



6712-01

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 1 and 54

[AU Docket No. 20-34; WC Docket Nos. 10-90, 19-126; FCC 20-21; FRS 16543]

Comment Sought on Competitive Bidding Procedures and Certain Program Requirements for the Rural Digital Opportunity Fund Auction (Auction 904)

AGENCY: Federal Communications Commission.

ACTION: Proposed rule; proposed auction procedures.

SUMMARY: In this document, the Federal Communications Commission (Commission) proposes and seeks comment on the procedures to be used for Phase I of the Rural Digital Opportunity Fund auction, designated as Auction 904.

DATES: Comments are due on or before March 27, 2020, and reply comments are due on or before April 10, 2020.

ADDRESSES: Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies. *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (May 1, 1998). All filings in response to the *Auction 904 Comment Public Notice* must refer to AU Docket No. 20-34; WC Docket No. 19-126; and WC Docket No. 10-90. The Commission strongly encourages interested parties to file comments electronically.

- *Electronic Filers:* Comments may be filed electronically using the Internet by accessing the ECFS: <https://www.fcc.gov/ecfs/>. Filers should follow the instructions provided on the website for submitting comments. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket numbers, AU Docket No. 20-34; WC Docket No. 19-126; WC Docket No. 10-90.
- *Paper Filers:* Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

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

All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St. SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.

Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.

U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street SW, Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: For further information regarding this proceeding, contact Mark Montano in the Auctions Division of the Office of Economics and Analytics at (202) 418-0660 or Heidi Lankau in the Telecommunications Access and Policy Division, Wireline Competition Bureau, (202) 418-7400.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's document (*Auction 904 Comment Public Notice*), AU Docket No. 20-34; WC Docket Nos. 19-126 and 10-90; FCC 20-21, adopted on February 28, 2020 and released on March 2, 2020. The complete text of this document is available for public inspection and copying from 8:00 a.m. to 4:30 p.m. Eastern Time (ET) Monday through Thursday or from 8:00 a.m. to 11:30 a.m. ET on Fridays in the FCC Reference Information Center, 445 12th Street SW, Room CY-A257, Washington, DC 20554. The complete text is also available on the Commission's website at <http://www.fcc.gov/auction/904/> or by using the search function for AU Docket No. 20-34, WC Docket 19-126, or WC Docket 10-90 on the Commission's ECFS web page at www.fcc.gov/ecfs/. Alternative formats are available to persons with disabilities by sending an email to FCC504@fcc.gov or by calling the Consumer & Governmental Affairs Bureau at (202) 418-

0530 (voice), (202) 418-0432 (TTY). Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated in the *Auction 904 Comment Public Notice* in AU Docket No. 20-34; WC Docket 19-126; and WC Docket 10-90.

I. INTRODUCTION

1. By the *Auction 904 Comment Public Notice*, the Commission initiates the pre-auction process for Phase I of the Rural Digital Opportunity Fund auction (auction or Auction 904). The auction will award up to \$16 billion over 10 years to service providers that commit to offer voice and broadband services to fixed locations in eligible unserved high-cost census blocks. Bidding is expected to begin on October 22, 2020.

2. Auction 904 will be the Commission's second auction to award ongoing high-cost universal service support through competitive bidding in a multiple-round, reverse auction and follows the successful Connect America Fund (CAF) Phase II auction (Auction 903) that was completed in 2018. As with the CAF Phase II auction, the Commission intends to maximize the value the American people receive for the universal service dollars the Commission spends, balancing the need for future-proofed networks and higher-quality services against cost efficiencies. Therefore, the Commission will again use an auction mechanism designed to select bids from providers that would deploy high-speed broadband and voice services in unserved communities for lower relative levels of support.

3. The pre-auction and bidding procedures and processes proposed for this auction are similar to those that proved effective in the CAF Phase II auction. The Commission is proposing some new pre-auction and bidding procedures and processes that would be expected to materially improve upon the Auction 904 based upon its experience with Auction 903.

4. The Commission proposes and seeks comment in this Public Notice on the procedures to be used in Auction 904, including (i) how an applicant can become qualified to participate in the auction, (ii) how bidders will submit bids, and (iii) how bids will be processed to determine winners and assign support amounts. The Commission also seeks comment on, among other things, how to aggregate

eligible areas into larger geographic units for bidding (“biddable areas”) and making auction information available to bidders and the public. Commenters advocating a particular procedure are asked to provide specific details regarding the costs and benefits of that procedure and explain how that procedure would improve upon the Commission’s and the public’s experience in Auction 903.

5. The Commission will announce final procedures and other important information concerning Auction 904 after considering comments provided in response to the *Auction 904 Comment Public Notice*. Even though many interested parties may be familiar with the Commission’s systems and processes from their participation in the CAF Phase II auction, the Commission will again provide timely educational materials and hands-on practice opportunities to help all potential bidders understand the procedures ultimately adopted to govern the auction.

II. MINIMUM GEOGRAPHIC AREA FOR BIDDING

6. The Commission first seeks comment on the appropriate minimum geographic area for Phase I of the Rural Digital Opportunity Fund. In the interest of providing bidders flexibility in aligning their bidding strategies with future expansion and construction plans in Auction 903, the Commission adopted census block groups as the minimum biddable area. Although the Commission determined that support would be available only for specific eligible census blocks, the Commission determined that support would be available only for specific eligible census blocks, the Commission concluded it was appropriate to aggregate those eligible census blocks into their respective census block groups for purposes of bidding.

7. In the *Rural Digital Opportunity Fund Order*, the Commission concluded that support would be available only to specific eligible census blocks, but indicated that the minimum geographic area for bidding would be no smaller than a census block group containing one or more eligible census blocks, and reserved the option to select tracts, or other groupings of areas, when the Commission finalized the auction design to limit the number of discrete biddable units. Based on the decisions the Commission made in the *Rural Digital Opportunity Fund Order* regarding the areas that will be eligible for bidding, the Commission estimates that prior to the challenge process, there will be more that 66,000

census block groups containing eligible census blocks and more than 33,000 census tracts containing eligible census blocks based on FCC Form 477 data as of December 31, 2018. In comparison, for the CAF Phase II auction, where the Commission adopted census block groups as the minimum geographic area for bidding, there were approximately 30,300 census block groups containing eligible census blocks.

8. The Commission seeks comment on whether to retain census block groups or use census tracts as the minimum biddable area for Phase I of the Rural Digital Opportunity Fund. Do potential bidders foresee any difficulties manipulating and uploading large bidding files into the bidding system if the Commission uses census block groups for the minimum geographic area, which could be more than 66,000? The Commission also seeks comment on alternative biddable areas it should consider and how they impact administrability of the auction and flexibility for bidders participating in it.

9. The Wireless Competition Bureau will release a list and map of initially eligible census blocks, and these census blocks will be subject to a limited challenge process. Additionally, if more recent data become available for this purpose when the specific procedures for Auction 904 are adopted, the Commission will use the more recent data to determine the eligible areas. After the challenge process is completed, the Commission will publish a final list and map of eligible census blocks.

10. The Commission proposes to round the reserve price for each biddable area to the nearest dollar consistent with its rounding approach for the CAF Phase II auction. In the *Rural Digital Opportunity Fund Order*, the Commission adopted a methodology for calculating area-specific reserve prices. Because the Commission expects that auction participants will place bids for annual support amounts, the Commission proposes to multiply the monthly reserve price for a biddable area by 12 and round that figure to the nearest dollar. Thus, any biddable area that has an annual reserve price of less than \$0.50 would be ineligible for the Rural Digital Opportunity Fund auction.

III. PROPOSED APPLICATION REQUIREMENTS

11. The *Rural Digital Opportunity Fund Order* adopted a two-stage application filing process for the auction. The two stages consist of a pre-auction short-form application and a post-auction long-form application. In its short-form application, a potential bidder must establish its eligibility to

participate in the auction. After the auction, and upon receipt of a winning bidder's long-form application, Commission staff will conduct a more extensive review of the winning bidder's technical and financial qualifications before authorizing support.

