.

## J. Fraud Alert

164. As is the case with many business investment opportunities, some unscrupulous entrepreneurs may attempt to use Auctions 101 and 102 to deceive and defraud unsuspecting investors. Common warning signals of fraud include the following:

- The first contact is a “cold call” from a telemarketer, or is made in response to an inquiry prompted by a radio or television infomercial.
- The offering materials used to invest in the venture appear to be targeted at IRA funds, for example, by including all documents and papers needed for the transfer of funds maintained in IRA accounts.
- The amount of investment is less than \$25,000.
- The sales representative makes verbal representations that (a) the Internal Revenue Service, Federal Trade Commission (“FTC”), Securities and Exchange Commission (“SEC”), FCC, or other government agency has approved the investment; (b) the investment is not subject to state or federal securities laws; or (c) the investment will yield unrealistically high short-term profits. In addition, the offering materials often include copies of actual FCC releases, or quotes from FCC personnel, giving the appearance of FCC knowledge or approval of the solicitation.

165. Information about deceptive telemarketing investment schemes is available from the FCC as well as the FTC and SEC. Additional sources of information for potential bidders and investors may be obtained from the following sources:

- the FCC’s Consumer Call Center at (888) 225-5322 or by visiting <http://wireless.fcc.gov/csinfo#fraud>
- the FTC at (877) FTC-HELP ((877) 382-4357) or by visiting <http://ftc.gov/bcp/edu/pubs/consumer/invest/inv03.shtm>
- the SEC at (202) 942-7040 or by visiting <https://www.sec.gov/investor>.

166. Complaints about specific deceptive telemarketing investment schemes should be directed to the FTC, the SEC, or the National Fraud Information Center at (202) 835-0618.

## IV. BIDDING IN AUCTIONS 101 AND 102

### A. Auction 101 – 28 GHz

#### 1. Auction Structure

##### a. Simultaneous Multiple-Round Auction

167. For the reasons discussed in the *Auctions 101 and 102 Comment Public Notice*,<sup>322</sup> we adopt the Commission’s proposal to use our standard SMR auction format for Auction 101.<sup>323</sup> This type of auction offers every license for bid at the same time and consists of successive bidding rounds in which

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<sup>322</sup> See *Auctions 101 and 102 Comment Public Notice* at 6, para. 12 (explaining that license-by-license bidding “is needed when blocks in the band are less uniformly available, as in 28 GHz”); see also AT&T Comments at 3 (stating that using an SMR format “seems relatively uncontroversial” given “that there are only two licenses in each region and the FCC’s broad experience with SMR auctions”); Blooston Comments at 2 (reasoning that standard SMR procedures “make sense for the county-based 28 GHz licenses because they are straightforward and easy for small carriers and entrepreneurs to understand”); CCS Comments at 5 (agreeing with the SMR auction design for Auction 101 because it is “consistent with recent FCC spectrum auctions”); Verizon Comments at 1-2 (stating that the “SMR auction format has been employed to auction spectrum licenses for more than 20 years, and it has proven to be an efficient and effective mechanism for assigning licenses”).

<sup>323</sup> See *Auctions 101 and 102 Comment Public Notice* at 15, para. 42.

qualified bidders may place bids on individual licenses. Unless otherwise announced, bids will be accepted on all licenses in each round of the auction until bidding stops on every license.

### **b. Auction Bidding System**

168. All bidding will take place remotely either through the FCC auction bidding system or by telephonic bidding. There will be no on-site bidding during Auction 101. Please note that telephonic bid assistants are required to use a script when entering bids placed by telephone. Telephonic bidders are therefore reminded to allow sufficient time to bid by placing their calls well in advance of the close of a round. The length of a call to place a telephonic bid may vary; please allow a minimum of ten minutes.

169. In order to access the bidding function of the FCC auction bidding system, bidders must be logged in during the bidding round using the passcode generated by the SecurID® token and a personal identification number (“PIN”) created by the bidder. Bidders are strongly encouraged to print a *round summary* for each round after they have completed all of their activity for that round.

170. An Auction 101 bidder’s ability to bid on specific licenses is determined by two factors: (1) the licenses selected on the bidder’s FCC Form 175; and (2) the bidder’s eligibility. The bid submission screens will allow bidders to submit bids on only those licenses the bidder selected on its FCC Form 175.

171. In each round, eligible bidders will be able to place bids on a given license in any of up to nine pre-defined bid amounts.<sup>324</sup> For each license, the FCC auction bidding system will list the acceptable bid amounts in a drop-down box.<sup>325</sup> Bidders use the drop-down box to select from among the acceptable bid amounts. The FCC auction bidding system also includes an *upload* function that allows text files containing bid information to be uploaded.

172. During a round, an eligible bidder may submit bids for as many licenses as it wishes (providing that it is eligible to bid on the specific licenses), remove bids placed in the current bidding round, withdraw provisionally winning bids from previous rounds, or permanently reduce eligibility. If multiple bids are submitted for the same license in the same round, the system takes the last bid entered as that bidder’s bid for the round.

### **c. Availability of Bidding Information**

173. Limited information about the results of a round will be made public after the conclusion of the round.<sup>326</sup> Specifically, after a round closes, the Bureau will make available for each license its current provisionally winning bid amount, the minimum acceptable bid amount for the following round, the amounts of all bids placed on the license during the round, and whether the license is FCC-held. The system will also provide an entire license history detailing all activity that has taken place on a license with the ability to sort by round number. The reports will be publicly accessible. Moreover, after the auction closes, the Bureau will make available complete reports of all bids placed during each round of the auction, including bidder identities.<sup>327</sup>

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<sup>324</sup> A bidder must have sufficient eligibility to place a bid on the particular license. *See* Section III.F.2 (Upfront Payments and Bidding Eligibility), above. Under our adopted auction procedures, bidders in Auction 101 may place bids only on individual licenses—they will not be permitted to place any package bids (i.e., bids for multiple licenses in a “package”). *See* US Cellular Comments at 12.

<sup>325</sup> *See* Section IV.A.2.b (Bid Amounts), above.

<sup>326</sup> The identities of parties that are qualified to bid in Auction 101 will be available before the auction. Thus, bidders will know in advance of this auction the identities of the other parties against which they may be bidding in the auction.

<sup>327</sup> No commenters disagreed with the proposed procedures in this regard.

(continued...)

174. As in past Commission auctions,<sup>328</sup> bidders will have secure access to certain non-public bidding information while bidding is ongoing. Specifically, after each round ends, and before the next round begins, we will make the following information available to individual bidders:

- The bidder's activity, based on all bids in the previous round.
- Summary statistics of the bidder's bidding/bid-related actions in each round, including the licenses on which it bid and the price it bid for each of those licenses, the result of each of its bids, whether it has any provisionally winning bids, and remaining activity rule waivers.

175. 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 bidding across all licenses 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.<sup>329</sup>

#### **d. Round Structure**

176. Auction 101 will consist of sequential bidding rounds, each followed by the release of round results.<sup>330</sup> The initial schedule of bidding rounds will be announced in the public notice listing the qualified bidders, which is released at least one week before the start of bidding in the auction.<sup>331</sup> Details on viewing round results, including the location and format of downloadable round results files will be included in the same public notice. Multiple bidding rounds may be conducted each day.

177. We adopt the Commission's proposal that the Bureau will retain the discretion to change 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.<sup>332</sup> This will allow the Bureau to change the amount of time for bidding rounds, the amount of time between rounds, or the number of rounds per day, depending upon bidding activity and other factors.

#### **e. Eligibility and Activity Rule**

178. As discussed above, a bidder's initial (maximum) bidding eligibility (as measured in bidding units) for Auction 101 will be based on its upfront payment.<sup>333</sup> The amount of the upfront

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<sup>328</sup> See, e.g., *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*); *Auction of 700 MHz Band Licenses Scheduled for July 19, 2011; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 92*, Public Notice, 26 FCC Rcd 3342, 3372-73, paras. 126-29 (WTB 2011); *Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 66*, Public Notice, 21 FCC Rcd 4562, 4600-05, paras. 140-57 (2006); see also 47 CFR § 1.2104(h).

<sup>329</sup> See *id.* at 6271, para. 135.

<sup>330</sup> See *Auctions 101 and 102 Comment Public Notice* at 15, para. 43. No commenters disagreed with the proposed procedures in this regard.

<sup>331</sup> See *id.*

<sup>332</sup> See *id.* at 16, para. 45; CCS Comments at 5.

<sup>333</sup> See Section III.F.2 (Upfront Payments and Bidding Eligibility), above.

(continued....)

payment submitted by a bidder determines initial bidding eligibility, the maximum number of bidding units on which a bidder may be active. As noted earlier, each license is assigned a specific number of bidding units as listed in Attachment A. Bidding units assigned to each license do not change as prices rise during the auction. Upfront payments are not attributed to specific licenses. Rather, a bidder may place bids on any of the licenses selected on its FCC Form 175 as long as the total number of bidding units associated with those licenses do not exceed its current eligibility. Eligibility cannot be increased during the auction; it can only remain the same or decrease. Thus, in calculating its upfront payment amount and therefore its initial bidding eligibility, an applicant must determine the maximum number of bidding units on which it may wish to bid or hold provisionally winning bids in any single round, and submit an upfront payment amount covering that total number of bidding units. At a minimum, an applicant's upfront payment must cover the bidding units for at least one of the licenses selected on its FCC Form 175. The total upfront payment does not affect the total dollar amount a bidder may bid on any given license.

179. We adopt the proposal to employ an activity rule that requires bidders to bid actively throughout the auction, rather than wait until late in the auction before participating.<sup>334</sup> An activity rule helps ensure that an auction closes within a reasonable period of time. The bidding system calculates a bidder's activity in a round as the sum of the bidding units associated with any licenses upon which it places bids during the current round and the bidding units associated with any licenses for which it holds provisionally winning bids. If a bidder removes bids in the current round or withdraws provisionally winning bids, those bids no longer count towards the bidder's activity.<sup>335</sup> Bidders are required to be active on a specific percentage of their current bidding eligibility during each round of the auction. Failure to maintain the requisite activity level will result in the use of an activity rule waiver, if any remain, or a reduction in the bidder's eligibility, possibly curtailing or eliminating the bidder's ability to place additional bids in the auction.<sup>336</sup> Specifically, the minimum required activity is expressed as a percentage of the bidder's current eligibility, and increases by stage as the auction progresses. As set forth below, the activity rule will be 80 percent during each round of Stage One, and 95 in Stage Two. Because these procedures regarding bidding activity have proven successful in maintaining the pace of previous auctions, we adopt them for Auction 101.

#### **f. Auction Stages**

180. We will conduct Auction 101 in two stages.<sup>337</sup> As set forth above, a bidder desiring to maintain its current bidding eligibility will be required to be active on licenses representing at least 80 percent of its current bidding eligibility during each round of Stage One, and at least 95 percent of its current bidding eligibility in Stage Two.<sup>338</sup> We describe the two stages in more detail immediately below.

181. **Stage One:** In each round of the first stage of the auction, a bidder desiring to maintain its current bidding eligibility is required to be active on bidding units associated with licenses representing at least 80 percent of its current bidding eligibility. Failure to maintain the required activity level will result in the use of an activity rule waiver or a reduction in the bidder's bidding eligibility for the next round of bidding.<sup>339</sup> During Stage One, a bidder's reduced eligibility for the next round will be calculated by multiplying the bidder's current round activity by five-fourths (5/4).

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<sup>334</sup> See CCS Comments at 6.

<sup>335</sup> See Section IV.A.2.d (Bid Removal and Bid Withdrawal), below.

<sup>336</sup> See Section IV.A.1.h (Activity Rule Waivers), below.

<sup>337</sup> *Auctions 101 and 102 Comment Public Notice* at 18-19, paras. 53-56; see also Section IV.A.1.e (Eligibility and Activity Rule), below. We received no comments on this proposal.

<sup>338</sup> *Auctions 101 and 102 Comment Public Notice* at 19, para. 55.

<sup>339</sup> See Section IV.A.1.h (Activity Rule Waivers), below.

182. **Stage Two:** In each round of the second stage, a bidder desiring to maintain its current bidding eligibility is required to be active on 95 percent of its current bidding eligibility. Failure to maintain the required activity level will result in the use of an activity rule waiver or a reduction in the bidder's bidding eligibility for the next round of bidding. During Stage Two, a bidder's reduced eligibility for the next round will be calculated by multiplying the bidder's current round activity by twenty-nineths (20/19).

CAUTION: Since activity requirements increase in Stage Two, bidders must carefully check their activity during the first round following a stage transition to ensure that they are meeting the increased activity requirement. This is especially critical for bidders that have provisionally winning bids and do not plan to submit new bids. In past auctions, some bidders have inadvertently lost bidding eligibility or used an activity rule waiver because they did not re-verify their activity status at stage transitions. Bidders may check their activity against the required activity level in the FCC Bidding System.

#### **g. Stage Transitions**

183. Auction 101 will start in Stage One. We adopt the Commission's proposal that the Bureau will have the discretion to advance the auction to the next stage by announcement in the bidding system during the auction.<sup>340</sup> In exercising this discretion, we anticipate that the Bureau will consider a variety of measures of auction activity, including but not limited to, the percentage of bidding units associated with licenses on which there are new bids,<sup>341</sup> the number of new bids, and the increase in revenue.<sup>342</sup>

184. We also adopt the Commission's proposal that the Bureau will have the discretion to further alter the activity requirements before and/or during the auction as circumstances warrant.<sup>343</sup> For example, the Bureau could decide to add an additional stage with a higher activity requirement, not to transition to Stage Two if it finds that the auction is progressing satisfactorily under the Stage One activity requirement, or to transition to Stage Two with an activity requirement that is higher or lower than the 95 percent adopted herein.<sup>344</sup> If the Bureau exercises this discretion, it will alert bidders by announcement in the FCC auction bidding system.

#### **h. Activity Rule Waivers**

185. We adopt the Commission's proposal that when a bidder's activity in the current round is below the required minimum level, it may preserve its current level of eligibility through an activity rule

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<sup>340</sup> *Auctions 101 and 102 Comment Public Notice* at 18-19, para. 54.