12. Short-form Application. Commission rules require each applicant seeking to participate in the auction to provide in its short-form application basic ownership information, and certifications regarding its qualifications to receive support, and information regarding its operational and financial capabilities. The short-form application rules also provide for the collection of such additional information as the Commission may require to evaluate an applicant's qualifications to participate in the auction.

13. Commission staff will review all timely submitted applications to determine whether each applicant has complied with the application requirements and provided all required information concerning its qualifications for bidding. After this review, the Office of Economics and Analytics (OEA), in conjunction with the Wireline Competition Bureau (Bureau), will issue a public notice identifying the applications that are complete and those that are incomplete. Applications that are incomplete because of minor defects may be corrected, and the public notice will set a deadline for the resubmission of corrected applications. After reviewing the resubmitted applications, and in advance of the start of bidding in Auction 904, OEA, in conjunction with the Bureau, will announce all qualified bidders for the auction. Qualified bidders are those applicants that submitted short-form applications deemed timely-filed, complete, and meeting the requirements to bid. However, the finding from Commission staff that a short-form application is complete and that an applicant is qualified to bid only qualifies the applicant to participate in the bidding; it does not authorize a winning bidder to receive Rural Digital Opportunity Fund support.

14. Long-form Application. After Auction 904 concludes, each winning bidder must submit a long-form application that Commission staff will review to determine whether the winning bidder meets the eligibility requirements for receiving Rural Digital Opportunity Fund support and has the financial and technical qualifications to meet the obligations associated with such support. Each winning bidder

must submit information about its qualifications, funding and the network it intends to use to meet its obligations. Prior to being authorized to receive Rural Digital Opportunity Fund support, each winning bidder must demonstrate that it has been designated as an eligible telecommunications carrier (ETC) in the area(s) where it was awarded support and must obtain a letter of credit from a bank meeting the Commission's eligibility requirements. If a winning bidder is not authorized to receive a Rural Digital Opportunity Fund support (e.g., the bidder fails to file or prosecute its long-form application or its long-form application is dismissed or denied), the winning bidder is in default and therefore subject to forfeiture.

A. Applicants and State Selections

15. The Commission proposes to require each applicant to identify in its short-form application each state in which it intends to bid for support in the Rural Digital Opportunity Fund auction. An applicant will be able to place bids for eligible areas only in the states identified in its application.

16. In Auction 903, the Commission allowed entities that were commonly controlled to file separate applications so long as they did not select the same state(s), and if they were qualified, to bid separately. The Commission considers a different approach and proposes to prohibit the submission of more than one application by commonly controlled entities for Auction 904 under any circumstances.

17. To identify commonly controlled entities, the Commission proposes to use the same definition of a controlling interest as the Commission used in the CAF Phase II auction. The Commission proposes to define a "controlling interest" for purposes of the Rural Digital Opportunity Fund auction as an individual or entity with positive or negative de jure or de facto control of the applicant.

18. The Commission expects to adopt a Divide Winning Bids process for this auction similar to that employed in Auction 903. During the long-form application process, a winning bidder would have the opportunity to assign some or all of its winning bids to related operating companies. As in Auction 903, while the Commission would permit a winning bidder to assign winning bids to more than one operating company in each state, the Commission proposes that a winning bidder would not be allowed to split any winning bid among multiple operating companies. In addition, the Commission proposes that

any operating company that is assigned one or more winning bids will be required to file a long-form application in its own name to seek authorization for Rural Digital Opportunity Fund support. The Commission would require that entities filing the long-form application be operating companies or consortium/joint venture members that were named in the short-form application or newly formed entities that are controlled by the applicant or one or more of its members. Further, the Commission proposes that the identified operating company be the entity that is designated as the ETC by the relevant states in the areas covered by the winning bids and is named in the letter of credit applicable to the specific winning bids for which it becomes authorized for support.

19. If during short-form application review Commission staff identifies separate applicants that are commonly controlled, the Commission proposes that all such applications would be deemed to be incomplete on initial review. The applicants would be informed of the issue, and only one applicant would ultimately be deemed qualified to bid, assuming that there were no remaining issues with its application. Because the rule prohibiting certain communications in section 1.21002(b) would prohibit the affected applicants from communicating with respect to their determination of which entity would be the single applicant, commonly controlled entities should coordinate on the submission of one application before the short-form application deadline.

20. The Commission proposes to ban applicants from entering into joint bidding arrangements for Auction 904, consistent with its practice in spectrum auctions. For purposes of this prohibition, the Commission would define “joint bidding arrangements” as it did for Auction 903 as arrangements between or among applicants that (1) relate to any eligible area in the Rural Digital Opportunity Fund auction, and (2) address or communicate bids or bidding strategies, including arrangements regarding Rural Digital Opportunity Fund support levels (i.e., bidding percentages) and specific areas on which to bid, as well as any arrangements relating to the post-auction market structure in an eligible area. As a result, if two or more applicants are parties to an agreement that falls within this definition, they would be prohibited from bidding in the Rural Digital Opportunity Fund auction. To aid in the identification of such arrangements, the Commission proposes requiring an applicant to provide in

its short-form application a brief description of any agreement related to the applicant's participation in the Rural Digital Opportunity Fund auction.

21. The Commission would limit its proposal to auction applicants. The Commission cautions non-applicant entities that any joint venture, consortium, or other arrangement into which they enter must be consistent with the antitrust laws and must otherwise not be prohibited by law.

22. The Commission proposes to require each applicant to certify in its short-form application that it has not entered into any explicit or implicit agreements, arrangements, or understandings of any kind related to the support to be sought through the Rural Digital Opportunity Fund auction, other than those disclosed in the short-form application. The Commission further proposes requiring each winning bidder to submit in its long-form application any updated information regarding the agreements, arrangements, or understandings related to its Rural Digital Opportunity Fund auction support disclosed in its short-form application. A winning bidder may also be required to disclose in its long-form application the specific terms, conditions, and parties involved in any agreement into which it has entered and the agreement itself.

23. The rule prohibiting certain communications in universal service support auctions contains an exception for applicants that are members of a joint bidding arrangement that is identified on the short-form application. The Commission seeks comment on its authority to prohibit joint bidding arrangements between or among applicants for Auction 904, which would render that exception to the prohibited communications rule inapplicable.

24. The Commission is proposing no further modifications with respect to the applicability of the prohibited communications rule for Auction 904. As set forth in section 1.21002 of the Commission's rules, an applicant in Auction 904 (and any party that controls or is controlled by an applicant) is prohibited from cooperating or collaborating with any other applicant with respect to its own or any other applicant's bids or bidding strategies, and from communicating with any other applicant in any manner the substance of its own or any other applicant's bids or bidding strategies during the prohibition period.

25. The Commission observes that NTCA asserts that an attestation made by a third-party

consultant assisting multiple bidders could address its concerns regarding collusive conduct by auction applicants. Even with such an attestation, however, the Commission would continue to be wary of the potential harm to competition in the auction from a third-party individual who is aware of one bidder's bids or bidding strategies while advising another bidder. Accordingly, the Commission proposes that the guidance in the Auction 903 Procedures Public Notice regarding the significant risk of applicants violating the prohibited communications by employing the same third party for bidding advice would continue to apply.

26. The Commission seeks comment on these proposals and whether they efficiently and effectively promote straightforward bidding and safeguard the integrity of the auction.

B. Eligibility to Bid for Performance Tier and Latency Combinations

27. In general, the Commission proposes to collect the same information and use the same process that was used for the CAF Phase II auction for Commission staff to determine, at the short-form application stage and in advance of the start of bidding in the auction, each applicant's eligibility to bid for the performance tier and latency combinations it has selected in its application. The Commission seeks comment on specific improvements to the CAF Phase II auction short-form application and the process used for that auction based on lessons learned to ensure that the Commission collects sufficient information to assess an applicant's technical qualifications to bid for specific performance tier and latency combinations while minimizing the burdens on applicants and Commission staff.

28. In the *Rural Digital Opportunity Fund Order*, the Commission concluded that it would accept bids for four performance tiers with varying speed and usage allowances and, with respect to each tier, would provide for bids at either high or low latency. Each applicant for the Rural Digital Opportunity Fund auction must indicate in its short-form application the performance tier and latency combinations for which it intends to bid and the technologies it intends to deploy to meet the relevant public interest obligations. Additionally, each Rural Digital Opportunity Fund auction applicant must indicate whether it has at least two years' experience providing a voice, broadband, and/or electric distribution or transmission service and must submit certain financial information. The Commission's

rules also require each applicant to submit any additional information that the Commission may require to establish its eligibility for the selected performance tier and latency combinations.