<sup>341</sup> For example, when monitoring activity for determining when to change stages, the Bureau may consider the percentage of bidding units of the licenses receiving new provisionally winning bids, excluding any FCC-held licenses. In past auctions, the Bureau has generally—but not always—changed stages when this measure was approximately 20 percent or below for 3 consecutive rounds of bidding.

<sup>342</sup> *Auctions 101 and 102 Comment Public Notice* at 19, para. 54.

<sup>343</sup> *Auctions 101 and 102 Comment Public Notice* at 19, para. 56.

<sup>344</sup> If the Bureau implements stages with activity requirements other than the ones listed above, a bidder's reduced eligibility for the next round will be calculated by multiplying the bidder's current round activity by the reciprocal of the activity requirement. For example, with a 98 percent activity requirement, the bidder's current round activity would be multiplied by 50/49; with a 100 percent activity requirement, the bidder's current round activity would become its bidding eligibility (current round activity would be multiplied by 1/1).

(continued...)

waiver, if available.<sup>345</sup> An activity rule waiver applies to an entire round of bidding, not to a particular license.<sup>346</sup> Activity rule waivers can be either proactive or automatic. Activity rule waivers are principally a mechanism for a bidder to avoid the loss of bidding eligibility in the event that exigent circumstances prevent it from bidding in a particular round. Specifically, we adopt the Commission's proposal to provide each bidder in Auction 101 with three activity rule waivers that may be used as set forth at the bidder's discretion during the course of the auction.<sup>347</sup>

186. The FCC auction bidding system will assume that a bidder that does not meet the activity requirement would prefer to use an activity rule waiver (if available) rather than lose bidding eligibility. Therefore, the system will automatically apply a waiver at the end of any bidding round in which a bidder's activity level is below the minimum required unless (1) the bidder has no activity rule waivers remaining or (2) the bidder overrides the automatic application of a waiver by reducing eligibility, thereby meeting the activity requirement. If a bidder has no waivers remaining and does not satisfy the required activity level, the bidder's current eligibility will be permanently reduced, possibly curtailing or eliminating the ability to place additional bids in the auction.

187. A bidder with insufficient activity, however, may wish to reduce its bidding eligibility rather than use an activity rule waiver. If so, the bidder must affirmatively override the automatic waiver mechanism during the bidding round by using the *reduce eligibility* function in the FCC auction bidding system. In this case, the bidder's eligibility would be permanently reduced to bring it into compliance with the activity rule described above. Reducing eligibility is an irreversible action; once eligibility has been reduced, a bidder cannot regain its lost bidding eligibility.

188. Under our adopted simultaneous stopping rule,<sup>348</sup> a bidder may apply an activity rule waiver proactively as a means to keep the auction open without placing a bid. If a bidder proactively were to apply an activity rule waiver (using the *proactive waiver* function in the FCC auction bidding system) during a bidding round in which no bids are placed or withdrawn, the auction will remain open and the bidder's eligibility will be preserved. However, an automatic waiver applied by the FCC auction bidding system in a round in which there are no new bids or a proactive waiver will not keep the auction open.

#### **i. Stopping Rule**

189. For Auction 101, we adopt the Commission's proposal to employ a simultaneous stopping rule approach, which means all licenses remain available for bidding until bidding stops on every license.<sup>349</sup> Specifically, bidding will close on all licenses after the first round in which no bidder submits any new bids, applies a proactive waiver, or withdraws any provisionally winning bids.<sup>350</sup> Bidding will remain open on all licenses until bidding stops on every license. Consequently, it is not possible to determine in advance how long the bidding in Auction 101 will last.

190. In addition, we adopt the Commission's proposal that the Bureau will retain the

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<sup>345</sup> See *Auctions 101 and 102 Comment Public Notice* at 19, para. 57; see also CCS Comments at 6.

<sup>346</sup> See *id.*

<sup>347</sup> See *id.* at 19, para. 58.

<sup>348</sup> See Section IV.A.1.i (Stopping Rule), above.

<sup>349</sup> See *Auctions 101 and 102 Comment Public Notice* at 16, para. 46 (explaining that the Commission has discretion to establish stopping rules before or during multiple round auctions in order to complete the auction within a reasonable time); CCS Comments at 5.

<sup>350</sup> Provisionally winning bids are bids that would become final winning bids if the auction were to close in that given round. They are discussed in Section IV.A.2.c (Provisionally Winning Bids), below.

(continued...)

discretion to exercise any of the following stopping options during Auction 101:<sup>351</sup>

Option 1. The auction will close for all licenses after the first round in which no bidder applies a waiver, no bidder withdraws a provisionally winning bid, or no bidder places any new bid on a license for which it is not the provisionally winning bidder. Thus, absent any other bidding activity, a bidder placing a new bid on a license for which it is the provisionally winning bidder would not keep the auction open under this modified stopping rule.

Option 2. The auction will close for all licenses after the first round in which no bidder applies a waiver, no bidder withdraws a provisionally winning bid (if withdrawals are permitted in Auction 101), or no bidder places any new bid on a license that already has a provisionally winning bid. Thus, absent any other bidding activity, a bidder placing a new bid on a FCC-held license (a license that does not have a provisionally winning bid) would not keep the auction open under this modified stopping rule.

Option 3. The auction will close using a modified version of the simultaneous stopping rule that combines Option 1 and Option 2 above.

Option 4. The auction will close after a specified number of additional rounds (special stopping rule) to be announced by the Bureau. If the Bureau invokes this special stopping rule, it will accept bids in the specified final round(s), after which the auction will close.

Option 5. The auction will remain open even if no bidder places any new bid, applies a waiver, or withdraws any provisionally winning bids. In this event, the effect will be the same as if a bidder had applied a waiver. The activity rule will apply as usual, and a bidder with insufficient activity will lose bidding eligibility or use a waiver.

191. We also adopt the Commission's proposal that the Bureau will exercise these options only in certain circumstances, for example, where the auction is proceeding unusually slowly or quickly, there is minimal overall bidding activity, or it appears likely that the auction will not close within a reasonable period of time or will close prematurely.<sup>352</sup> Before exercising these options, the Bureau is likely to attempt to change the pace of Auction 101. For example, the Bureau may adjust the pace of bidding by changing the number of bidding rounds per day and/or the minimum acceptable bids. We adopt the Commission's proposal that the Bureau retain continuing discretion to exercise any of these options with or without prior announcement by the Bureau during the auction.<sup>353</sup>

#### **j. Auction Delay, Suspension, or Cancellation**

192. For Auction 101, we adopt the Commission's proposal that at any time before or during the bidding process, the Bureau may delay, suspend, or cancel bidding in the auction 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.<sup>354</sup> This approach has proven effective in resolving exigent circumstances in previous auctions and we find no reasons to depart from it here. The Bureau will 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, the Bureau may, in its sole discretion, elect to resume the auction starting from the beginning of the current round or

<sup>351</sup> *Auctions 101 and 102 Comment Public Notice* at 16-17, para. 47.

<sup>352</sup> *Auctions 101 and 102 Comment Public Notice* at 17, para. 48.

<sup>353</sup> *Auctions 101 and 102 Comment Public Notice* at 17, para. 48.

<sup>354</sup> 47 CFR § 1.2104(i); *see also Auctions 101 and 102 Comment Public Notice* at 17, para. 49; CCS Comments at 5.

from some previous round, or cancel the auction in its entirety. We emphasize that the Bureau will exercise this authority solely at its discretion, and not as a substitute for situations in which bidders may wish to apply their activity rule waivers.

## 2. Bid Collection and Winner Determination Procedures

### a. Reserve Price or Minimum Opening Bids

193. We adopt the Commission's proposal to establish minimum opening bid amounts for Auction 101. The bidding system will not accept bids lower than these amounts. This approach is consistent with section 309(j) of the Communications Act, as amended, which calls for prescribed methods of establishing minimum opening bid amounts when FCC licenses are subject to auction, unless the Commission determines that a minimum opening bid amount is not in the public interest. Based on our experience in past auctions, setting minimum opening bid amounts judiciously is an effective tool for accelerating the competitive bidding process.<sup>355</sup>

194. In addition, we adopt the Commission's proposal to not establish an aggregate reserve price<sup>356</sup> or license reserve prices different from minimum opening bid amounts for the licenses to be offered in Auction 101. This is consistent with policy applied in previous spectrum auctions and we find no reason to depart from that approach here.<sup>357</sup>

195. Specifically, for Auction 101, we will calculate minimum opening bid amounts on a license-by-license basis using a formula based on bandwidth and license area population, similar to our approach in many previous spectrum auctions. Several commenters addressed the proposed minimum opening bid amounts.<sup>358</sup> We are persuaded by the proposal of one commenter to adopt a tiered approach, under which minimum opening bid amounts will vary by market population.<sup>359</sup> For the county-based licenses that fall within PEAs 1–50, minimum opening bid amounts are based on \$0.002 per MHz/pop; for those in PEAs 51–100, upfront payments are based on \$0.0004 per MHz/pop; and for all others, upfront payments are based on \$0.0002 per MHz/pop. As with upfront payments, we conclude that calculating minimum opening bid amounts using these tiers and per MHz/pop dollar amounts is consistent with our experience in past auctions that the top PEAs by population are generally subject to the greatest level of demand and account for a substantial fraction of total auction revenues.<sup>360</sup> Thus, we expect that this tiered approach, which reduces minimum opening bid amounts for less densely-populated markets, will encourage auction participation, particularly in rural areas, without unduly prolonging the competitive bidding process.<sup>361</sup> A summary of the minimum opening bid amounts is set forth in Attachment A of this Public Notice. The specific minimum opening bid amount for each license offered

<sup>355</sup> See, e.g., *Auction 97 Procedures Public Notice*, 29 FCC Rcd at 8440, para. 193.

<sup>356</sup> A reserve price is an amount below which an item, or group of items, may not be won. A reserve price may be higher than the minimum opening bid, or for a group of items, the sum of minimum opening bids.

<sup>357</sup> See, e.g., *Auction 99 Procedures Public Notice* at 24, para. 93.

<sup>358</sup> See, e.g., Blooston Comments at 4 (supporting Commission's proposal); CCS Comments at 6 (same); CCA Comments at 6 (suggesting the Commission consider reducing minimum opening bid amounts because "extensive capital is needed to participate in any auction"); T-Mobile Comments at 15 (urging Commission to reduce minimum opening bid amounts to better reflect market realities).

<sup>359</sup> See T-Mobile Comments at 15. The commenter expressed concern that the Commission's proposed minimum bid amounts may be excessive given the lack of reliable market data on mmW transactions. *Id.* at 3, 13.

<sup>360</sup> See *Auction 1000 Comment Public Notice*, 29 FCC Rcd at 15770, para. 51.

<sup>361</sup> See US Cellular Reply at 9 (agreeing with T-Mobile that reducing minimum opening bid amounts would expand auction participation, encourage spectrum acquisition in rural areas, and allow for price discovery during the auctions); see also *Auctions 101 and 102 Comment Public Notice* at 20, para. 62.

(continued...)

in Auction 101 will be provided in electronic format only, available as a separate “Attachment A” file at [www.fcc.gov/auction/101](http://www.fcc.gov/auction/101).<sup>362</sup>

**b. Bid Amounts**

196. We adopt the Commission’s proposal that, in each round, an eligible bidder will be able to place a bid on a given license in any of up to nine different amounts.<sup>363</sup> The FCC auction bidding system interface will list the acceptable bid amounts for each license.

**(i) Minimum Acceptable Bid Amounts**

197. As explained in the *Auctions 101 and 102 Comment Public Notice*, the first of the acceptable bid amounts is called the minimum acceptable bid amount.<sup>364</sup> In Auction 101, the minimum acceptable bid amount for a license will be equal to its minimum opening bid amount until there is a provisionally winning bid on the license. After there is a provisionally winning bid for a license, the minimum acceptable bid amount for that license will be equal to the amount of the provisionally winning bid plus a percentage of that bid amount calculated using the activity-based formula described below. In general, the percentage will be higher for a license receiving many bids than for a license receiving few bids. In the case of a license for which the provisionally winning bid has been withdrawn, the minimum acceptable bid amount will equal the second highest bid received for the license.<sup>365</sup>

198. The percentage of the provisionally winning bid used to establish the minimum acceptable bid amount (the additional percentage) is calculated based on an activity index at the end of each round.<sup>366</sup> The activity index is a weighted average of (a) the number of distinct bidders placing a bid on the license in that round, and (b) the activity index from the prior round.<sup>367</sup> The additional percentage is determined as one plus the activity index times a minimum percentage amount, with the result not to exceed a given maximum. The additional percentage is then multiplied by the provisionally winning bid amount to obtain the minimum acceptable bid for the next round.<sup>368</sup> We adopt the Commission’s proposal to set the weighting factor initially at 0.5, the minimum percentage at 0.1 (10 percent), and the maximum percentage at 0.2 (20 percent).<sup>369</sup> Hence, at these initial settings, the minimum acceptable bid for a license will be between 10 percent and 20 percent higher than the provisionally winning bid, depending upon the bidding activity for the license. Our experience in previous spectrum license auctions assures us that these percentages are sufficient to ensure active bidding. Equations and examples are shown in Attachment B.

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<sup>362</sup> The results of these calculations are subject to a minimum of \$200 and will be rounded. See note 315 (concerning rounding), above.

<sup>363</sup> See *Auctions 101 and 102 Comment Public Notice* at 21, para. 66. Bidders must have sufficient eligibility to place a bid on the particular license. See Section III.F.2 (Upfront Payments and Bidding Eligibility), above.

<sup>364</sup> See *Auctions 101 and 102 Comment Public Notice* at 21, para. 67.

<sup>365</sup> See Section IV.A.2.d (Bid Removal and Bid Withdrawal), below.

<sup>366</sup> See CCS Comments at 7 (stating that using an activity index at the end of each round to determine the minimum acceptable bid amount is consistent with recent FCC spectrum auctions).

<sup>367</sup> Specifically, the activity index is equal to a weighting factor times the number of bidders placing a bid covering the license in the most recent bidding round plus one minus the weighting factor times the activity index from the prior round. For Round 1 calculations, because there is no prior round (i.e., no round 0), the activity index from the prior round is set at 0. See Attachment B (Bid Formula for Auction 101).

<sup>368</sup> The result will be rounded using the Commission’s standard rounding procedures for auctions. See note 315 (concerning rounding), above.

<sup>369</sup> See *Auctions 101 and 102 Comment Public Notice* at 21, para. 68.