29. The Commission intends to use the short-form application to assess the likelihood that an applicant would default if selected as a winning bidder. If the applicant becomes qualified to bid in the Rural Digital Opportunity Fund auction and subsequently becomes a winning bidder, Commission staff will evaluate the information submitted in the long-form application and will rely on the applicant's letter of credit to determine whether an applicant is capable of meeting its Rural Digital Opportunity Fund auction obligations in the specific areas where it has been selected as a winning bidder. Accordingly, a determination at the short-form stage that an applicant is eligible to bid for a performance tier and latency combination would not preclude a determination at the long-form application stage that an applicant does not meet the technical qualifications for the performance tier and latency combination and thus will not be authorized to receive Rural Digital Opportunity Fund support. In addition, the Commission's adoption of certain non-compliance measures in the event of default—both before a winning bidder is authorized for support and if a winning bidder does not fulfill its Rural Digital Opportunity Fund obligations after it has been authorized—should encourage each applicant to select performance tier and latency combinations with public interest obligations that it can reasonably expect to meet.

30. Operational Information. The Commission seeks comment on proposals for implementing its decision to collect high-level operational information from each applicant to enable its staff to determine whether the applicant is expected to be reasonably capable of meeting the public interest obligations (e.g., speed, usage, latency, and build-out milestones) for each performance tier and latency combination that it selected in its application. Each applicant seeking to participate in the Rural Digital Opportunity Fund auction is required to make certain certifications in its short-form application, including a certification that it is technically qualified to meet the public interest obligations in each tier and in each area for which it seeks support, and a certification regarding its experience in providing voice, broadband, and/or electric distribution or transmission service. The Commission's rules also require an applicant to submit certain information in its short-form application in connection with those

certifications.

31. The Commission proposes making such determinations on a state-by-state basis. Accordingly, for each selected performance tier and latency combination, an applicant will be required to independently demonstrate how it intends to provision service if awarded support and that it is reasonably capable of meeting the relevant public interest obligations for each state it selects.

32. The Commission proposes to require each applicant to answer the questions listed in Appendix A to the Public Notice for each state it selects in its application. The questions are substantially similar to the questions that were included in the CAF Phase II auction short-form application. The Commission found that in most instances the questions elicited information at a sufficient level of detail for its staff to verify that each applicant had developed a preliminary design or business case for meeting the public interest obligations for its selected performance tier and latency combinations, without imposing undue burdens on applicants or staff. However, the Commission proposes some edits to the questions to improve clarity and better elicit information that the Commission found useful in making eligibility determinations for the CAF Phase II auction. The Commission also proposes providing examples for the types of information the Commission would expect an applicant to submit. The Commission seeks comment on the questions proposed and whether there are other changes or clarifications the Commission should make, or additional questions the Commission should ask.

33. Assumptions. The Commission seeks comment on the assumptions an applicant will need to make about network usage and subscription rates when determining whether it can meet the public interest obligations for its selected performance tier and latency combination(s). For example, the Commission's rules require that each long-form applicant provide in its long-form application a certification by a professional engineer that the applicant's proposed network can deliver the required service to at least 95% of the required number of locations. Because Rural Digital Opportunity Fund support recipients will ultimately be required to offer service to 100% of the actual locations in their service areas and offer service to newly built locations upon reasonable request that were built prior to milestone year eight, the Commission proposes that its staff also review the information provided in the

short-form and long-form applications to verify the applicant has the plans and capability to scale the network if necessary.

34. The Commission also seeks comment on the proposal to require each service provider to assume a subscription rate of at least 70% for both voice services and broadband services when determining whether it can meet the public interest obligations for its selected performance tier and latency combinations. This subscription rate is consistent with the assumptions made in the Connect America Cost Model (CAM) when calculating the amount of support made available and is also the subscription rate assumption required for CAF Phase II auction applicants.

35. The Commission seeks comment on these assumptions and on whether the Commission should set any other parameters for assumptions about the network that will be used to meet Rural Digital Opportunity Fund obligations.

36. Spectrum Access. The Commission seeks comment on the spectrum bands—both licensed and unlicensed—that could be used to meet Rural Digital Opportunity Fund public interest obligations. The Rural Digital Opportunity Fund auction rules require a short-form applicant that plans to use radiofrequency spectrum to demonstrate that it has (1) the proper spectrum use authorizations, if applicable; (2) access to operate on the spectrum it intends to use; and (3) sufficient spectrum resources to cover peak network usage and meet the minimum performance requirements to serve the fixed locations in eligible areas. For the described spectrum access to be sufficient as of the date of the short-form application, the applicant must have obtained any necessary approvals from the Commission for the spectrum, if applicable. The Rural Digital Opportunity Fund auction short-form application rules also require an applicant to certify that it will retain such authorizations for 10 years.

37. In Appendix B to the Public Notice, the Commission identifies the licensed and unlicensed spectrum bands that could be used by a service provider operating in these bands to, at a minimum, offer service meeting the requirements for the minimum performance tier provided that the service provider is using sufficient bandwidth in the spectrum band(s) and a technology that can operate on these spectrum bands consistent with applicable rules and regulations. This is a non-exhaustive list of

spectrum bands that an applicant could potentially use to meet its public interest obligations. The Commission updated the spectrum band chart used for the CAF Phase II auction to include some additional frequencies for the Upper Microwave Flexible Use Service.

38. The Commission seeks comment on whether the individual bands proposed in Appendix B—or, in some cases, the blocks within them, individually or in combination with each other—provide sufficient uplink or downlink bandwidth to support the wireless technologies that a provider may use to meet the Rural Digital Opportunity Fund obligations. Are there other spectrum bands that can offer sufficient uplink or downlink bandwidth—individually or in combination—to meet the various performance tier and latency combination qualifications? If so, what last mile technologies and corresponding last mile network architecture can be used in those spectrum bands?

39. The Commission also seeks comment on how an applicant can demonstrate that it has sufficient access to spectrum if it intends to participate in auction proceedings that are occurring around the same time of the Rural Digital Opportunity Fund short-form application process. In the *Rural Digital Opportunity Fund Order*, the Commission would permit an applicant that plans to operate on the 3550-3650 MHz band using a priority access license that will be subject to auction with bidding scheduled to begin in June 2020 to indicate the status of its participation in that auction (consistent with auction procedures regarding the disclosure of non-public auction-related information) as long as it provides alternatives for how it intends to meet its obligations if it were not awarded a license. But this is not the only spectrum auction with proceedings taking place this year. For example, the Commission has Spectrum Frontiers auction proceedings in various stages and the 2.5 GHz Rural Tribal Priority Window this year. As such, the Commission proposes allowing an applicant that intends to participate in any of these proceedings the same option of indicating the status of its participation and providing alternatives for if it does not ultimately obtain a license. Should the Commission also provide this option to an applicant that intends to participate in any other upcoming spectrum auction proceedings?

40. Collection and Use of Identifiers Associated with Information Submitted to the Commission in Other Contexts. In addition to information provided in a short-form application, the

Commission proposes to allow its staff to consider any information that a provider has submitted to the Commission in other contexts when determining whether a service provider is reasonably capable of meeting the public interest obligations for its selected performance tier and latency combinations. This other information would include but potentially not be limited to data reported in FCC Form 477 Voice Telephone Services and Internet Access Services Reports (FCC Form 477), FCC Form 481 Carrier Annual Reporting Data Collection Form (FCC Form 481), FCC Form 499-A Annual Telecommunications Reporting Worksheet (FCC Form 499-A), and any public information. For example, Commission staff may consider whether an applicant already offers service that meets the public interest obligations associated with its selected performance tier and latency combinations and the number of subscribers to that service.