(continued...)

**(ii) Additional Bid Amounts**

199. As explained in the *Auctions 101 and 102 Comment Public Notice*, the FCC auction bidding system calculates any additional bid amounts using the minimum acceptable bid amount and an *additional bid increment percentage*.<sup>370</sup> The minimum acceptable bid amount is multiplied by the additional bid increment percentage, and that result (rounded<sup>371</sup>) is the *additional increment amount*. The first additional acceptable bid amount equals the minimum acceptable bid amount plus the additional increment amount. The second additional acceptable bid amount equals the minimum acceptable bid amount plus two times the additional increment amount; the third additional acceptable bid amount is the minimum acceptable bid amount plus three times the additional increment amount; etc. Based on our experience in past auctions, we adopt the Commission's proposal to set the additional bid increment percentage at five percent initially.<sup>372</sup> Hence, the calculation of the additional increment amount would be (minimum acceptable bid amount) \* (0.05), rounded. The first additional acceptable bid amount equals (minimum acceptable bid amount) + (additional increment amount); the second additional acceptable bid amount equals (minimum acceptable bid amount) + (2\*(additional increment amount)); the third additional acceptable bid amount equals (minimum acceptable bid amount) + (3\*(additional increment amount)); etc.

**(iii) Bid Amount Changes**

200. We adopt the Commission's proposal that the Bureau will retain the discretion to change the minimum acceptable bid amounts, the additional bid amounts, the number of acceptable bid amounts, and the parameters of the formulas used to calculate minimum acceptable bid amounts and additional bid amounts if the Bureau determines that circumstances so dictate.<sup>373</sup> Further, we adopt the Commission's proposals that the Bureau retain the discretion to do so on a license-by-license basis,<sup>374</sup> and that the Bureau retain the discretion to limit (a) the amount by which a minimum acceptable bid for a license may increase compared with the corresponding provisionally winning bid, and (b) the amount by which an additional bid amount may increase compared with the immediately preceding acceptable bid amount.<sup>375</sup> Based on our experience in past auctions, we find that giving the Bureau the discretion to make these changes will help to ensure that the auction runs efficiently. For example, the Bureau may set a \$100,000 limit on increases in minimum acceptable bid amounts over provisionally winning bids. Thus, if calculating a minimum acceptable bid using the activity-based formula results in a minimum acceptable bid amount that is \$200,000 higher than the provisionally winning bid on a license, the minimum acceptable bid amount would instead be capped at \$100,000 above the provisionally winning bid. If the

<sup>370</sup> See *Auctions 101 and 102 Comment Public Notice* at 21-22, para. 69.

<sup>371</sup> See note 315 (concerning rounding), above.

<sup>372</sup> See *Auctions 101 and 102 Comment Public Notice* at 22, para. 69; see also CCS Comments at 7 (agreeing with the Commission's additional bid increment percentage proposal and stating it is consistent with recent FCC spectrum auctions).

<sup>373</sup> See *Auctions 101 and 102 Comment Public Notice* at 22, para. 70; see also CCS Comments at 7 (agreeing with the Commission's proposal).

<sup>374</sup> See CCS Comments at 7 (agreeing with the Commission's proposal).

<sup>375</sup> See *Auctions 101 and 102 Comment Public Notice* at 22, para. 70.

(continued...)

Bureau exercises this discretion, it will alert bidders by announcement in the FCC auction bidding system during the auction.<sup>376</sup>

**c. Provisionally Winning Bids**

201. As described in the *Auctions 101 and 102 Comment Public Notice*,<sup>377</sup> the FCC auction bidding system will determine provisionally winning bids consistent with practices in past auctions.<sup>378</sup> At the end of each bidding round, the bidding system will determine a provisionally winning bid for each license based on the highest bid amount received for the license. A provisionally winning bid will remain the provisionally winning bid until there is a higher bid on the same license at the close of a later round. Provisionally winning bids at the end of Auction 101 become the winning bids.

202. If identical high bid amounts are submitted on a license in any given round (i.e., tied bids), the FCC auction bidding system will use a pseudo-random number generator to select a single provisionally winning bid from among the tied bids.<sup>379</sup> The remaining bidders, as well as the provisionally winning bidder, can submit higher bids in later rounds. However, if the auction were to end with no other bids being placed, the winning bidder would be the one that placed the provisionally winning bid. If the license receives any bids in a later round, the provisionally winning bid again will be determined by the highest bid amount received for the license.

203. A provisionally winning bid will be retained until there is a higher bid on the license at the close of a later round, unless the provisionally winning bid is withdrawn. As a reminder, for Auction 101, a bid that was provisionally winning in a round counts toward bidding activity for purposes of the activity rule in the later round.<sup>380</sup>

**d. Bid Removal and Bid Withdrawal**

**(i) Bid Removal**

204. In the *Auctions 101 and 102 Comment Public Notice*, the Commission addressed bid removal procedures in the FCC auction bidding system.<sup>381</sup> Each qualified bidder has the option of removing any bids placed in a round provided that such bids are removed before the close of that bidding round.<sup>382</sup> By removing a bid within a round, a bidder effectively “unsubmits” the bid. A bidder removing a bid placed in the same round is not subject to withdrawal payments. Removing a bid will affect a bidder’s activity because a removed bid no longer counts toward bidding activity for the round. Once a round closes, a bidder may no longer remove a bid.

**(ii) Bid Withdrawal**

205. For the reasons discussed in the *Auctions 101 and 102 Comment Public Notice*, we adopt the Commission’s proposal to allow each bidder to withdraw provisionally winning bids in no more than two rounds during the course of the auction. The two rounds in which a bidder may withdraw provisionally winning bids will be at the bidder’s discretion, and there is no limit on the number of

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<sup>376</sup> See *Auctions 101 and 102 Comment Public Notice* at 22, para. 70.

<sup>377</sup> *Auctions 101 and 102 Comment Public Notice* at 25, para. 102.

<sup>378</sup> See, e.g., *Auction 98 Comment Public Notice*, 30 FCC Rcd at 1764-65, para. 37.

<sup>379</sup> The auction bidding system assigns a pseudo-random number to each bid when the bid is entered. The tied bid with the highest pseudo-random number will become the provisionally winning bid.

<sup>380</sup> See Section IV.A.1.e (Eligibility and Activity Rule), above.

<sup>381</sup> *Auctions 101 and 102 Comment Public Notice* at 23, para. 75.

<sup>382</sup> See CCS Comments at 7.

(continued...)

provisionally winning bids that a bidder may withdraw in either of the rounds in which it withdraws bids. Withdrawals must be in accordance with the Commission's rules, including the bid withdrawal payment provisions specified in Section 1.2104(g).<sup>383</sup> Once a bid withdrawal is submitted during a round, that withdrawal cannot be unsubmitted even if the round has not yet ended.

206. If a provisionally winning bid is withdrawn, the minimum acceptable bid amount will equal the amount of the second highest bid received for the license, which may be less than, or in the case of tied bids, equal to, the amount of the withdrawn bid.<sup>384</sup> The Commission will serve as a placeholder provisionally winning bidder on the license until a new bid is submitted on that license.

207. A commenter advocated allowing only a single bid withdrawal in Auction 101, on the grounds that multiple bid withdrawals could encourage the undesirable strategic use of bid withdrawals<sup>385</sup>. In determining the number of withdrawals to provide, we balance bidders' needs for flexibility in responding to changes in relative prices across areas with the potential for bid withdrawals to be used unproductively. For Auction 101, we find that the absence of price benchmarks for comparable spectrum may make the flexibility provided by an additional waiver particularly useful for bidders, and consequently, decline to accept the commenter's suggestion to allow for only a single withdrawal round.

### (iii) Calculation of Bid Withdrawal Payment

208. Generally, the Commission imposes payments on bidders that withdraw provisionally winning bids during the course of an auction.<sup>386</sup> If a bidder withdraws its bid and there is no higher bid in the same or later auction(s), the bidder that withdrew its bid is responsible for the difference between its withdrawn bid and the winning bid in the same or later auction(s).<sup>387</sup> If there are multiple bid withdrawals on a single license and no subsequent higher bid is placed and/or the license is not won in the same auction, the payment for each bid withdrawal will be calculated based on the sequence of bid withdrawals and the amounts withdrawn. No withdrawal payment will be assessed for a withdrawn bid if either the subsequent winning bid or any subsequent intervening withdrawn bid, in either the same or later auction(s), equals or exceeds that withdrawn bid. Thus, a bidder that withdraws a bid will not be responsible for any final withdrawal payment if there is a subsequent higher bid in the same or later auction(s).

209. However, if a license for which a bid had been withdrawn does not receive a subsequent higher bid or winning bid in the same auction, the FCC cannot calculate the final withdrawal payment until that license receives a higher bid or winning bid in a later auction. In such cases, when that final withdrawal payment cannot yet be calculated, the FCC imposes on the bidder responsible for the withdrawn bid an interim bid withdrawal payment, which will be applied toward any final bid withdrawal payment that is ultimately assessed.<sup>388</sup>

<sup>383</sup> 47 CFR § 1.2104(g); *see also id.* § 1.2109.

<sup>384</sup> The will Bureau retain the discretion to lower the minimum acceptable bid on such licenses in the next round or in later rounds.

<sup>385</sup> *See Verizon Comments* at 3.

<sup>386</sup> 47 CFR §§ 1.2104(g), 1.2109.

<sup>387</sup> The payment will equal the lower of: (1) the difference between the net withdrawn bid and the subsequent net winning bid; or (2) the difference between the gross withdrawn bid and the subsequent gross winning bid. *See* 47 CFR § 1.2104(g)(1).

<sup>388</sup> *Id.*

(continued...)

210. The amount of the interim bid withdrawal payment is established in advance of bidding in each auction and may range from three percent to twenty percent of the withdrawn bid amount.<sup>389</sup> For the reasons discussed in the *Auctions 101 and 102 Comment Public Notice*, we adopt the Commission’s proposal to establish an interim bid withdrawal payment of 15 percent of the withdrawn bid for Auction 101.<sup>390</sup> Assessing an interim bid withdrawal payment ensures that the Commission receives a minimal withdrawal payment pending assessment of any final withdrawal payment. Section 1.2104(g) provides specific examples showing application of the bid withdrawal payment rule.<sup>391</sup>

### 3. Auction Results

211. The bidding system will determine winning bids as described in Section IV.A.2.c (Provisionally Winning Bids), above. After the Bureau announces the auction results, it will provide a means for the public to view and download bidding and results data.

### 4. Auction Announcements

212. The Commission and/or Bureau will use auction announcements to report necessary information to bidders, such as schedule changes. All auction announcements will be available by clicking a link in the FCC auction bidding system.

## B. Auction 102 – 24 GHz

### 1. Auction Structure

#### a. Clock and Assignment Phases

213. For the reasons discussed in the *Auctions 101 and 102 Comment Public Notice*,<sup>392</sup> we adopt the Commission’s proposal to conduct Auction 102 using an ascending clock auction design with two phases.<sup>393</sup> In the first phase of the auction—the clock phase—bidders will indicate their demands for generic license blocks in specific geographic areas (i.e., PEAs). In the second phase—the assignment phase—winning clock-phase bidders will have the opportunity to bid for their preferred combinations of frequency-specific licenses, consistent with their clock-phase winnings, in a series of single sealed-bid rounds conducted by PEA or, in some cases, PEA group.

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<sup>389</sup> *Id.*, amended by *CSEA/Part 1 Report and Order*, 21 FCC Rcd at 903-04, paras. 30-32.

<sup>390</sup> *See Auctions 101 and 102 Comment Public Notice* at 34, para. 135.

<sup>391</sup> 47 CFR § 1.2104(g).

<sup>392</sup> *See Auctions 101 and 102 Comment Public Notice* at 24, para. 83.

<sup>393</sup> *Id.* at 24, paras. 80-83; *see also* AT&T Comments at 5 (stating that “an ascending clock auction, followed by a ‘best-and-final-offer’ assignment round, is a reasonable format”); Blooston Comments at 2-3 (“Clock bidding procedures were used successfully in the 600 MHz forward auction portion of the Broadcast Incentive Auction, and make sense where channel blocks are largely interchangeable.”); CCS Comments at 7 (supporting “the auction of 24GHz licenses using an ascending clock auction”); US Cellular at 2-3 (supporting the Commission’s proposal to use an ascending clock auction format for Auction 102 and noting that the “format has a number of benefits that make it especially appropriate for the 24 GHz band”). *But see* T-Mobile Apr. 3, 2018 *Ex Parte* at 3, 5 (arguing that there is no evidence that a clock auction format for the 24 GHz band will result in the auction concluding more quickly, whatever benefit there may be of using a clock auction will be overwhelmed by not making more spectrum available at the same time, and a clock auction may be inappropriate for the 24 GHz band in any case because the various rules governing satellite use and the Commission’s pending proposals to amend those rules prevent the spectrum blocks in the upper portion of the band from being fungible). The Commission recently addressed issues regarding FSS sharing and operability in the 24 GHz band in the *2018 Spectrum Frontiers Order*. *2018 Spectrum Frontiers Order* at 10-11, paras. 22-25. Accordingly, adopting a clock auction design in this Public Notice will not “artificially affect” the bidding in the assignment round as T-Mobile suggests. T-Mobile Apr. 3, 2018 *Ex Parte* at 5.

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214. We also direct the Bureau to prepare and release, concurrent with this Public Notice, updated technical guides that provide the mathematical details of the adopted auction design and algorithms for the clock and assignment phases of Auction 102.<sup>394</sup> The information in the updated technical guides supplements the decisions in this Public Notice.