41. The Commission proposes to collect information in the short-form application about the unique identifiers a provider uses to submit this data to the Commission. Specifically, the Commission proposes to collect in the short-form application for any applicant or its parent company (or in the case of a holding company applicant, its operating companies): (1) any FCC Registration Numbers (FRNs) used to submit their FCC Form 477 data for the past two years; (2) any associated study area codes (SAC) that indicate the applicant, its parent company, or its operating companies are an existing ETC; and (3) any FCC Form 499 filer identification numbers used to file an FCC Form 499-A in the past year, if applicable.

42. The Commission reminds all interested parties that because FCC Form 477 data are used to verify an applicant's operating history and current service offerings as well as to identify areas that are eligible for the auction, they should ensure that they have filed and will timely file all required FCC Form 477 data.

43. The Commission seeks comment on its proposed collection and use of these various identifiers, and on whether there are other ways its staff can leverage data that are already reported to the Commission to assess the qualifications of Rural Digital Opportunity Fund applicants.

44. Limiting Eligibility to Bid for Certain Performance Tier and Latency Combinations. The

Commission proposes adopting prohibitions and presumptions for applicants selecting certain performance tier and latency combinations that may be inconsistent with the technologies they intend to use to meet their Rural Digital Opportunity Fund auction public interest obligations.

45. First, the Commission proposes prohibiting providers that intend to use geostationary or medium earth orbit satellites from selecting low latency in combination with any of the performance tiers. Some service providers that use these satellite technologies have acknowledged that they cannot meet the low latency requirement that 95% or more of all peak period measurements of network round trip latency are at or below 100 milliseconds. In contrast, SpaceX contends that its low-earth orbit satellite service can meet the low-latency threshold. The Commission seeks comment on whether such providers should also be prohibited from selecting low latency in combination with any of the performance tiers. Should applicants proposing to use any other types of technologies be prohibited from selecting low latency?

46. Second, the Commission proposes prohibiting geostationary satellite providers from bidding in the Gigabit performance tier and the Above Baseline performance tier. The Commission sees no evidence that geostationary satellite providers already offer service that meets all the requirements for these performance tiers. An applicant that bids in the Gigabit tier must commit to offering broadband at speeds of at least 1 Gbps/500 Mbps with a monthly usage allowance of at least 2 terabytes, and an applicant that bids in the Above Baseline tier must commit to offering broadband at speeds of at least 100/20 Mbps with a monthly usage allowance of at least 2 terabytes. Viasat is the only geostationary satellite provider that reports offering downstream speeds of 100 Mbps in FCC Form 477 data (as of December 31, 2018) to consumers in certain areas, and it reports associated upload speeds of only 4 Mbps. Notably, Viasat bid to provide service at speeds of 10/1 Mbps and 25/3 Mbps in the CAF Phase II auction. While both Viasat and Hughes offer unlimited data plans in some areas, consumers may experience lower speeds once they exceed a certain data limit as low as 150 GB. The Commission also seeks comment on whether to more generally prohibit any service provider that intends to place a high-latency bid from selecting either the Gigabit or Above Baseline performance tier. Are there any high-latency technologies that could reasonably be expected to meet the requirements for the Gigabit and

Above Baseline performance tiers? Viasat was the only service provider that bid in the high-latency tier in the CAF Phase II auction.

47. Third, the Commission proposes precluding any applicant that intends to use fixed wireless or DSL technologies from bidding in the Gigabit tier if the applicant has not reported offering Gigabit broadband service in its FCC Form 477 data. Based on FCC Form 477 data as of December 31, 2018, 98% of fixed wireless and DSL providers have not reported offering Gigabit speeds, and only 17% have reported offering speeds of 100 Mbps or above. By contrast, 82% of optical carrier/fiber-to-the-end-user providers report offering broadband at 100 Mbps speeds. No service provider proposing to use either fixed wireless or DSL qualified to bid in the Gigabit tier for the CAF Phase II auction. Given the continued lack of widespread reported deployment at higher speeds, it appears unreasonable to expect that an applicant choosing to use either fixed wireless or DSL would be able to offer Gigabit speeds by the first service milestone unless it has a reported history of offering such speeds.

48. The Commission seeks comment on the proposals for determining an applicant's eligibility to bid on the performance tier and latency combination(s) selected in its short-form application. Should the Commission adopt any additional prohibitions or presumptions for applicants intending to use other types of technologies? A party submitting alternative proposals should explain how its proposal appropriately balances the Commission's objectives of assessing an applicant's capability to meet the Rural Digital Opportunity Fund public interest obligations and not imposing undue costs on applicants or Commission staff.

49. The Commission is not inclined to adopt performance tier and latency prohibitions for nascent technologies. Rather, the Commission proposes that its staff review applications from providers using nascent technologies on a case-by-case basis to determine whether they can reasonably be expected to meet the specific requirements of the Rural Digital Opportunity Fund. In such cases—as in all cases—Commission staff would have the authority to determine the specific performance tier(s) and latency for which an applicant would be qualified, if any.

50. Evaluating Eligibility to Bid on Selected Performance Tier and Latency Combinations.

The Commission proposes that its staff review the information submitted by an applicant in its short-form application and any other relevant information available to staff to determine whether the applicant has planned how it would provide service if awarded support and is therefore expected to be reasonably capable of meeting the public interest obligations for its selected performance tier and latency combinations in its selected states. The Commission proposes that if staff finds that an applicant is reasonably expected to be capable of meeting the relevant public interest obligations in a state, the applicant would be eligible to bid for its selected performance tier and latency combinations in that state.

51. If Commission staff, in its initial review, is unable to find that an applicant can reasonably be expected to meet the relevant public interest obligations based on the information submitted in its short-form application, Commission staff would deem the application incomplete, and the applicant would have another opportunity during the application resubmission period to submit additional information to demonstrate that it meets this standard. Commission staff would notify the applicant that additional information is required to assess the applicant's eligibility to bid for any or all of the specific states and performance tier and latency combinations selected in its short-form application. During the application resubmission period, an applicant would be able to submit additional information to establish its eligibility to bid for the relevant performance tier and latency combinations. An applicant would also have the option of selecting a lesser performance tier and latency combination for which it might be more technically qualified. The Commission would consider this to be a permissible minor modification of the short-form application. Once the application resubmission period has ended, Commission staff would make its final determination of an applicant's eligibility to bid for any or all of the specific states and performance tier and latency combinations selected in its application, and then notify each applicant in which states and for which performance tier and latency combinations it is eligible to bid. The bidding system will be configured to permit a bidder to bid only in the state(s) and for the performance tier and latency combinations on which it is deemed eligible to bid.

52. The Commission seeks comment on its proposals to use the same process as in the CAF Phase II auction and on whether any changes should be made to the standard of review or eligibility

determination process to account for lessons learned.

C. Financial Qualifications

53. In the *Rural Digital Opportunity Fund Order*, the Commission required all applicants to submit financial statements with their short-form applications. An applicant certifying that it has provided voice, broadband, and/or electric transmission or distribution services for at least two years and that it is audited in the ordinary course of business must submit audited financial statements from the prior fiscal year that have been audited by an independent certified public accountant, including balance sheets, and statements of net income and cash flow along with a financial statement audit opinion letter. If such an applicant is not audited in the ordinary course of business, it has the option of submitting audited financial statements with the long-form application by a certain deadline if it is announced as a winning bidder, but the applicant must submit unaudited financial statements with the short-form application. If an applicant cannot certify that it has provided voice, broadband, and or electric transmission or distribution services for at least two years, it must submit (1) audited financial statements for the three most recent consecutive fiscal years, including balance sheets, and statements of net income, and cash flow, and (2) a letter of interest from a qualified bank with terms acceptable to the Commission, stating that the bank would provide a letter of credit to the bidder if the bidder were selected for certain levels of support.

54. The Commission seeks comment on how it should review the financial statements that an applicant submits with its short-form application. Based on its experience with the CAF Phase II auction, the Commission proposes to deviate from the approach it previously took during the short-form application process of requiring each applicant to identify specific metrics from its financial statements and scoring applications based on those metrics.

55. The Commission proposes instead that an applicant submitting audited financial statements with its short-form application will be required to identify whether it has a clean opinion letter on its audited financial statements. The Commission will consider an opinion letter to be clean if it has an unmodified opinion without an emphasis-of-matter paragraph regarding whether there is a going concern.