**b. Generic Blocks and Bidding Categories**

215. As proposed, in the clock phase, we will conduct bidding for generic blocks in two categories in most PEAs (i.e., those without an incumbent licensee).<sup>395</sup> There generally will be two generic blocks in the lower 24 GHz segment (Category L) and five generic blocks in the upper 24 GHz segment (Category U).<sup>396</sup>

216. One commenter supported the Commission's proposal to have multiple categories of generic blocks in order to avoid the possibility that a winner of multiple blocks in the clock phase could be assigned non-contiguous blocks in the assignment phase if there were only a single bidding category.<sup>397</sup> Another commenter advocated for a single bidding category for all blocks for the purpose of increasing bidding flexibility—noting that price disparities may arise between blocks in the two categories if bidders cannot freely switch between categories<sup>398</sup>—and for the purpose of making the bidding process more manageable.<sup>399</sup> Moreover, that commenter pointed out the risk that, absent provisions for “all-or-nothing bids,” a bidder trying to move two units of demand from the U category to the L category could find itself with a single block in each category, resulting in a non-contiguous assignment.<sup>400</sup>

217. We are not persuaded that, on balance, the benefits of a single category would outweigh the benefits of the approach we adopt. The upper and lower segments of the 24 GHz band are separated spectrally and offer various possibilities for aggregation of multiple contiguous blocks, which may cause bidders to value them differently. In such cases, price disparities across the two segments of the band are appropriate and may facilitate contiguous assignments within those segments. While the bidding procedures we adopt here do not provide bidders full bidding flexibility across the band,<sup>401</sup> the bid option

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<sup>394</sup> The *Auction 102 Clock Phase Technical Guide* details the adopted procedures for the clock phase of Auction 102. The *Auction 102 Assignment Phase Technical Guide* details the adopted procedures for the assignment phase. See *Technical Guides on Proposed Bidding Procedures for Auction 102 (24 GHz)*, Public Notice, DA 18-386 (WTB Apr. 17, 2018).

<sup>395</sup> See *Auctions 101 and 102 Comment Public Notice* at 25, para. 85 (noting the 300-megahertz separation between the two segments of the band).

<sup>396</sup> See *id.*

<sup>397</sup> AT&T Comments at 5 (arguing that “the 24 GHz band should be split into two sub-bands as auction products” because if only a single category is used and two bidders each bid for three licenses with the intent of operating an aggregated 300 megahertz channel, channel contiguity can be honored for only one of the two bidders since a 300-megahertz channel can only be accommodated in the upper 24 GHz band and two 300-megahertz channels cannot be both placed in the upper band). *But see* US Cellular Reply at 7-8 (noting that “even with separate categories for the lower and upper segments, two bidders could not both acquire three contiguous blocks”).

<sup>398</sup> US Cellular Comments at 2, 8 (referencing the price disparity that occurred between the reserved and unreserved spectrum in the incentive auction).

<sup>399</sup> See *id.* at 10-11; US Cellular Reply at 7.

<sup>400</sup> US Cellular Comments at 8-9, 11-12; US Cellular Reply at 6-7, 8.

<sup>401</sup> We note that US Cellular's proposed solution of permitting bidders to submit “all-or-nothing” bids if the Commission adopts separate categories for the lower and upper segments of the 24 GHz band would not resolve the issues they describe. See US Cellular Comments at 11-12 (explaining that “all-or-nothing bids” would eliminate the risk that a partially applied switch bid causes a bidder seeking to transfer its demand for two blocks from one

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procedures we adopt below appropriately balance bidder flexibility with manageability and transparency. Therefore, in each round of the clock phase, a bidder will have the opportunity to bid for up to two blocks of spectrum in Category L and for up to five blocks in Category U, in each PEA without an incumbent licensee.

218. Regarding PEAs with an incumbent licensee, the *Auctions 101 and 102 Comment Public Notice* proposed to include one or two additional bidding categories to accommodate any blocks with reduced bandwidth due to existing licenses.<sup>402</sup> M&M's holdings, as the only incumbent in the 24 GHz band, currently are configured as 40 megahertz in block 2 and 40 megahertz in block 7 in each of nine PEAs.<sup>403</sup> M&M has pending applications to modify its holdings in these nine PEAs that, if granted, would change the number of unencumbered 24 GHz blocks available in Auction 102.<sup>404</sup> As noted above, we delegate authority to the Wireless Telecommunications Bureau, once the Bureau acts on these applications, to adjust the categories of generic blocks that will be available in Auction 102, to the extent necessary, and to provide public notice of any such adjustment. Under M&M's current license configuration, in the nine PEAs referenced above, we would auction 60 megahertz in block 2 and 60 megahertz in block 7, resulting in one additional category in the lower band and one additional category in the upper band, for a total of four categories. Alternatively, if M&M's proposed license modification is granted, we would auction the remaining 75 megahertz in PEA 75 - Albuquerque, NM, resulting in one additional category in the upper band, for a total of three categories. Under either scenario, because of the significant difference in bandwidth and in the interest of making as much spectrum as possible available in the 24 GHz band in Auction 102, we choose to offer a reduced-bandwidth block or blocks in the auction.<sup>405</sup>

219. Bidding in the auction will determine a single final clock phase price for the generic blocks in each category in each PEA.<sup>406</sup>

### c. Auction Bidding System

220. As is standard practice for FCC auctions, the Commission will conduct Auction 102 over the Internet using the FCC auction bidding system.<sup>407</sup> Bidders will also have the option of placing bids by telephone through a dedicated auction bidder line. There will be no on-site bidding during Auction 102. Please note that telephonic bid assistants are required to use a script when entering bids placed by telephone. Telephonic bidders are therefore reminded to allow sufficient time to bid by placing their calls well in advance of the close of a round. The length of a call to place a telephonic bid may vary; please

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category to another to end up with one license in each category). In Section IV.B.2.d (Changing Demand, Bid Types, and Bid Processing), we address in more detail the issue of all-or-nothing bids in the context of US Cellular's comments.

<sup>402</sup> *Auctions 101 and 102 Comment Public Notice* at 25, para. 85.

<sup>403</sup> The nine PEAs are: PEA 15 - Phoenix, AZ; PEA 26 - Las Vegas, NV; PEA 75 - Albuquerque, NM; PEA 76 - Reno, NV; PEA 126 - Casa Grande, AZ; PEA 229 - Saint George, UT; PEA 285 - Gallup, NM; PEA 323 - Socorro, NM; and PEA 375 - Deming, NM.

<sup>404</sup> In those applications [and a subsequent amendment], M&M requests the following modifications: (1) increase holdings to 100 megahertz (all in block 7) in PEA 15 - Phoenix, AZ, PEA 26 - Las Vegas, NV, and PEA 76 - Reno, NV; (2) reduce holdings to 25 megahertz in PEA 75 - Albuquerque, NM; and (3) relinquish all spectrum holdings in PEA 126 - Casa Grande, AZ, PEA 229 - Saint George, UT, PEA 285 - Gallup, NM, PEA 323 - Socorro, NM, and PEA 375 - Deming, NM.

<sup>405</sup> CCS advocated for not including any blocks with less than 100 megahertz of bandwidth because such blocks would be impractical for delivering sufficient capacity and service. CCS Comments at 7-8.

<sup>406</sup> *Auctions 101 and 102 Comment Public Notice* at 25, para. 86.

<sup>407</sup> *Id.* at 25, para. 89.

(continued...)

allow a minimum of ten minutes. The toll-free telephone number for the auction bidder line will be provided to qualified bidders prior to the start of bidding in the auction.<sup>408</sup>

221. In order to access the bidding function of the FCC auction bidding system, bidders must be logged in during the bidding round using the passcode generated by the SecurID<sup>®</sup> token and a personal identification number (“PIN”) created by the bidder. Bidders are strongly encouraged to print a *round summary* for each round after they have completed all of their activity for that round.

222. An Auction 102 bidder’s ability to bid on generic license blocks in specific PEAs is determined by two factors: (1) the PEA(s) selected on the bidder’s FCC Form 175; and (2) the bidder’s eligibility. The bid submission screens will allow bidders to submit bids only on generic license blocks in the PEA(s) the bidder selected on its FCC Form 175.

223. In the first round of the clock phase, eligible bidders will indicate how many blocks in a bidding category in a PEA it demands at the minimum opening bid price.<sup>409</sup> The bidding system will not accept bids lower than these amounts. In each subsequent round, eligible bidders will be able to express their demand for a given block in a specific PEA at the posted clock price, or at a price between the previous round’s posted price and the new clock price at which its demand for blocks in a category in a PEA changes.<sup>410</sup> For each block, the FCC auction bidding system will allow the bidder to enter the number of blocks it demands at the posted clock price, or to indicate a specific price and a quantity of blocks it demands if the price for blocks in the category in the PEA should increase beyond that price. The FCC auction bidding system also includes an *upload* function that allows text files containing bid information to be uploaded.

224. During each round of the clock phase, an eligible bidder may submit bids for as many available generic blocks in a PEA as it wishes (provided that it is eligible to bid on the blocks in the specific PEA(s)), maintain its processed demand for any blocks bid on in the previous round at the current round’s clock price, bid to change its demand for any blocks bid on in the previous round at a price associated with the round, remove bids placed in the current bidding round, or permanently reduce eligibility.<sup>411</sup> If multiple bids are submitted for the same generic license block in the same round, the system takes the last bid entered as that bidder’s bid for the round.

225. After the clock phase concludes but before bidding begins in the assignment phase, the auction system will provide to each assignment phase bidder a menu of bidding options consisting of possible configurations of frequency-specific licenses on which it can bid in each category in each PEA in which it holds winning clock phase bids. A bidder can assign a price using a sealed bid to one or more possible frequency assignments for which it wishes to express a preference, consistent with its winning bids for generic blocks in the clock phase.<sup>412</sup> Participation in the assignment phase is voluntary.

#### **d. Stopping Rule**

226. As proposed, we adopt a simultaneous stopping rule for the clock phase of Auction

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<sup>408</sup> See CCS Comments at 8 (supporting the Commission’s proposal to allow bidding via phone or internet).

<sup>409</sup> A bidder must have sufficient eligibility to place a bid on the particular license block(s). See Section III.F.2 (Upfront Payments and Bidding Eligibility), above. Under our adopted auction procedures, bidders in Auction 102 may place bids only on individual license blocks in a category in a PEA—they will not be permitted to place any package bids (i.e., bids for multiple blocks in a “package”). See US Cellular Comments at 12.

<sup>410</sup> See Section IV.B.2.c (Acceptable Bid Amounts), below.

<sup>411</sup> See Section IV.B.2.d (Changing Demand, Bid Types, and Bid Processing), below.

<sup>412</sup> See Section IV.B.3.b (Acceptable Bids and Bid Processing), below.

(continued...)

102,<sup>413</sup> under which all categories of licenses in all PEAs will remain available for bidding until the bidding stops on every category.<sup>414</sup> Specifically, the clock phase of bidding will close for all categories of blocks after the first round in which there is no excess demand in any category in any PEA. Bidding will remain open on all categories of licenses in all PEAs until bidding stops on every category. Consequently, it is not possible to determine in advance how long the bidding in Auction 102 will last.

227. The assignment phase of Auction 102 will close after frequency-specific licenses in all PEAs have been assigned.

**e. Availability of Bidding Information**

228. As discussed above,<sup>415</sup> we will make public after each round of the clock phase of Auction 102, for each bidding category in each PEA: the supply; the aggregate demand; the posted price of the last completed round;<sup>416</sup> and the clock price for the next round. The identities of bidders demanding blocks in a specific category or PEA will not be disclosed until after Auction 102 concludes (i.e., after the close of bidding in the assignment phase).<sup>417</sup>

229. Each bidder will 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 will advise each bidder of the number of blocks it holds after the round (its processed demand) for every category and PEA, and of its eligibility for the next round.

230. 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 bidding across all 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.

231. After the clock phase concludes but before bidding begins in the assignment phase, the auction system will provide to each assignment phase bidder a menu of bidding options consisting of possible configurations of frequency-specific licenses on which it can bid in each category in each PEA in which it holds winning clock phase bids. These bidding options will be consistent with the bidder's clock phase winnings. The bidding system will also announce the order in which assignment rounds will take place and indicate which PEAs will be grouped together for bidding. The bidding system will provide clock phase winning bidders with this information as soon as possible and will announce a schedule of assignment phase rounds that will commence no less than five business days later.

232. After each assignment round, the bidding system will advise each bidder of its own assignment and assignment payment for each PEA or PEA group assigned in the round. The bidding system will also provide each bidder with its cumulative current assignment phase payment (gross and net) for the PEAs for which an assignment round has already completed, as well as its corresponding capped and uncapped bidding credit discounts. Similar information will be provided for the bidder's total payment. This information will provide the bidder a running estimate during the assignment rounds of

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<sup>413</sup> See *Auctions 101 and 102 Comment Public Notice* at 26, para. 91.

<sup>414</sup> See *CCS Comments* at 8 (agreeing with the Commission's proposal for a simultaneous round stopping rule).

<sup>415</sup> See Section II.G (Information Procedures During the Auction Process), above.

<sup>416</sup> The posted price of the previous round is, generally: the opening 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 *Auction 102 Clock Phase Technical Guide*, Section 7.4 for more details.

<sup>417</sup> See *Auctions 101 and 102 Comment Public Notice* at 7, para. 16; see also Section II.G (Information Procedures During the Auction Process), above.

(continued...)

the dollar amount it will owe at the end of the auction.

**f. Auction Delay, Suspension, or Cancellation**

233. We adopt the Commission's proposal that at any time before or during the bidding process, the Bureau may delay, suspend, or cancel bidding in Auction 102 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.<sup>418</sup> This approach has proven effective in resolving exigent circumstances in previous auctions and we find no reasons to depart from it here. The Bureau will 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, the Bureau may, in its sole discretion, elect to resume the auction starting from the beginning of the current round or from some previous round, or cancel the auction in its entirety. We emphasize that the Bureau will exercise this authority solely at its discretion.

**2. Clock Phase Bid Collection and Bid Processing Procedures**

**a. Round Structure**

234. We adopt the Commission's proposal to conduct the clock phase of Auction 102 in a series of rounds, with bidding being conducted simultaneously for all spectrum blocks available in the auction.<sup>419</sup> During the clock phase, the Bureau will announce clock prices for blocks in each category in each geographic area, and qualified bidders will submit quantity bids for the number of blocks they seek. Bidding rounds will be open for predetermined periods of time, during which bidders will indicate their demands for blocks at the prices associated with the current round. The round's clock price is the highest price associated with the round. The lowest price associated with a round is the posted price of the previous round. As in SMR auctions, bidders will be subject to activity and eligibility rules that govern the pace at which they participate in the auction.

235. Under our adopted approach, in each geographic area, the clock price for a category of generic blocks will increase from round to round if bidders indicate aggregate demand that exceeds the number of blocks available in the category.<sup>420</sup> The clock rounds will continue until, for all categories of blocks in all geographic areas, the number of blocks demanded does not exceed the supply of available blocks. At that point, those bidders indicating demand for a block in a category at the final clock phase price will be deemed winning bidders.