An unmodified opinion is one where “the auditor concludes that the [audited] financial statements are presented fairly, in all material respects, in accordance with the applicable financial reporting framework.” An auditor’s findings regarding an entity’s inability to remain in business for a reasonable period of time would be reflected in a modified opinion or the opinion letter would include an emphasis-of-matter paragraph regarding going concern.

56. An applicant that submits the required audited financial statements and has a clean opinion letter on the submitted audited financial statements would be deemed financially qualified to participate in the auction.

57. For an applicant that does not have a clean opinion letter, Commission staff would first review whether the issue is material to the applicant’s participation in the auction. If so, any such applicants—and any applicants that submit unaudited financial statements—would be subject to a review of the full set of financial statements submitted with the short-form application, as well as other information submitted with the application and/or information submitted to the Commission in other contexts (e.g., financials filed with a FCC Form 481, revenues reported in FCC Form 499, etc.). To the extent this information does not sufficiently demonstrate that an applicant is financially qualified, the application will be deemed incomplete and the Commission may request further information from the applicant during the application resubmission period.

58. While the proposed approach may subject more applicants to a more in-depth financial review, a more tailored financial review of each relevant application and other available information would help the Commission to better identify the applicants that may have difficulty meeting the relevant public interest obligations due to various factors including their financial situation. Although Commission staff would take into account the financial metrics in an applicant’s financial statements as part of this review, those metrics would not by themselves definitively qualify or disqualify applicants. The Commission would decline to define specific parameters for the review of an applicant that does not have a clean opinion letter on its audited financial statements or an applicant that submits unaudited financial statements because the Commission observed for the CAF Phase II auction that each applicant’s

financial circumstances differ. Instead, the Commission would seek to tailor the review to each applicant's circumstances and determine based on the totality of information available whether it is reasonable to expect that the applicant is financially capable of fulfilling the Rural Digital Opportunity Fund obligations should it become a winning bidder. The Commission seeks comment on this proposed approach and also seek proposals for equitable and efficient approaches it could take to review submitted financial statements. How could the Commission further streamline its review of financial statements but still adequately verify an applicant's financial qualifications?

59. The Commission staff's determination at the short-form stage that an applicant is financially qualified to bid would not preclude a determination at the long-form application review stage that an applicant is not authorized to receive Rural Digital Opportunity Fund support. The Commission's rules require that, during the long-form application stage, a winning bidder: (1) certify that it will have available funds for all project costs that exceed the amount of Rural Digital Opportunity Fund support for the first two years, (2) submit a description of how the required construction will be funded, and (3) obtain a letter of credit from a bank meeting the Commission's requirements.

D. Long-Form Application Requirements

60. The Commission proposes to require each winning bidder (or its designee) to submit certain information in its long-form application to aid Commission staff in evaluating whether the winning bidder (or its designee) is technically and financially qualified to meet the relevant Rural Digital Opportunity Fund public interest obligations in the areas where it was awarded support. A long-form applicant must also provide in its long-form application more in-depth information regarding the networks it intends to use to meet its Rural Digital Opportunity Fund obligations and how it intends to fund such networks. Among other things, the Commission proposes to require each applicant to provide in its long-form application any updates to its spectrum authorizations or spectrum access and to certify in its long-form application that it will retain access to the spectrum for at least 10 years from the date of the funding authorization. The Commission seeks comment on these proposals.

61. The Commission also would provide guidance in a future public notice regarding the

specific types of information the Commission expects each long-form applicant to include in its long-form application to successfully meet the requirement to provide a description of the technology and system design it will use to meet its Rural Digital Opportunity Fund public interest obligations and a network diagram. The Commission invites parties to comment on whether and how the guidance it provided for the CAF Phase II auction should be updated or clarified for the Rural Digital Opportunity Fund auction.

IV. PROPOSED BIDDING PROCEDURES

62. The Commission will use a descending clock auction to identify the providers that will be assigned to receive Rural Digital Opportunity Fund support and to establish the amount of support that each bidder will be eligible to receive, subject to post-auction application review. In the *Rural Digital Opportunity Fund Order*, the Commission concluded that bids for different areas at specified performance tier and latency levels will be compared to each other based on the percentage each bid represents of their respective areas' reserve prices; however, once the budget has cleared, the Commission will prioritize bids with lower tier and latency weights. The Commission also directs OEA, in conjunction with the Bureau, to release a guide that provides further technical and mathematical detail regarding the bidding, assignment, and support amount determination procedures proposed here. In addition, the Commission seeks comment on what types of additional information (e.g., fact sheets and user guides) it could make available to help educate parties, particularly those that have never participated in a Commission auction. The Commission also seeks comment on whether the Commission's Office of Communications Business Opportunities should engage with small providers interested in the auction process.

63. The auction will be conducted over the Internet, and bidders will upload bids in a specified file format for processing by the bidding system. The bidding system will announce a clock percentage before each round. The clock percentage is used to delimit the range of acceptable bid percentages in each round of the auction and as a common unit to compare bids for different performance tiers and latencies, which were assigned weights ("T+L weights") in the *Rural Digital Opportunity Fund Order*.

64. The Commission proposes to have the clock percentage begin at a high level, implying a support amount that is equal to or close to the full reserve price, even for bids at the largest T+L weight, and descend from one round to the next. In a round, a bidder can submit a bid for a given area at a specified performance tier and latency combination at any percentage that is greater than or equal to the round's clock percentage and less than the previous round's clock percentage. A bid indicates that the bidder is willing to provide service to the area that meets the specified performance tier and latency requirements in exchange for support that is no less than the support amount implied by the bid percentage.

65. The clock percentage will continue to descend in a series of bidding rounds, implying diminishing support amounts, until the aggregate amount of requested support represented by the bids placed in a round at the clock percentage is no greater than the budget. At that point, when the budget "clears," the bidding system will begin to assign support, prioritizing bids with lower T+L weights according to the proposed bid processing procedures. Bidding will continue for areas that were bid at the round's clock percentage and have not been assigned, and the clock will continue to descend in subsequent rounds. When there is no longer competition for any area, the auction will end. Because of the second-price rule, a winning bidder will be assigned support in amounts at least as high as the support amounts corresponding to its bid percentages.

66. The bidding procedures the Commission proposes for the Rural Digital Opportunity Fund auction are the same as those used in the CAF Phase II auction, with several modifications. As adopted in the *Rural Digital Opportunity Fund Order*, once the budget has cleared, the bid processing procedures will prioritize bids with lower T+L weights. In line with this modification, the Commission proposes to require all areas within a package bid to be bid at the same T+L weight. The Commission also proposes to set a maximum amount of implied support for which a bidder may bid in a round, and the Commission proposes to set that limit at 100% of the Rural Digital Opportunity Fund budget. The Commission further proposes that the bidding system will consider bids submitted at the clock percentage of the previous round, if bid processing procedures in the clearing round cannot assign the full budget to bids submitted

in the clearing round. Finally, the Commission seeks comment on a modification to the information available to bidders during the auction that would make available after each round the lowest T+L weight in each bidding area that has two or more bids at the prior round's clock percentage.

A. Bid Collection

1. Round Structure

67. The Commission proposes that the Rural Digital Opportunity Fund descending clock auction will consist of sequential bidding rounds according to an announced schedule providing the start time and closing time of each bidding round. The Commission proposes to retain the discretion to change the bidding schedule—with advance notice to bidders—in order to foster an auction pace that reasonably balances speed with giving bidders sufficient time to study round results and adjust bidding strategies. OEA may modify the amount of time for bidding rounds, the amount of time between rounds, or the number of rounds per day, depending on bidding activity and other factors. The Commission seeks comment on this proposal. Commenters suggesting alternatives to this proposal should address any other means to manage the auction pace.

2. Clock Percentages and Implied Support Amounts Based on Performance Tier and Latency Weights

68. The Commission proposes that under the descending clock auction format, the clock will be denominated in terms of a percentage, which will be decremented for each round. To determine the annual support amount for an area implied at each percentage, the percentage is multiplied by the reserve price of the area, adjusted for the T+L weight of the bid.