236. The initial bidding schedule will be announced in a public notice to be released at least one week before the start of bidding.<sup>421</sup> We also adopt the Commission's proposal that the Bureau retain the discretion to change 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.<sup>422</sup> Accordingly, the Bureau may change the amount of time for bidding rounds, the amount of time between rounds, or the

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<sup>418</sup> See *Auctions 101 and 102 Comment Public Notice* at 26, para. 92; 47 CFR § 1.2104(i); see also CCS Comments at 8 (agreeing with this proposal).

<sup>419</sup> See *id.* at 24, para. 81; CCS Comments at 8 (supporting the Commission's proposal to conduct sequential bidding rounds in Auction 102).

<sup>420</sup> See *Auctions 101 and 102 Comment Public Notice* at 24, para. 81.

<sup>421</sup> See *id.* at 25, para. 88; CCS Comments at 8 (agreeing with the proposal to release the bidding schedule a week before the bidding).

<sup>422</sup> See *Auctions 101 and 102 Comment Public Notice* at 25, para. 90.

(continued...)

numbers of rounds per day, depending upon bidding activity and other factors.<sup>423</sup>

**b. Eligibility and Activity Rule**

237. We adopt the Commission's proposal that bidders be required to maintain a minimum, high level of activity in each clock round in order to maintain bidding eligibility, which will help ensure that the auction moves quickly and promote a sound price discovery process. We will set the activity requirement between 92 and 97 percent of a bidder's bidding eligibility in all clock rounds, as proposed.<sup>424</sup> Further, we will set the initial activity requirement at 95 percent. Failure to maintain the requisite activity level will result in a reduction in the bidder's eligibility, possibly curtailing or eliminating the bidder's ability to place additional bids in the auction.

238. As set forth above, the Commission will use upfront payments to determine initial (maximum) eligibility in terms of bidding units. Each spectrum block in a PEA will be assigned a specific number of bidding units based on the number of weighted-pops in the PEA. To facilitate bidding across license categories, each block available in a PEA will have the same number of bidding units. Therefore, a bidder's upfront payment will determine the maximum number of blocks as measured by their associated bidding units that a bidder can demand at the start of the auction.

239. Generally, the activity rule will be satisfied when a bidder has bidding activity on blocks with bidding units that total at least 95 percent of its eligibility in the round. If the activity rule is met, then the bidder's eligibility will not change in the next round. Bidding eligibility will be reduced as the auction progresses if a bidder does not meet the activity requirement.

240. For this clock auction, a bidder's activity in a round for purposes of the activity rule will be the sum of the bidding units associated with the bidder's processed demands. For instance, if a bidder requests a reduction in the quantity of blocks it demands in a category, but the FCC auction bidding system does not accept the request because demand for the category would fall below the available supply, the bidder's activity will reflect its unreduced demand.<sup>425</sup>

241. The Bureau will retain the discretion to change the activity requirement before and/or during the auction within the 92–97 percent range, as circumstances warrant. Any changes to the activity requirement will be announced in advance via the auction system, giving bidders sufficient notice to adjust their bidding strategies if needed.<sup>426</sup>

242. We point out that under our proposed clock auction, 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 category. If these requests are applied, or applied partially, a bidder's bidding activity, and hence its bidding eligibility for the next round, will be reduced.

243. We will not provide for activity rule waivers to preserve a bidder's eligibility in the event that its bidding activity does not meet the activity requirement in a round. Allowing waivers would create uncertainty with respect to the exact level of bidder demand, interfering 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 FCC auction bidding system, as discussed

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<sup>423</sup> See *id.* at 25-26, para. 90; CCS Comments at 8 (supporting this proposal).

<sup>424</sup> See CCS Comments at 9 (supporting the Commission's proposal).

<sup>425</sup> See Section IV.B.2.d (Changing Demands, Bid Types, and Bid Processing), below.

<sup>426</sup> We acknowledge the comments of US Cellular that bidders may need more time to adjust their bidding strategies in order to maintain their bidding eligibility before the first round following an increase to the activity requirement. See US Cellular Comments at 2, 13-15.

(continued...)

below.<sup>427</sup>

**c. Acceptable Bid Amounts**

**(i) Reserve Price or Minimum Opening Bids**

244. We adopt the proposal to establish minimum opening bid amounts for Auction 102.<sup>428</sup> In Round 1 of the clock phase, a bidder will indicate how many blocks in a bidding category in a PEA it demands at the minimum opening bid price. The bidding system will not accept bids lower than these amounts.

245. We will calculate minimum opening bid amounts using a formula based on bandwidth and license area population, similar to our approach in Auction 101 and in many previous spectrum auctions. Several commenters address the proposed minimum opening bid amounts.<sup>429</sup> We are persuaded by the proposal of one commenter to adopt a tiered approach, under which minimum opening bid amounts will vary by market population.<sup>430</sup> For PEAs 1–50, minimum opening bid amounts are based on \$0.002 per MHz/pop; for PEAs 51–100, upfront payments are based on \$0.0004 per MHz/pop; and for all other PEAs, upfront payments are based on \$0.0002 per MHz/pop. As with upfront payments, we conclude that calculating minimum opening bid amounts using these tiers and per MHz/pop dollar amounts is consistent with our experience in past auctions that the top PEAs by population are generally subject to the greatest level of demand and account for a substantial fraction of total auction revenues.<sup>431</sup> Thus, we expect that this tiered approach, which reduces minimum opening bid amounts for less densely-populated markets, will encourage auction participation, particularly in rural areas, without unduly prolonging the competitive bidding process.<sup>432</sup> A summary of the minimum opening bid amounts is set forth in Attachment A of this Public Notice. The specific minimum opening bid amount for each license offered in Auction 102 will be provided in electronic format only, available as a separate “Attachment A” file at [www.fcc.gov/auction/102](http://www.fcc.gov/auction/102).<sup>433</sup>

**(ii) Clock Price Increments**

246. As proposed,<sup>434</sup> after bidding in the first round and before each later round, the FCC bidding system will announce a clock price for the next round, which is the highest price to which bidders can respond during the round. For each round, we will set the clock price for each category in each PEA

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<sup>427</sup> See Section V.B.9 (Changing Demands, Bid Types, and Bid Processing), below.

<sup>428</sup> See *Auctions 101 and 102 Comment Public Notice* at 28-29, para. 103.

<sup>429</sup> Blooston and CCS support the proposed minimum opening bids. See Blooston Comments at 4; CCS Comments at 9. CCA, US Cellular, and T-Mobile assert that the amounts are too high. See T-Mobile Comments at 3, 13; CCA Comments at 6; US Cellular Reply at 8. T-Mobile suggests the tiered approach that we adopt, which US Cellular supports. See T-Mobile Comments at 15; US Cellular Reply at 9-10.

<sup>430</sup> See T-Mobile Comments at 15. The commenter expressed concern that the Commission’s proposed minimum bid amounts may be excessive given the lack of reliable market data on mmW transactions. *Id.* at 3, 13.

<sup>431</sup> See *Auction 1000 Comment Public Notice*, 29 FCC Rcd at 15770, para. 51.

<sup>432</sup> See US Cellular Reply at 9 (agreeing with T-Mobile that reducing minimum opening bid amounts would expand auction participation, encourage spectrum acquisition in rural areas, and allow for price discovery during the auctions); see also *Auctions 101 and 102 Comment Public Notice* at 28, para. 103.

<sup>433</sup> The results of these calculations are subject to a minimum of \$200 and will be rounded. See note 315 (concerning rounding), above.

<sup>434</sup> See *Auctions 101 and 102 Comment Public Notice* at 29, para. 107; accord CCS Comments at 9 (supporting the Commission’s proposal).

(continued...)

by adding a fixed percentage increment to the posted price for the previous round.<sup>435</sup> As long as aggregate demand for blocks in a category exceeds the supply of blocks, the percentage increment will be added to the clock price from the prior round. If demand equaled supply at an intra-round bid price in a previous round, then the clock price for the next round will be set by adding the percentage increment to the intra-round bid price.

247. We will set the initial increment at ten (10) percent, within the range of five-to-fifteen percent that we proposed and now adopt.<sup>436</sup> We may adjust the increment as rounds continue. The five-to-fifteen percent increment range will allow the FCC to set a percentage that manages the auction pace, taking into account bidders' needs to evaluate their bidding strategies while moving the auction along quickly.<sup>437</sup> Increments may be changed during the auction on a PEA-by-PEA or category-by-category basis based on bidding activity to ensure that the system can offer appropriate price choices to bidders.<sup>438</sup>

### (iii) Intra-Round Bids

248. We adopt our proposal to permit a bidder to make intra-round bids by indicating a price between the previous round's posted price and the new clock price at which its demand for blocks in a category in a PEA changes.<sup>439</sup> In placing an intra-round bid, a bidder will indicate a specific price and a quantity of blocks it demands if the price for blocks in the category in the PEA should increase beyond that price.<sup>440</sup>

249. Intra-round bids are optional; a bidder may choose to express its demands only at the clock prices.<sup>441</sup>

250. Intra-round bidding allows the auction system to use relatively large clock increments, thereby speeding the clock phase, 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.<sup>442</sup>

### (iv) Bid Removal and Bid Withdrawal

251. In the *Auctions 101 and 102 Comment Public Notice*, the Commission addressed bid removal procedures in the FCC auction bidding system.<sup>443</sup> The FCC auction bidding system allows a bidder to remove any of the bids it placed in a round before the close of that round.<sup>444</sup> By removing a bid placed within a round, a bidder effectively “unsubmits” the bid. A bidder removing a bid placed in the same round is not subject to withdrawal payments. Removing a bid will affect a bidder's activity because a removed bid no longer counts toward bidding activity for the round. Once a round closes, a bidder may

<sup>435</sup> For example, if the posted price for the first round is \$100, and the price increment is 10 percent, the clock price for the second round will be \$110.

<sup>436</sup> *See id.* at 29, para. 108.

<sup>437</sup> *Id.*

<sup>438</sup> *Id.*

<sup>439</sup> *See id.* at 29, para. 109.

<sup>440</sup> For example, consider a round where the clock price increases from \$100 to \$110. A bidder indicated in the previous round that it demanded 3 blocks at \$100, but its demand changes from 3 blocks to 2 blocks when the price increases beyond \$105 and up to \$110. To indicate that preference, the bidder should submit an intra-round bid for 2 blocks at a price of \$105.

<sup>441</sup> *Auctions 101 and 102 Comment Public Notice* at 30, para. 110.

<sup>442</sup> *Id.*

<sup>443</sup> *Id.* at 32, paras. 124-25.

<sup>444</sup> *See CCS Comments* at 7.

(continued...)

no longer remove a bid.

252. Bid withdrawals, analogous to withdrawals of provisionally winning bids in an SMR auction, are not available in Auction 102. However, below we set forth procedures such that bidders in Auction 102 may request to reduce demand for generic blocks in a bidding category.<sup>445</sup>

**(v) No Bidding Aggregation**

253. As proposed, we do not adopt any package bidding procedures for the clock phase of Auction 102.<sup>446</sup> A bidder may bid for multiple blocks in a bidding category in a PEA and may submit bids for multiple PEAs. As set forth below, under the procedures we adopt for the assignment phase, 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.

**d. Changing Demand, Bid Types, and Bid Processing**

254. Under the ascending clock procedures we adopt, for each category in each PEA, a bidder can either bid to maintain its processed demand from the previous round at the current round's clock price or bid to change its demand at a price associated with the round.<sup>447</sup> A bid to change demand could involve either a decrease or an increase in the demanded quantity.

255. Bids to maintain demand are always applied during bid processing. However, if a bidder demands fewer blocks in a category than its processed demand from the previous round, the bidding system will treat the bid as a request to reduce demand that will be implemented only if aggregate demand would not fall below the available supply of blocks in the category. If a bidder demands more blocks in a category than its processed demand from the previous round, the bidding system will treat the bid as a request to increase demand that will be implemented only if that would not cause the bidder's activity to exceed its eligibility.

256. The bidding system will process bids after a round ends in order of price point, where the price point represents the percentage of the bidding interval for the round.<sup>448</sup> Specifically, once a round ends, the bidding system will process bids 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 will consider bids at the lowest price point for all categories in all PEAs, then look at bids at the next price point, and so on. In processing the bids submitted in the round, the FCC auction bidding system will determine the extent to which there is excess demand for each category in each PEA in order to determine whether a bidder's requested reduction(s) in demand can be implemented. In processing the bids submitted in the round, the FCC auction bidding system will also determine the bidding units associated with a bidder's most recent processed demand in order to determine whether the bidder's requested increase(s) in demand can be implemented.

257. For a given category in a given PEA, the uniform price for all of the blocks in the category will stop increasing when aggregate demand no longer exceeds the available supply of blocks in

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<sup>445</sup> See Section IV.B.2.d (Changing Demand, Bid Types, and Bid Processing), below (discussing how the system will process requests to reduce demand).

<sup>446</sup> See *Auctions 101 and 102 Comment Public Notice* at 31-32, para. 121; see also US Cellular Comments at 12 (supporting the Commission's proposal not to incorporate any package bidding procedures into Auction 102 given "the additional complexity such procedures would introduce into the auction").

<sup>447</sup> See *Auctions 101 and 102 Comment Public Notice* at 30-31, paras. 111-20.

<sup>448</sup> For example, if the posted price for the previous round is \$5,000 and the clock price of the current round is \$6,000, a price of \$5,100 will correspond to the 10 percent price point, since it is 10 percent of the bidding interval between \$5,000 and \$6,000.

(continued...)

the category. If no further bids are placed, the final clock phase price for the category will be the stopped price.<sup>449</sup>

258. In order to facilitate bidding for multiple blocks in a PEA, bidders will be permitted to make two types of bids: simple bids and switch bids.<sup>450</sup>

- A “simple” bid indicates a desired quantity of licenses in a category at a price (either the clock price or an intra-round price). Simple bids may be applied partially. A simple bid that involves a reduction from the bidder’s previous demands may be implemented partially if aggregate excess demand is insufficient to support the entire reduction. A simple bid to increase a bidder’s demands in a category may 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.
- A “switch” bid allows the bidder to request to move its demand for a quantity of licenses from the L category to the U category, or vice versa, within the same PEA.<sup>451</sup> 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.