69. In the *Rural Digital Opportunity Fund Order*, the Commission concluded that it would accept bids for four performance tiers with varying speed and usage allowances and, for each performance tier, would provide for bids at either high or low latency. The Commission also decided to consider all bids simultaneously so that bidders proposing varying performance standards would be competing directly against each other for the limited Rural Digital Opportunity Fund budget, but to provide an assignment preference for bids with lower T+L weights once the budget has cleared. In

addition, the Commission decided that bidders would bid for support expressed as a fraction of an area’s reserve price.

70. In the *Rural Digital Opportunity Fund Order*, the Commission adopted weights to compare bids for the different performance tiers and latency combinations. The Commission determined that Minimum performance tier bids will have a 50 weight; Baseline performance tier bids will have a 35 weight; Above Baseline performance tier bids will have a 20 weight; and Gigabit performance tier bids will have zero weight. Moreover, high-latency bids will have a 40 weight and low latency bids will have zero weight added to their respective performance tier weight. The lowest possible weight for a performance tier and latency is 0, and the highest possible weight is 90. Each weight uniquely defines a performance tier and latency combination, as shown in the table.

Weights for Performance Tiers and Latencies							
Minimum		Baseline		Above Baseline		Gigabit	
High Latency	Low Latency	High Latency	Low Latency	High Latency	Low Latency	High Latency	Low Latency
90	50	75	35	60	20	40	0

The Commission’s proposal for a clock auction format with a clock percentage and weights for performance tier and latency combinations implements these Commission decisions and provides a simple way to compare bids of multiple types. The Commission seeks comment on this proposal.

71. The Commission proposes that the clock percentage in each round will imply a total amount of annual support in dollars for each area available for bidding, based on the area’s reserve price and the T+L weight specified in the bid. The annual support amount implied at the clock percentage will be the smaller of the reserve price and the annual support amount obtained by using a formula that incorporates the T+L weights. Specifically:

$$\text{Implied Annual Support Amount (at the clock percentage)} = \min \left\{ R, \left(\frac{C-(T+L)}{100} \right) R \right\}$$

where:

- R denotes the area’s reserve price
- T denotes the tier weight
- L denotes the latency weight
- C denotes the clock percentage

72. Because the highest implied support amount can never exceed an area's reserve price, when the clock percentage is greater than 100, the total implied annual support for lower weighted performance tier and latency combinations may remain at an area's reserve price for one or more rounds, while the total implied annual support of one or more higher weighted performance tier and latency combinations may be lower than an area's reserve price. When the clock percentage is decremented below 100, the implied annual support for any performance tier and latency combination will be below an area's respective reserve price.

73. The "implied support formula" can be used to determine the implied support at any price point percentage by substituting a given percentage for the clock percentage. The Commission seeks comment on these proposals.

3. Acceptable Bid Amounts

74. The Commission proposes that, in the first round, a bidder may place a bid at any price point percentage equal to or greater than the clock percentage and equal to or less than the opening percentage, specified up to two decimal places. In each subsequent round, a bidder may place a bid at any price point percentage equal to or greater than the clock percentage and less than the previous round's clock percentage, specified up to two decimal places. This proposal will reduce the likelihood of ties and allow bids to correspond to smaller increments in annual support amounts. The Commission seeks comment on this proposal.

75. The Commission proposes that bids must imply a support amount that is one percent or more of an area's reserve price to be acceptable. For a given performance tier and latency combination, when the price point percentage equals $T+L$, the formula implies that the annual support amount is zero. When the price point percentage equals $T+L+1$, the formula implies an annual support amount that is one percent of the area's reserve price. Hence, a bid percentage must be at least $T+L+1$ for the bid to be accepted by the bidding system. The Commission seeks comment on this proposal.

76. The Commission anticipates that the ability to submit bids at price points other than the clock percentage, as proposed, will be especially useful to a bidder when the lowest support amount it

will accept for an area corresponds to a percentage between the clock percentages for two consecutive rounds. In such a case, the proposed option will allow the bidder to more precisely indicate the point at which it wishes to drop out of bidding for the area. In contrast, a bidder still willing to accept a support amount equal to or less than that implied by the clock percentage will simply bid at the clock percentage. In rounds before the budget clears, a bidder may bid at an intermediate price point in one round and then bid again for the same area in a subsequent round, but its ability to do so is limited. In rounds after the budget clears, a bidder is not permitted to switch the areas for which it is bidding.

4. Bidding for Geographic Areas

77. The Commission seeks comment on the appropriate minimum geographic area for bidding. A bid in a minimum geographic area is a bid for support for the locations within all eligible census blocks within that area.

78. The Commission proposes to allow a bidder to place only one bid on a given geographic area in a round, whether that area is bid on singly or included in a package bid.

79. The Commission further proposes that the total implied support of a single bidder's bids in any round not exceed the total Rural Digital Opportunity Fund budget. The proposed clock auction procedures are intended to encourage straightforward bidding, and it would not be possible for a single entity to win support that exceeds the full budget. The Commission seeks comment on this proposal. Should the Commission impose a different limit instead?

a. Bid for a Single Area

80. A bid is an offer to serve all locations in eligible census blocks within the indicated minimum biddable area at the indicated performance tier and latency combination for a total annual amount of support that is not less than the implied annual support at the price point percentage specified by the bidder and not more than the reserve price. In each round, a bid for a single available biddable area with reserve price R consists of two pieces: a T+L weight and a price point that is a percentage not less than the current round's clock percentage and is less than the previous round's clock percentage. For a given round, a biddable area can be included in at most one bid—whether a bid on a single area or a

package bid on multiple areas—made by a bidder, and a bidder can only bid on areas that are in states that the bidder selected on its application.

81. The Commission proposes not to allow a bidder to change the performance tier and latency combination in a bid for a particular area from round to round. Once a bidder has submitted a bid for an area at a particular performance tier and latency combination (which must be a performance tier and latency combination for the state for which the bidder qualified at the application stage) any bids in subsequent rounds by that bidder for the same area must specify the same performance tier and latency combination. The Commission seeks comment on this proposal.

b. Bid for a Package of Areas

82. The Commission proposes package bidding procedures that will give bidders the option to place bids to serve a bidder-specified list of biddable areas, with corresponding bid processing procedures that may assign fewer than the full list of areas to the bidder as long as the funding associated with the assigned areas is at least equal to a bidder-specified percentage of the funding requested for the complete list of areas in the package. The Commission proposes to allow a bidder to specify a package bid by providing a list of biddable areas, a single performance tier and latency combination, a single price point for the areas in the list, and a minimum scale percentage for the package. The minimum scale percentage must be no higher than a maximum value defined by the Commission, which will be less than 100%. Thus, a package bid is an offer by the bidder to serve any subset of areas in the list at the support amount implied at the bid percentage, provided that the ratio of the total implied support of the subset to the total implied support of the list meets or exceeds the bidder-specified minimum scale percentage.

83. The Commission proposes that a bidder must bid to serve each biddable area in the package bid at the same performance tier and latency combination. Moreover, the Commission proposes that every area in a package bid must be in the same state. The Commission proposes that for a given round, a biddable area can appear in at most one bid—either a single bid or a package bid—made by a given bidder. A bidder may change the minimum scale percentage in any package bid from round to round. The Commission seeks comment, as well, on whether it should set a limit on the total amount of

implied support that may be included in a single package. Limiting packages to the biddable areas within a state will impose a de facto limit on the total support that may be included in a package bid, but the Commission asks whether a limit, lower than the maximum possible state-level amount of support, should also be implemented.

84. The Commission also seeks comment on the appropriate upper limit of the bidder-specified minimum scale percentage. The Commission proposes 75% as its defined maximum of the minimum scale percentage. The Commission proposes to use an upper limit less than 100% so that small overlaps in the areas included in package bids do not prevent support from being assigned to a potentially much larger number of areas included in the package bids, which could occur if packages were assigned on an all-or-nothing basis.

85. The proposed package bidding format permits a bidder to ensure that it will receive a minimum amount of support equal to the bidder's specified minimum scale requirement if the bid is assigned, or no support if the bid is not assigned. The Commission seeks comment on the proposed package bidding format. Will this package bidding format facilitate packages that include areas with diverse costs, population densities, and other characteristics, especially considering that the Commission proposes not to allow different T+L weights for the areas in the package? Would the option to submit package bids be useful to both bidders that have small networks and bidders that have large networks?

5. Bids Placed by Proxy Bidding Instructions

86. The Commission proposes to permit proxy bidding, which could reduce bidders' need to submit bids manually every bidding round and provide bidders with a safeguard against accidentally failing to submit a bid. With proxy bidding, a bidder could submit instructions for the system to continue to bid automatically for an area with a specified performance tier and latency combination in every round until either the clock percentage falls below a bidder-specified proxy amount, the bidder intervenes to change its bid, or the area is assigned, whichever happens first. Proxy bidding instructions for a single area or a package of areas would contain all the information required for these bids, and the specified price point percentage would potentially be valid for multiple rounds. Proxy bidding instructions will not

be permitted to include instructions for changes to the minimum scale percentage of a package bid nor to the specified area or areas.

87. During a round, the bidding system will generate a bid at the clock percentage on behalf of the bidder as long as the percentage specified in the proxy instruction is less than or equal to the current clock percentage. If the proxy percentage exceeds the current clock percentage but is lower than the prior round's clock percentage, then the bidding system will generate a bid at the price point percentage of the proxy. These bids would be treated by the auction system in the same way as any other bids placed in the auction. During a bidding round, a bidder may cancel or enter new proxy bidding instructions. Because proxy instructions may expire as the clock percentage descends and as areas get assigned, even with proxy bidding, bidders are strongly urged to monitor the progress of the auction to ensure that they do not need to cancel or adjust their proxy instructions. The Commission seeks comment on whether to provide for proxy bidding in this way.

88. Proxy bidding instructions will be treated as confidential information and would not be disclosed to the public at any time after the auction concludes, because they may reveal cost information that would not otherwise be made public (e.g., if proxy bidding instructions are not fully implemented because the clock percentage does not fall as low as the specified proxy percentage). However, all submitted bids and the amount of support awarded for any assigned bid, regardless of whether they were placed by the bidder or by the bidding system according to proxy bidding instructions, will be publicly disclosed. The Commission seeks comment on these proposals.

6. Activity Rules

89. The Commission proposes to measure a bidder's bidding activity in a round in terms of implied support dollars and to adopt activity rules that prevent a bidder's activity in a round from exceeding its activity in the previous round.

90. The Commission proposes that a bidder's activity in a round: (1) be calculated as the sum of the implied support amounts (calculated at the bid percentage) for all the areas bid for in the round, and (2) not exceed its activity from the previous round. The Commission further proposes that a bidder be

limited in its ability to switch to bidding for support in different areas from round to round. Specifically, a bidder's activity in a round from areas that the bidder did not bid on at the previous round's clock percentage cannot exceed an amount determined by a percentage (the "switching percentage") of the bidder's total implied support from bids at the previous round's clock percentage. The Commission proposes to set this switching percentage at 20% for the second round of the auction only, at 10% for subsequent rounds, and to give OEA the discretion to change the switching percentage, with adequate notice, before a round begins. The Commission also proposes not to allow any switching once the budget has cleared, that is, under this proposal, a bidder would be allowed to bid for an area only if the bidder bid for that area at the previous round's clock percentage and if that area has not yet been assigned.

91. The Commission seeks comment on these proposed activity rules. In addition, the Commission asks for comment on the appropriate size of the switching percentage, and, if it is to be changed across rounds, when and how it should be changed. Will the proposed 20/10 switching percentage allow a bidder sufficient flexibility to react to other bidders' bids from the prior round?

B. Bid Processing

92. The Commission proposes that once a bidding round closes, the bidding system will consider the submitted bids to determine whether an additional round of bidding at a lower clock percentage is needed to bring the amount of requested support down to a level within the available budget. If the total requested support at the clock percentage exceeds the budget, another bidding round occurs. In a round in which the amount of overall requested support falls to a level within the budget (i.e., the budget "clears"), bid processing will take the additional steps of beginning to assign support.

93. If, after the bids have been processed in the clearing round, some areas bid at the clock percentage have not been assigned (e.g., because there were multiple bids for an area at the same T+L weight at the clock percentage), the bidding system will commence another round of bidding to resolve the competition, and rounds will continue with bidding for these areas at lower clock percentages.

94. As a result of these proposed procedures, the bids that can be assigned under the budget in the round when the budget clears and in any later rounds will determine the areas that will be provided

support under the Rural Digital Opportunity Fund. At most, one bid per area will be assigned support. The specifications of that bid, in turn, determine the performance tier and latency combination at which service will be provided to the eligible locations in the area. Additional details and examples of bid processing will be provided in the technical guide.

95. The Commission seeks comment generally on its proposed approach to assigning bids and determining support amounts. The Commission asks any commenters supporting an alternative approach to consider the goals of the Commission in the Rural Digital Opportunity Fund proceeding, the decisions made to date on auction design, and how any suggested alternatives would integrate with other aspects of the auction design.

1. **Clock Percentage**

96. The Commission proposes that in each of a series of discrete bidding rounds, a bidder will be offered an amount of support for an area at a specified performance tier and latency combination that is determined by the clock percentage for the round and the area's reserve price. By bidding at that clock percentage, the bidder indicates that it is willing to provide the required service within the bid area in exchange for a payment at least as large as that implied by the clock percentage and the T+L weight. The opening percentage will determine the highest support amount that the bidder will be offered in the auction for a given area and performance tier and latency combination.

a. **Opening Percentage**

97. The Commission proposes to start the clock percentage at 100% plus an additional percentage equal to the largest T+L weight that is submitted by any qualified bidder in the auction. Therefore, if any applicant is qualified to bid to provide service at the Minimum performance tier and high latency—a performance tier and latency combination assigned a weight of 90—the Commission proposes that the clock percentage will start at 190%. Starting the auction at this level will allow bidders at higher T+L weights multiple bidding rounds in which to compete for support simultaneously with bidders offering lower T+L weights (i.e., higher performance).

98. The Commission seeks comment on this approach to setting the opening percentage, and

request that commenters, in considering the proposal, bear in mind the Commission’s previous decisions to: (1) provide an opportunity for bidders offering different performance standards to compete against each other for the budget, and (2) balance this approach with the use of performance scoring weights previously determined by the Commission.

b. Clock Decrements

99. The Commission proposes to decrement the clock percentage by 10 points in each round. However, the Commission also proposes to provide OEA with the discretion to change that amount during the auction if it appears that a lower or higher decrement would better manage the pace of the auction. For example, if bidding is proceeding particularly slowly, the Commission may increase the bid decrement to speed up the auction, recognizing that bidders have the option of bidding at an intra-round price point percentage if the clock percentage falls to a percentage corresponding to an amount of support that is no longer sufficient. The Commission would begin the auction with a decrement of 10% and limit any further changes to the decrement to between 5% and 20%.

100. The Commission seeks comment on this proposal. Alternatively, the Commission seeks comment on using a decrement larger than 10% in the early rounds of the auction, when the implied support amounts of many bidders are capped at the reserve price and therefore are not changing from round to round. The Commission also seeks comment on circumstances under which it should consider changing the decrement during the auction.

2. Bid Processing After a Clock round Before the Clearing Round

a. Aggregate Cost at the Clock Percentage

101. After each round until the budget has cleared, the bidding system will calculate an “aggregate cost,” an estimate of what it would cost to assign support at the clock percentage to the bids submitted in the round, in order to determine whether the budget will clear in that round. More precisely, the aggregate cost is the sum of the implied support amounts for all the areas receiving bids at the clock percentage for the round, evaluated at the clock percentage. The calculation counts each area only once, even if the area receives bids, potentially including package bids, from multiple bidders. If there are

multiple bids for an area at different performance tier and latency combinations, the calculation uses the bid with the highest implied support amount. If the aggregate cost for the round exceeds the budget, the bidding system will implement another round with a lower clock percentage. The Commission seeks comment on this proposed approach.

b. Clearing Determination

102. The first round in which the aggregate cost is less than or equal to the overall support budget is considered the “clearing round.” In the clearing round, the Commission proposes to have the bidding system further process bids submitted in the round and, if necessary, bids submitted at the previous round’s clock percentage, to determine those areas that can be assigned and the support amounts winning bidders will receive. Once the clearing round has been identified, the system no longer calculates the aggregate cost, even if there are subsequent bidding rounds. The Commission seeks comment on this proposal.