259. These bid types will allow bidders to express their demand for blocks in the next clock round without running the risk that they will be forced to purchase more spectrum at a higher price than they wish. When a bid to reduce demand can be applied only partially, the uniform price for the category will stop increasing at that point, since the partial application of the bid results in demand falling to equal supply. Hence, a bidder that makes a simple bid or a switch bid that cannot be fully applied will not face a price for the remaining demand that is higher than its bid price.

260. A commenter urges us also to permit “all-or-nothing” bids, which would not be applied partially as simple and switch bids may be, if we adopt more than one bidding category of generic blocks, as we do.<sup>452</sup> The commenter notes that, absent all-or-nothing bids, a bidder seeking to switch two blocks of demand from one category to another may end up with a single block in each category.<sup>453</sup> We decline to provide for all-or-nothing bids because we find that the additional bidding and bid processing complexity involved in doing so would outweigh the limited additional benefit to bidders. Furthermore, all-or-nothing bids would not necessarily prevent the scenario described by the commenter. The bidder could submit an all-or-nothing bid to reduce its demand by two blocks in Category U and another all-or-nothing bid to increase its demand by two blocks in Category L, but the two bids would not be linked. That is, the bidding system would not apply the increase only if the reduction were applied or vice versa; depending upon other circumstances, the bidder could end up with two blocks in each of the two categories or with no blocks in either category.<sup>454</sup> However, we conclude that the two bid types we adopt

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<sup>449</sup> This and other Auction 102 bid processing details are addressed in the *Auction 102 Clock Phase Technical Guide*.

<sup>450</sup> See *Auctions 101 and 102 Comment Public Notice* at 30-31, para. 116.

<sup>451</sup> Switch bids may not be made between Category U or L and a category that includes an encumbered block. See paragraph 217, above (discussing potential categories of encumbered blocks).

<sup>452</sup> US Cellular Comments at 11.

<sup>453</sup> *Id.* at 11-12.

<sup>454</sup> For example, if the bidder had sufficient eligibility to increase by two blocks in the L category but aggregate demand was insufficient to permit the reduction in U, the bidder would have two blocks in each category. On the other hand, if the bidder lacked free eligibility for two blocks of Category L (e.g., due to an increase applied elsewhere) but the reduction in U could be applied, the bidder would not have any blocks.

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give a bidder sufficient bidding flexibility to pursue a reasonable bidding strategy without additionally complicating the auction.<sup>455</sup>

261. Because in any given round some bidders may increase demands for licenses in a category while others may request reductions, the price point at which a bid is considered by the bidding system can affect whether it is accepted. However, bids not accepted because of insufficient aggregate demand or insufficient eligibility at a given price point will be held in a queue and considered, again in order, if there should be excess supply or sufficient eligibility later in the processing after other bids are processed.

262. More specifically, under the procedures we adopt, once a round closes, the auction system will process the bids by first considering the bid submitted at the lowest price point and determine whether it can be accepted given aggregate demand as determined most recently and given the associated bidder's eligibility. If the bid can be accepted, or partially accepted, the number of licenses the bidder demands will be adjusted, and aggregate demand will be recalculated accordingly. If the bid cannot be accepted in part or in full, the unfulfilled bid, or portion thereof, will be held in a queue to be considered later during bid processing for that round. The FCC auction bidding system will then consider the bid submitted at the next highest price point, accepting it in full, in part, or not at all, given recalculated aggregate demand and given the associated bidder's eligibility. Any unfulfilled requests will again be held in a queue, and aggregate demand will again be recalculated. Every time a bid or part of a bid is accepted and aggregate demand has been recalculated, the unfulfilled bids held in queue will be reconsidered, in the order of their original price points (and by pseudo-random number, in the case of tied price points). The auction bidding system will not carry over unfulfilled bid requests to the next round, however. The bidding system will advise bidders of the status of their bids when round results are released.

263. After the bids are processed in each round, the FCC auction bidding system will announce, for each bidding category in each PEA: the aggregate demand; the posted price; and the clock price for the next round, to indicate a range of acceptable bids for the next round. If demand fell to equal supply during the round, the posted price will be equal to the intra-round price at which that occurred.<sup>456</sup> Each bidder will also be informed of its own processed demand for every category and PEA, and of its own eligibility for the next round.

**e. Winning Bids in the Clock Phase**

264. Bidders that hold processed demand in a category in a PEA at the time the stopping rule is met will become winning bidders, and will be assigned frequency-specific licenses in the assignment phase.

265. The final clock phase price is the posted price of the final round. This will be the price at which a reduction caused demand for the blocks to equal the supply of blocks in the category in the PEA. For categories in PEAs where supply exceeds demand, the final clock phase price will be the opening price.

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<sup>455</sup> In Auction 1002, the forward auction of the Broadcast Incentive Auction, all-or-nothing bids were available but were used extremely infrequently.

<sup>456</sup> As discussed above, if there is excess demand, a fixed percentage increment will be added to the clock price for the previous round, and this percentage increment will be the same for all categories in all PEAs. However, if in the round, an intra-round bid brings demand down to the point at which it is equal to supply, the clock increment will be added to that intra-round price. See Section IV.B.2.c.iii (Intra-Round Bids), above.

(continued...)

### 3. Assignment Phase Bid Collection and Bid Processing Procedures

266. As proposed, the assignment phase will determine which frequency-specific licenses will be won by the winning bidders of generic blocks during the clock phase.<sup>457</sup> In the assignment phase, winning bidders will have the opportunity to bid for preferred combinations of frequency-specific licenses. A bidder can assign a price using a sealed bid to one or more possible frequency assignments for which it wishes to express a preference, consistent with its winning bids for generic blocks in the clock phase.<sup>458</sup> The bid prices will represent the maximum payment that the bidder is willing to pay for the frequency-specific license assignment, in addition to the final price established in the clock phase for the generic blocks. The procedures we adopt will determine the optimal assignment of licenses within each PEA based on bid amounts in the assignment phase.<sup>459</sup>

267. Participation in the assignment phase is voluntary: a winning bidder in the clock phase of Auction 102 need not participate in order to be assigned a number of licenses corresponding to the outcome of the clock phase. Moreover, a bidder that wins multiple blocks in a category in a PEA will be assigned contiguous blocks of licenses, even without participating in the assignment phase.<sup>460</sup>

#### a. Round Structure: Sequencing and Grouping of Rounds

268. *Sequencing of rounds.* We adopt the proposal to conduct assignment rounds for the largest markets first.<sup>461</sup> This sequencing will enable bidders to establish a “footprint,” making it easier for a bidder to incorporate frequency assignments from previously-assigned areas into its bid preferences for other areas, and recognizes that a bidder winning multiple blocks of licenses generally will prefer contiguous blocks across adjacent PEAs.

269. Specifically, we will conduct a separate assignment round for each of the top 40 PEAs and to conduct these assignment rounds sequentially, beginning with the largest PEAs. Once the top 40 PEAs have been assigned, we will conduct, for each Regional Economic Area Grouping (REAG), a series of assignment rounds for the remaining PEAs within that region. We will sequence the assignment rounds within a REAG in descending order of population for a PEA group or individual PEA.

270. *Grouping of PEAs.* To reduce the total amount of time required to complete the assignment phase, where feasible, we will group into a single market for assignment any non-top 40 PEAs within a region in which the supply of blocks is the same in each category, the same bidders won the same number of blocks in each category, and all are subject to the small markets bidding cap or all not subject to the cap, which will also help maximize contiguity across PEAs. Accordingly, in markets where

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<sup>457</sup> See *Auctions 101 and 102 Comment Public Notice* at 32, para. 126; accord CCS Comments at 9 (supporting the Commission’s proposal).

<sup>458</sup> For instance, if a bidder won two Category U blocks and one Category L block in the clock phase, then it will only be offered the option of bidding for frequency assignments with exactly two Category U licenses and for frequency assignments with exactly one Category U license. See Section IV.B.1.b (Generic Blocks and Bidding Categories), above.

<sup>459</sup> As a simple example, assume two bidders won one Category L block each in a given PEA in the clock phase, so each was presented with bidding options Block 1 and Block 2. One bidder bid 10 for Block 1 and 0 for Block 2, the other bidder bid 12 for Block 1 and 0 for Block 2 in the assignment phase. The auction system will assign Block 1 to the second bidder, and Block 2 to the first bidder.

<sup>460</sup> A winner of a block in a category that includes only a single block will not bid for an assignment in the assignment phase.

<sup>461</sup> See *Auctions 101 and 102 Comment Public Notice* at 32, para. 128; accord CCS Comments at 9 (supporting the Commission’s proposal).

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these criteria are met, a bidder will submit a single set of bids for assignment options that will apply to all the PEAs in the group and will be assigned the same frequency-specific licenses in each PEA.

271. In addition, to the extent practical, we will conduct the bidding for the different REAGs in parallel. That is, bidding for assignments in multiple PEAs or PEA groups will take place during the same timed bidding round. This will also help reduce the length of the assignment phase.

#### **b. Acceptable Bids and Bid Processing**

272. Under the procedures we adopt, prior to the start of the assignment phase, the bidding system will provide each bidder with bidding options for all possible contiguous frequency assignments for each category in each PEA in which the bidder won blocks in the clock phase. In each assignment round, a bidder will be asked to assign a price to one or more of the bidding options for which it wishes to express a preference, consistent with its winning bid(s) for generic blocks in the clock phase.<sup>462</sup> 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.

273. A bidder will submit its preferences for blocks it won in the upper and lower segments separately, rather than submitting bids for preferences that include blocks in both segments. That is, if a bidder won one block in the lower segment and two blocks in the upper segment, it would not be able to submit a single bid amount for an assignment that included all three blocks. Instead, it would submit its bid for an assignment in the lower segment separately from its bid or bids for assignments in the upper segment.

274. We will use an optimization approach to determine the winning frequency assignment for each category in each PEA or PEA group. We adopt procedures such that the auction system will select the assignment that maximizes the sum of bid amounts among all assignments where every bidder is assigned contiguous spectrum.<sup>463</sup>

275. Further, the additional price a bidder will pay for a specific frequency assignment (above the final clock phase 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 where every bidder is assigned contiguous spectrum.<sup>464</sup> This price will be less than or equal to the price the bidder indicated it was willing to pay for the assignment. Determining prices in this way encourages bidders 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.<sup>465</sup>

#### **c. Assignment Phase Payment Calculations**

276. When all assignment rounds have completed, a bidder’s final payment is determined by summing the final clock phase prices across all licenses that it won and its assignment payments across all assignment phase markets, and then applying any applicable bidding credit discounts to the sum.

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<sup>462</sup> The *Auction 102 Assignment Phase Technical Guide* provides mathematical details of this proposal.

<sup>463</sup> Furthermore, if multiple blocks in Category U in a PEA remain unsold, the unsold licenses will be contiguous.

<sup>464</sup> See the *Auction 102 Assignment Phase Technical Guide* for mathematical details.

<sup>465</sup> The pricing approach is a version of a Vickrey-Clarke-Groves mechanism. It is described in the *Auction 102 Assignment Phase Technical Guide*.

(continued...)

#### 4. Calculating Individual License Prices

277. While final auction payments for winning bidders will be calculated with bidding credit caps and assignment payments applied on an aggregate basis, rather than to individual licenses, the auction system will also calculate a per-license price for each license.<sup>466</sup> Such individual prices may be needed if a licensee later incurs license-specific obligations, such as unjust enrichment payments.

278. After the assignment phase, the auction system will determine a net and gross post-auction price for each license that was won by a bidder by apportioning assignment payments and bidding credit discounts (only applicable for the net price) across all the licenses that the bidder won. To calculate the gross per-license price, the auction system will apportion the assignment payment to licenses in proportion to the final clock phase price of the licenses that the bidder is assigned in that category and market. To calculate the net price, the auction system will first apportion any applicable bidding credit discounts to each category and assignment phase market in proportion to the gross payment for that category and that market. Then, for each assignment phase market, the auction system will apportion the assignment payment and the discount to licenses in proportion to the final clock phase price of the licenses that the bidder is assigned in that category for that market.

#### 5. Auction Results

279. The bidding system will determine winning bidders and their assigned licenses as described in Sections IV.B.2.e (Winning Bids in the Clock Phase) and IV.B.3 (Assignment Phase Bid Collection and Bid Processing Procedures), above. After the Bureau announces the auction results, it will provide a means for the public to view and download bidding and results data.

#### 6. Auction Announcements

280. The Commission and/or Bureau will use auction announcements to report necessary information to bidders, such as schedule changes. All auction announcements will be available by clicking a link in the FCC auction bidding system.

### V. POST-AUCTION PROCEDURES

281. Shortly after bidding has ended in each auction, the Commission will issue a public notice declaring that the respective auction closed and establishing the deadlines for submitting down payments, final payments, and the long-form applications (FCC Form 601) for the auction.

#### A. Down Payments

282. Within 10 business days after release of the auction closing public notices for Auctions 101 and 102, respectively, each winning bidder must submit sufficient funds (in addition to its upfront payment) to bring its total amount of money on deposit with the Commission for the applicable auction to 20 percent of the net amount of its winning bids (gross bids less any applicable bidding credits).<sup>467</sup>

#### B. Final Payments

283. Each winning bidder will be required to submit the balance of the net amount for each of its winning bids for each auction within 10 business days after the applicable deadline for submitting down payments.<sup>468</sup>

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<sup>466</sup> See *Auction 102 Assignment Phase Technical Guide* for details.

<sup>467</sup> 47 CFR § 1.2107(b).

<sup>468</sup> *Id.* § 1.2109(a); see *CSEA/Part 1 Report and Order*, 21 FCC Rcd at 907-09, paras. 43-46.

(continued...)

**C. Long-Form Application (FCC Form 601)**

284. The Commission's rules provide that, within 10 business days after release of the auction closing public notice for a particular auction (i.e., Auction 101 or Auction 102), winning bidders must electronically submit a properly completed post-auction application (FCC Form 601) for the license(s) they won through the auction.<sup>469</sup>

285. A winning bidder claiming eligibility for a small business bidding credit or a rural service provider bidding credit must demonstrate its eligibility in its FCC Form 601 post-auction application for the bidding credit sought.<sup>470</sup> Further instructions on these and other filing requirements will be provided to winning bidders in the auction closing public notices for Auctions 101 and 102, respectively.

286. Winning bidders organized as bidding consortia must comply with the FCC Form 601 post-auction application procedures set forth in Section 1.2107(g) of the Commission's rules.<sup>471</sup> Specifically, license(s) won by a consortium must be applied for as follows: (a) an individual member of the consortium or a new legal entity comprising two or more individual consortium members must file for licenses covered by the winning bids; (b) each member or group of members of a winning consortium seeking separate licenses will be required to file a separate FCC Form 601 for its/their respective license(s) in their legal business name; (c) in the case of a license to be partitioned or disaggregated, the member or group filing the applicable FCC Form 601 shall include the parties' partitioning or disaggregation agreement with the FCC Form 601; and (d) if a DE credit is sought (either small business or rural service provider), the applicant must meet the applicable eligibility requirements in the Commission's rules for the credit.<sup>472</sup>

**D. Ownership Disclosure Information Report (FCC Form 602)**

287. Within 10 business days after release of the auction closing public notices for Auctions 101 and 102, respectively, each winning bidder must also comply with the ownership reporting requirements in Sections 1.913, 1.919, and 1.2112 of the Commission's rules by submitting an ownership disclosure information report for wireless telecommunications services (FCC Form 602) with its FCC Form 601 post-auction application.<sup>473</sup>

288. If a winning bidder already has a complete and accurate FCC Form 602 on file in Universal Licensing System (ULS), it is not necessary to file a new report, but the winning bidder must certify in its FCC Form 601 application that the information on file with the Commission is complete and accurate. If the winning bidder does not have an FCC Form 602 on file, or if it is not complete and accurate, it must submit one.

289. When a winning bidder submits an FCC Form 175, ULS automatically creates an ownership record. This record is not an FCC Form 602, but may be used to pre-fill the FCC Form 602 with the ownership information submitted on the winning bidder's FCC Form 175 application. A winning bidder must review the pre-filled information and confirm that it is complete and accurate as of the filing date of the FCC Form 601 post-auction application before certifying and submitting the FCC

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<sup>469</sup> 47 CFR § 1.2107(c).

<sup>470</sup> *Id.* § 1.2112(b).

<sup>471</sup> *Id.* § 1.2107(g); *see also CSEA/Part 1 Report and Order*, 21 FCC Rcd at 911-12, paras. 51-52; *2015 Part 1 Report and Order*, 30 FCC Rcd at 7535, para. 101.

<sup>472</sup> 47 CFR § 1.2107(g); *see also id.* § 1.2110 (b)(4)(i), (c)(6); *2015 Part 1 Report and Order*, 30 FCC Rcd at 7535-36, 7574, 7583-86, paras. 101-03, 190, 214-26.

<sup>473</sup> 47 CFR §§ 1.913, 1.919, 1.2107(f), 1.2112.

(continued...)

Form 602. Further instructions will be provided to winning bidders in the auction closing public notices for Auctions 101 and 102, respectively.

#### **E. Tribal Lands Bidding Credit**

290. A winning bidder that intends to use its license(s) to deploy facilities and provide services to federally recognized tribal lands that are unserved by any telecommunications carrier or that have a wireline penetration rate equal to or below 85 percent is eligible to receive a tribal lands bidding credit as set forth in Sections 1.2107 and 1.2110(f) of the Commission's rules.<sup>474</sup> A tribal lands bidding credit is in addition to, and separate from, any other bidding credit for which a winning bidder may qualify.

291. Unlike other bidding credits that are requested prior to the auction, a winning bidder applies for the tribal lands bidding credit after the auction when it files its FCC Form 601 post-auction application. When initially filing the post-auction application, the winning bidder will be required to advise the Commission whether it intends to seek a tribal lands bidding credit, for each license won in the auction, by checking the designated box(es). After stating its intent to seek a tribal lands bidding credit, the winning bidder will have 180 days from the close of the post-auction application filing window to amend its application to select the specific tribal lands to be served and provide the required tribal government certifications. Licensees receiving a tribal lands bidding credit are subject to performance criteria as set forth in Section 1.2110(f)(3)(vii).<sup>475</sup> For additional information on the tribal lands bidding credit, including how the amount of the credit is calculated, applicants should review the Commission's rulemaking proceeding regarding tribal lands bidding credits and related public notices.<sup>476</sup>

#### **F. Default and Disqualification**

292. 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 a full and timely final payment, or is otherwise disqualified) is liable for default payments as described in Section 1.2104(g)(2).<sup>477</sup> 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.

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<sup>474</sup> *Id.* §§ 1.2107, 1.2110(f); *2016 Spectrum Frontiers Order*, 31 FCC Rcd at 8101, para. 253.

<sup>475</sup> *See* 47 CFR §§ 1.2110(f)(3)(ii)-(vii).

<sup>476</sup> *See generally* *Extending Wireless Telecommunications Services to Tribal Lands*, Report and Order and Further Notice of Proposed Rule Making, 15 FCC Rcd 11794 (2000); *Second Report and Order and Second Further Notice of Proposed Rulemaking*, 18 FCC Rcd 4775, 4778-79, para. 10 (2003); *Third Report and Order*, 19 FCC Rcd 17652 (2004); *see also* *Wireless Telecommunications Bureau Announces Enhancements to the Universal Licensing System to Help Winning Bidders of FCC Auctions File for Tribal Land Bidding Credits*, Public Notice, 16 FCC Rcd 5355 (2001); *Wireless Telecommunications Bureau Releases Additional Information Regarding the Procedures for Obtaining a Tribal Lands Bidding Credit and List of Tribal Lands*, Public Notice, 15 FCC Rcd 24838 (2000); *Wireless Telecommunications Bureau Announces Availability of Bidding Credits for Providing Wireless Services to Qualifying Tribal Lands: Tribal Lands Bidding Credits to be Available Beginning in Auction No. 36 (800 MHz Specialized Mobile Radio (SMR) Lower 80 Channels) and in Future Auctions*, Public Notice, 15 FCC Rcd 18351 (2000). Relevant documents can be viewed on the Commission's website by going to: <https://www.wireless.fcc.gov/auctions/> and clicking on the Tribal Lands Credits link.

<sup>477</sup> 47 CFR § 1.2104(g)(2).

(continued...)

293. The percentage of the applicable bid to be assessed as an additional payment for defaults in a particular auction is established in advance of the auction. We adopt the Commission's proposal to set the additional default payment for Auctions 101 and 102 at 15 percent of the applicable bid.<sup>478</sup>

294. 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,<sup>479</sup> since in both cases, a single amount may apply to multiple licenses.<sup>480</sup>

295. Finally, in the event of a default, the Commission has the discretion to re-auction the license or offer it to the next highest bidder (in descending order) at its final bid amount.<sup>481</sup> In addition, if a default or disqualification involves gross misconduct, misrepresentation, or bad faith by an applicant, the Commission may declare the applicant and its principals ineligible to bid in future auctions, and may take any other action that it deems necessary, including institution of proceedings to revoke any existing authorizations held by the applicant.<sup>482</sup>

#### **G. Refund of Remaining Upfront Payment Balance**

296. All refunds of upfront payment balances will be returned to the payer of record as identified on the FCC Form 159 unless the payer submits written authorization instructing otherwise.<sup>483</sup> Bidders are encouraged to use the **Refund Information** icon found on the *Auction Application Manager* page or the **Refund Form** link available on the *Auction Application Submit Confirmation* page in the FCC auction application system to access the form. After the required information is completed on the blank form, the form should be printed, signed, and submitted to the Commission by mail, fax, or email as instructed below.

297. If you have elected not to access the Refund Form through the Auction Application Manager page, the Commission is requesting that all information listed below be supplied in writing.

Name, address, contact and phone number of Bank  
ABA Number  
Account Number to Credit  
Name of Account Holder  
FCC Registration Number (FRN)

The refund request must be submitted by fax to the Revenue & Receivables Operations Group/Auctions at (202) 418-2843, by email to RROGWIREFAXES@fcc.gov, or by mail to:

Federal Communications Commission  
Financial Operations  
Revenue & Receivables Operations Group/Auctions  
Gail Glasser

<sup>478</sup> See *Auctions 101 and 102 Comment Public Notice* at 35, para. 138.

<sup>479</sup> See Section II.I.3 (Caps on Bidding Credits), above.

<sup>480</sup> For additional details, see Section 8 of the *Auction 102 Assignment Phase Technical Guide*.

<sup>481</sup> 47 CFR § 1.2109(b)-(c).

<sup>482</sup> *Id.* § 1.2109(d).

<sup>483</sup> Since the upfront payments for each auction will be deposited and maintained in separate accounts, we will not apply a bidder's refund of its upfront payment balance from Auction 101 to its upfront payment balance for Auction 102. See Charter Comments at 2-3.

(continued...)

445 12th Street, SW, Room 1-C864  
Washington, DC 20554

NOTE: Refund processing generally takes up to two weeks to complete. Bidders with questions about refunds should contact Gail Glasser at (202) 418-0578 or Theresa Meeks at (202) 418-2945.

## VI. SUPPLEMENTAL FINAL REGULATORY FLEXIBILITY ANALYSIS

298. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>484</sup> Initial Regulatory Flexibility Analyses were incorporated in the Notice of Proposed Rulemakings in the *Spectrum Frontiers Orders*<sup>485</sup> and other Commission orders pursuant to which Auctions 101 and 102 will be conducted.<sup>486</sup> A Supplemental Initial Regulatory Flexibility Analysis (Supplemental IRFA) was incorporated in the *Auctions 101 and 102 Comment Public Notice*.<sup>487</sup> The Commission sought written public comment on the proposals in NPRMs and the *Auctions 101 and 102 Comment Public Notice*, including comments on the *Spectrum Frontiers IRFAs* and the Supplemental IRFA. No comments were filed addressing the *Spectrum Frontiers IRFAs* or the Supplemental IRFA. Final Regulatory Flexibility Analyses (FRFAs) were also incorporated in the *Spectrum Frontiers Orders* pursuant to which Auctions 101 and 102 will be conducted.<sup>488</sup> This present Supplemental Final Regulatory Flexibility Analysis (Supplemental FRFA) supplements the *Spectrum Frontiers FRFAs* to reflect the actions taken in this Public Notice and conforms to the RFA.<sup>489</sup>

299. Need for, and Objectives of, the Public Notice. The *Auctions 101 and 102 Procedures Public Notice* implements competitive bidding rules adopted by the Commission in multiple notice-and-comment rulemaking proceedings,<sup>490</sup> as well as establishes additional procedures to be used by the Bureau, on delegated authority, for competitive bidding in Auctions 101 and 102 for 5,984 UMFUS licenses. The rules and procedures adopted for Auctions 101 and 102 seek to balance three goals: (1) promoting competition in the auction; (2) avoiding undue burdens on the applicants; and (3) assigning

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<sup>484</sup> 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

<sup>485</sup> *See generally* 2016 *Spectrum Frontiers FNPRM*; 2017 *Spectrum Frontiers FNPRM*; 2018 *Spectrum Frontiers FNPRM*.

<sup>486</sup> *See Use of Spectrum Bands Above 24 GHz For Mobile Radio Services et al.*, Notice of Proposed Rulemaking, Appx. B, 30 FCC Rcd at 11997-12003 (2015); 2016 *Spectrum Frontiers FNPRM*, Appendix H, 31 FCC Rcd at 8262-69; 2017 *Spectrum Frontiers FNPRM*, Appx. F, 32 FCC Rcd at 11107-11; 2018 *Spectrum Frontiers FNPRM*, Appx. D, at 70-76 (June 8, 2018) (collectively, the *Spectrum Frontiers IRFAs*).

<sup>487</sup> *Auctions 101 and 102 Comment Public Notice* at 35-39, paras. 141-53. A summary of the *Auctions 101 and 102 Comment Public Notice* was published in the Federal Register at 83 Fed. Reg. 19660 (May 4, 2018).

<sup>488</sup> *See* 2016 *Spectrum Frontiers Order*, Appx. E, 31 FCC Rcd at 8234-42; 2017 *Spectrum Frontiers Order*, Appendices C, D, 32 FCC Rcd at 11087-96; 2018 *Spectrum Frontiers Order*, Appx. B, at 56-60 (collectively, the *Spectrum Frontiers FRFAs*).

<sup>489</sup> *See* 5 U.S.C. § 604.

<sup>490</sup> *See, e.g.*, 2015 *Part 1 Report and Order*, 30 FCC Rcd 7493; *Auction Procedures Consolidation Order*, 12 FCC Rcd 5686; *Part 1 Fifth Report and Order*, 15 FCC Rcd 15293; *Part 1 Seventh Report and Order*, 16 FCC Rcd 17546; *Part 1 Eighth Report and Order*, 17 FCC Rcd 2962; *Part 1 Second Recon of Third R&O/Recon of Fifth R&O*, 18 FCC Rcd 10180; *Part 1 Second Recon of Fifth R&O*, 20 FCC Rcd 1942; *see also Implementation of Section 309(j) of the Communications Act – Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses*, First Report and Order, 13 FCC Rcd 15920 (1998), *on recon.*, Memorandum Opinion and Order, 14 FCC Rcd 8724, *on further recon.*, Memorandum Opinion and Order, 14 FCC Rcd 12541 (1999); *Reexamination of the Comparative Standard for Noncommercial Educational Applicants*, Second Report and Order, 18 FCC Rcd 6691 (2003); Memorandum Opinion and Third Order on Reconsideration, 23 FCC Rcd 17423 (2008).

mmW band licenses as expeditiously as possible. More specifically, the *Auctions 101 and 102 Procedures Public Notice* provides an overview of the procedures, the auction dates and deadlines, requirements for participants, terms and conditions governing Auctions 101 and 102 and the post-auction application and payment processes, as well as setting the minimum opening bid amounts for each of the licenses offered in Auctions 101 and 102.

300. To promote the efficient and fair administration of the competitive bidding process for all Auction 101 and Auction 102 participants, the Commission in the *Auctions 101 and 102 Procedures Public Notice* adopted the following procedures:

- use of separate application and bidding processes for Auctions 101 and 102, including concurrent application filing windows;
- application of the current rules prohibiting certain communications among and between applicants in either auction;
- identification of AT&T, Sprint, T-Mobile and Verizon Wireless as “nationwide providers” for the purpose of implementing the Commission’s competitive bidding rules in Auctions 101 and 102;
- establishment of bidding credit caps for eligible small businesses and rural service providers in Auctions 101 and 102;
- use of a simultaneous multiple-round auction format for Auction 101, consisting of sequential bidding rounds with a simultaneous stopping rule (with discretion by the Bureau to exercise alternative stopping rules under certain circumstances);
- use of a clock auction format for Auction 102 under which each qualified bidder will indicate in successive clock bidding rounds its demands for categories of generic blocks in specific geographic areas;
- a specific minimum opening bid amount for each license available in Auction 101 and for generic blocks in each PEA available in Auction 102;
- a specific upfront payment amount for each license available in Auction 101 and for generic blocks in each PEA available in Auction 102;
- 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 license (Auction 101) or generic block (Auction 102);
- use of an activity rule that would require bidders to bid actively during the auction rather than waiting until late in the auction before participating;
- for Auction 101, a two-stage auction in which a bidder is required to be active on 80 percent of its bidding eligibility in each round of the first stage, and on 95 percent of its bidding eligibility in each round of the second stage;
- for Auction 102, a requirement that bidders be active on between 92 and 97 percent of their bidding eligibility in all regular clock rounds;
- for Auction 101, provision of three activity rule waivers for each bidder to allow it to preserve eligibility during the course of the auction;
- for Auction 101, use of minimum acceptable bid amounts and additional bid increments, along with a methodology for calculating such amounts, with the Bureau retaining discretion to change its methodology if circumstances dictate;

- for Auction 102, establishment of acceptable bid amounts, including clock price increments and intra-round bids, along with a methodology for calculating such amounts;
- for Auction 102, use of two bid types, along with a methodology for processing bids and requests to reduce demand;
- for Auction 101, a procedure for breaking ties if identical high bid amounts are submitted on a license in a given round;
- bid removal procedures;
- for Auction 101, provisions for bid withdrawals, including the establishment of an interim bid withdrawal percentage of 15 percent of the withdrawn bid;
- for Auction 102, prohibition of withdrawals;
- for Auction 102, 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 percent under Section 1.2104(g)(2) of the rules in the event that a winning bidder defaults or is disqualified after either auction.

301. Summary of Significant Issues Raised by Public Comments in Response to the IRFA.

There were no comments filed that addressed the procedures and policies proposed in the *Spectrum Frontiers IRFAs* or the Supplemental IFRA.

302. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comment filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed procedures as a result of those comments.<sup>491</sup>

303. The Chief Counsel did not file any comments in response to the proposed procedures in the *Auctions 101 and 102 Comment Public Notice*.

304. Description and Estimate of the Number of Small Entities to Which the Proposed Procedures 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 herein.<sup>492</sup> The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”<sup>493</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>494</sup> 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.<sup>495</sup>

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<sup>491</sup> 5 U.S.C. § 604(a)(3).

<sup>492</sup> 5 U.S.C. § 604(a)(3).

<sup>493</sup> 5 U.S.C. § 601(6).

<sup>494</sup> 5 U.S.C. § 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.”

<sup>495</sup> 15 U.S.C. § 632.

(continued...)

305. As noted above, FRFAs were incorporated into the *Spectrum Frontiers Orders*. 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 FRFAs in the *Spectrum Frontiers Orders*.<sup>496</sup>

306. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities. The Commission has 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. Eligibility to participate in bidding is based on an applicant's short-form application and certifications, as well as its upfront payment. The Public Notice provides instructions for each Auction 101 and 102 applicant to maintain the accuracy of its respective short-form application electronically using the FCC auction application system and/or by direct communication with the Auctions and Spectrum Access Division. More specifically, as mentioned above, small entities and other Auction 101 and Auction 102 applicants will be qualified to bid in the respective auction(s) only if they comply with the following: (1) submission of a separate short-form application for each auction in which they wish to participate that is timely and is found to be substantially complete, and (2) timely submission of a sufficient upfront payment for at least one of the licenses offered in Auctions 101 or 102, respectively. The timely submitted payment must be accompanied by a complete and accurate FCC Remittance Advice Form (FCC Form 159), and made by 6:00 p.m. ET on October 23, 2018, for Auction 101 and on a date to be announced for Auction 102, following the procedures and instructions set forth in the FCC Form 175 Instructions. An applicant whose application is found to contain deficiencies will have a limited opportunity to bring its application into compliance with the Commission's competitive bidding rules during a resubmission window.<sup>497</sup> All qualified bidders will automatically be registered for the auction and mailed the necessary registration materials.

307. In the second phase of the process, there are additional compliance requirements for winning bidders. As with other winning bidders, any small entity that is a winning bidder will be required to comply with the following: (1) within 10 business days of release of the auction closing public notice for each auction (i.e., Auction 101 or Auction 102), submit as a down payment sufficient funds (in addition to its upfront payment) to bring its total amount of money on deposit with the Commission for the applicable auction to 20 percent of the net amount of its winning bids; (2) within 10 business days after the down payment deadline submit the balance of the net amount for each of its winning bids; and (3) within 30 days following the close of bidding and notification to the winning bidders, unless a longer period is specified by public notice, electronically submit a properly completed long-form application (FCC Form 601) and required exhibits for each license won through Auctions 101 and 102, respectively. A winning bidder claiming eligibility for a small business bidding credit or a rural service provider bidding credit must demonstrate its eligibility in its FCC Form 601 post-auction application for the bidding credit sought.

308. 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 approach, which may include 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

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<sup>496</sup> 2016 *Spectrum Frontiers Order*, Appx. E, 31 FCC Rcd at 8234-42; 2017 *Spectrum Frontiers Order*, Appendices C, D, 32 FCC Rcd at 11087-96; 2018 *Spectrum Frontiers Order*, Appx. B, at 56-60.

<sup>497</sup> The resubmission window dates for Auctions 101 and 102, respectively, will be announced in future public notices.

(continued...)

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.<sup>498</sup>

309. The Commission believes that the steps described below to facilitate participation in Auctions 101 and 102 will result in both operational and administrative cost savings for small entities and other auction participants. For example, in order to reduce the financial burden on small entities and other potential auction participants, as well as to reduce potential exposure risk, the Commission will accept upfront payments for Auction 102 after the close of Auction 101. Additionally, for Auctions 101 and 102, two levels of bidding credits will be available to eligible small businesses and consortia thereof up to a maximum amount of \$25 million per auction (\$50 million combined for both auctions).<sup>499</sup> This application of bidding credit caps separately to each auction should provide additional opportunities for participation by small businesses. Also, public data on Auction 101 results will be made available prior to the start of bidding in Auction 102. This data should provide potential Auction 102 bidders with sufficient information to analyze and understand price levels and demand for UMFUS licenses in Auction 101.

310. In light of the numerous resources that will be available from the Commission at no cost, the processes and procedures adopted for Auctions 101 and 102 should result in minimal economic impact on small entities. For example, prior to each auction, the Commission will hold a mock auction to allow eligible bidders the opportunity to familiarize themselves with both the processes and systems that will be used in Auctions 101 and 102. During the auctions, participants will be able to access and participate in the auctions via the Internet using a web-based system, or telephonically, providing two cost effective methods of participation avoiding the cost of travel for in-person participation. Further, small entities as well as other auction participants will be able to avail themselves of hotlines for assistance with auction processes and procedures as well as technical support hotlines to assist with issues such as access to or navigation within the electronic FCC Form 175 and use of the FCC's auction system. In addition, all auction participants will have access to various other sources of information and databases through the Commission that will aid in both their understanding and participation in the process. These steps coupled with the advanced communication of the bidding procedures "rules of the road" in Auctions 101 and 102 should ensure that the auctions will be administered efficiently and fairly, with certainty for small entities as well as other auction participants.

311. Report to Congress. The Commission will send a copy of the *Auctions 101 and 102 Procedures Public Notice*, including this Supplemental FRFA, in a report to Congress pursuant to the Congressional Review Act.<sup>500</sup> In addition, the Commission will send a copy of the *Auctions 101 and 102 Procedures Public Notice*, including this Supplemental FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Auctions 101 and 102 Procedures Public Notice* (or summaries thereof) will also be published in the Federal Register.<sup>501</sup>

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<sup>498</sup> 5 U.S.C. § 603(c)(1)-(4).

<sup>499</sup> A bidder with attributed average annual gross revenues that do not exceed \$55 million for the preceding three years is eligible to receive a 15 percent discount on its winning bid. A bidder with attributed average annual gross revenues that do not exceed \$20 million for the preceding three years is eligible to receive a 25 percent discount on its winning bid. These bidding credits are not cumulative. See Section II.I.3 (Caps on Bidding Credits), above.

<sup>500</sup> See *id.* § 801(a)(1)(A).

<sup>501</sup> *Id.* § 604(b).

**VII. CONTACT INFORMATION**

312. For further information concerning this proceeding, contact the offices listed below:

**Broadband Division, Wireless Telecommunications Bureau**

Upper Microwave Flexible Use Service (UMFUS) questions: Nancy Zaczek (legal) or Janet Young (technical), at (202) 418-2487

**Auctions and Spectrum Access Division, Wireless Telecommunications Bureau**

Auction legal questions: Erik Beith or Kathryn Hinton 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

- FCC -

## ATTACHMENT A

## Summary of Licenses to Be Auctioned

Due to the large number of licenses available in Auctions 101 and 102, the complete lists of licenses and markets available for these auctions will be provided in electronic format only, available as separate “Attachment A” files at [www.fcc.gov/auction/101-102](http://www.fcc.gov/auction/101-102).

## Auction 101 — 28 GHz License Summary

Block	Frequencies (GHz)	Total Bandwidth	Geographic Area Type	Number of Licenses
1	27.5–27.925	425 megahertz	County*	1,536
2	27.925–28.35	425 megahertz	County*	1,536
Total		850 megahertz		3,072

\*Includes one partial county due to prior partitioning

## Auction 101 — Aggregate Bidding Units, Upfront Payments, and Minimum Opening Bids

	Bidding Units	Upfront Payments	Minimum Opening Bids
Per Block	31,462,510	\$31,462,510	\$62,926,300
Total	62,925,020	\$62,925,020	\$125,852,600

## Auction 102 — 24 GHz License Summary

Block	Frequencies (GHz)	Total Bandwidth	Geographic Area Type	Number of Licenses
1	24.25–24.35	100 megahertz	PEA	416
2*	24.35–24.45	100 megahertz	PEA	416
3	24.75–24.85	100 megahertz	PEA	416
4	24.85–24.95	100 megahertz	PEA	416
5	24.95–25.05	100 megahertz	PEA	416
6	25.05–25.15	100 megahertz	PEA	416
7*	25.15–25.25	100 megahertz	PEA	416
Total		700 megahertz		2,912

\*Includes some markets with incumbents

## Auction 102 — Aggregate Bidding Units, Upfront Payments, and Minimum Opening Bids

	Bidding Units	Upfront Payments	Minimum Opening Bids
Per Block	31,283,090	\$31,283,090	\$62,567,600
Total	218,981,630	\$218,981,630	\$437,973,200

## ATTACHMENT B

## Minimum Acceptable Bid Formula for Auction 101

The following formula used to calculate minimum acceptable bids is based on activity. After there is a provisionally winning bid for a license, the minimum acceptable bid amount for that license will be equal to the amount of the provisionally winning bid plus a percentage of the bid amount, calculated using the formula below. In general, the percentage will be higher for a license receiving many bids than for a license receiving few bids.

$$A_i = (C * B_i) + ((1-C) * A_{i-1})$$

$$I_{i+1} = \text{smaller of } ((1 + A_i) * N) \text{ and } M$$

$$X_{i+1} = I_{i+1} * Y_i$$

where

$A_i$  = activity index for the current round (round i)

$C$  = activity weight factor

$B_i$  = number of bidders submitting bids on the license in the current round (round i)

$A_{i-1}$  = activity index from previous round (round i-1),  $A_0$  is 0

$I_{i+1}$  = additional percentage for the next round (round i+1)

$N$  = minimum additional percentage or floor

$M$  = maximum additional percentage or ceiling

$X_{i+1}$  = dollar amount corresponding to the additional percentage

$Y_i$  = provisionally winning bid for the license from the current round

## Examples

$$C = 0.5, N = 0.1, M = 0.2$$

Please note that these values are for illustrative purposes only and might not be the same as those used in the auction.

Round 1 (2 bidders submitting bids, provisionally winning bid = \$1,000,000)

1. Calculation of additional percentage for round 2:

$$A_1 = (0.5 * 2) + (0.5 * 0) = 1$$

$$I_2 = \text{The smaller of } [(1 + 1) * 0.1] = 0.2 \text{ and } 0.2 \text{ (the maximum additional percentage)}$$

$$= 0.2$$

2. Calculation of dollar amount associated with the additional percentage for round 2 (using  $I_2$  from above):

$$X_2 = 0.2 * \$1,000,000 = \$200,000$$

3. Minimum acceptable bid amount for round 2 = \$1,200,000

Round 2 (3 bidders submitting bids, provisionally winning bid = \$2,000,000)

1. Calculation of additional percentage for round 3:

$$A_2 = (0.5 * 3) + (0.5 * 1) = 2$$

$$I_3 = \text{The smaller of } [(1 + 2) * 0.1 = 0.3] \text{ and } 0.2 \text{ (the maximum additional percentage)}$$
$$= 0.2$$

2. Calculation of dollar amount associated with the additional percentage for round 3 (using  $I_3$  from above):

$$X_3 = 0.2 * \$2,000,000 = \$400,000$$

3. Minimum acceptable bid amount for round 3 = \$2,400,000

Round 3 (1 bidder submitting bids, provisionally winning bid = \$2,400,000)

1. Calculation of additional percentage for round 4:

$$A_3 = (0.5 * 1) + (0.5 * 2) = 1.5$$

$$I_4 = \text{The smaller of } [(1 + 1.5) * 0.1 = 0.25] \text{ and } 0.2 \text{ (the maximum additional percentage)}$$
$$= 0.2$$

2. Calculation of dollar amount associated with the additional percentage for round 4 (using  $I_4$  from above):

$$X_4 = 0.2 * \$2,400,000 = \$480,000$$

3. Minimum acceptable bid amount for round 4 = \$2,880,000