3. Bid Processing in the Clearing Round

103. In the clearing round, the bidding system will consider bids in more detail to determine which can be identified as winning, or “assigned,” bids in that round; the “second prices” to be paid for winning bids; and which bids will carry over for bidding in an additional bidding round or rounds. The Commission addresses the proposed procedures for these determinations.

a. Assignment

104. The Commission proposes that once bid processing has determined that the current round is the clearing round, the bidding system will begin to assign winning bids, awarding support to at most one bid for a given area. The system considers all the bids submitted in the round in ascending order of price point percentage to determine which bids can be assigned within the budget. Bids at the same price point would be considered in ascending order of T+L weight.

105. As it considers bids in ascending price point percentage order and then in ascending T+L weight order, the system assigns a bid with a given T+L weight if no other bid for the same area has already been assigned, as long as the area did not receive bids at the clock percentage at the same or at a

lower T+L weight and the areas to be assigned in a package bid meet the bid's minimum scale percentage. The bidding system also checks to ensure that sufficient budget is available to assign the bid.

106. To determine whether there is sufficient budget to support a bid, the bidding system keeps a running sum of support costs. This cost calculation at price point percentages between and including the current and previous clock percentages extends the concept of the aggregate cost calculation (which identifies the clearing round) to take into account, at sequential intermediate price points, the cost of bids that have been assigned so far and the estimated cost for areas bid at the clock percentage that have not been assigned.

107. The Commission proposes that at each ascending price point increment, starting at the clock percentage, the running cost calculation is the sum of support for three types of bids: (1) for assigned bids for which there were no other bids for support for their respective areas at price points lower than the currently-considered price point percentage, the system calculates the cost of providing support as the amount of support implied by the currently considered price point, (2) for assigned bids for areas that did receive other bids at price points lower than the currently-considered price point, support is generally calculated as the amount implied by the next-higher price point at which the area received a bid (where next-higher is relative to the price point of the assigned bid, not the currently-considered price point), and (3) bids at the clearing round's clock percentage that have not been assigned are evaluated as they were in the pre-clearing aggregate cost calculation: only one bid per area is included in the calculation, namely, the bid with the highest implied support amount (i.e., the lowest T+L weight) evaluated at the clock percentage.

108. Once the system has determined which of the bids submitted in the round are assigned, it then determines the highest price point percentage at which the total support cost of the assigned bids does not exceed the budget (the "clearing price point"). There will be no assigned bids at price point percentages above the clearing price point.

109. The Commission further proposes that, once the system has processed all the bids submitted in the round, if the system has determined that the clearing price point is equal to the clock

percentage of the previous round and there is still available budget, the system will proceed to consider bids submitted at the clock percentage of the previous round. These carried-forward bids will be considered in ascending order of T+L weights, and bid-specific pseudo-random numbers will be used to break ties. This process will be addressed in more detail in the technical guide.

b. Support Amount Determination

110. To determine the support amount for an assigned area, the system considers whether there were any other bids for the area in the round below the clearing price point. If there were no other bids below the clearing price point, the assigned area is supported at the clearing price point.

111. If a bid is assigned for an area that received more than one bid in the round below the clearing price point, the assigned bid is generally supported at the next higher price point percentage at which there is a bid for the area. For example, if there are two bids for an area below the clearing price point, the lower bid is supported at the bid percentage of the higher bid.

112. For any carried-forward bids assigned in the clearing round, the support amounts will be calculated based on the clock percentage of the previous round. A carried-forward bid can be assigned in the clearing round only if the system has determined that the clearing price point is equal to the clock percentage of the previous round.

113. The Commission seeks comment on these assignment and pricing proposals for the clearing round.

4. Bids and Bid Processing if the Budget Cleared in a Previous Round

a. Carried-Forward and Acceptable Bids

114. Once the budget clears, further bidding resolves competition for areas that were bid at the clock percentage of the previous round and have not yet been assigned. Therefore, bidding rounds continue after the clearing round at lower clock percentages, but bids are restricted to areas for which the bidder had bid at the previous round's clock percentage but which could not be assigned. Such bids may be for a given unassigned area that received multiple single bids, package bids that were not assigned because the bidder's minimum scale percentage for the package was not met, or remainders of package

bids—unassigned areas that formed part of package bids that were partially assigned.

115. The Commission proposes that these bids at the clock percentage for unassigned areas will carry forward automatically to the next bidding round at the previous round's clock percentage, since the bidder had previously accepted that percentage. In the round into which the bids carry forward, the bidder may also bid for support for these areas at the current round's clock percentage or at intermediate price points. In rounds after the clearing round, a bidder cannot switch to bidding for an area for which it did not bid at the previous round's clock percentage.

116. While bids for unassigned packages will carry forward at the previous clock percentage, the bidder for such a package may group the bids for the areas in the package into smaller packages and bid on those smaller packages at the current round's percentages. However, the unassigned remainders of package bids partially assigned to the bidder will carry forward as individual area bids. Any bids the bidder places for the remainder areas at the new round's percentages must be bids for individual areas—that is, the bidder cannot create a new package of any of the unassigned remainders.

117. The Commission proposes that proxy instructions, if at a price point percentage below the clock percentage of the previous round, generally continue to apply in rounds after the clearing round under the same conditions that apply to other bids. For package bids made by proxy that are only partially assigned to the bidder, the proxy instructions continue to apply to the unassigned areas in the package bid. That is, the price point percentage specified in the proxy instructions would apply to bids for the individual remainder areas.

b. Bid Processing

118. When processing the bids of a round after the clearing round, the system considers bids for assignment and support amount determination in ascending order of T+L weight and then in ascending order of price point percentage. The system assigns a bid with a given T+L weight if the area has not already been assigned, as long as the area did not receive bids at the clock percentage at the same or at a lower T+L weight and, in the case of a package bid, as long as the areas to be assigned in the package meet the bid's minimum scale percentage.

119. To determine the support amount for an assigned area, the system considers whether there were any other bids for the area in the round at the same or at a lower T+L weight. If there were no other bids, the assigned area is supported at the clock percentage of the previous round, consistent with the second-price rule. If a bid is assigned for an area that received more than one bid in the round at the same or at a lower T+L weight, the assigned bid is generally supported at the next higher price point percentage at which there is a bid for the area at the same or at a lower T+L weight.

120. If, after the bids of the round have been processed, one or more of the areas with bids at the clock percentage have not yet been assigned, there will be another bidding round at a lower clock percentage, with the same restrictions on bids and following the same assignment and pricing procedures.

121. The Commission seeks comment on these proposed procedures for assigning bids and determining support amounts in rounds after the clearing round.

c. Closing Conditions

122. The auction will end once the overall budget has cleared if all areas that were bid at the round's clock percentage were assigned during the bid processing of the round.

d. Availability of Auction-Related Information

123. The Commission proposes that the public will have access to certain auction information, while auction participants will have secure access to additional, non-public information.

(i) Information Available to Bidders During the Auction

124. The Commission proposes to limit the disclosure of information regarding bidding in the auction. After each round ends and before the next round begins, the Commission proposes to make the following information available to individual bidders:

- The clock percentage for the upcoming round.
- The aggregate cost at the previous round's clock percentage up until the budget clears.
 - The aggregate cost at the clock percentage is not disclosed for the clearing round or any later round.

- The bidder's activity, based on all bids in the previous round, the implied support of the bidder's bids at the clock percentage, and the implied support of the bidder's carried-forward bids.
 - In rounds after the clearing round, the bidder's assigned support will also be available.
- Summary statistics of the bidder's bidding in the previous round, including:
 - The number of areas for which it bid, at the clock percentage and at other price points, and the number of areas for which proxy instructions are in effect for future rounds.
 - A list of the bidder's carried-forward bids.
 - After the clearing round, areas and support amounts that have been assigned to the bidder.
- For all eligible areas in all states, including those in which the bidder was not qualified to bid or is not bidding, whether the number of bidders that placed bids at the previous round's clock percentage was 0, 1, or 2 or more.
 - For the clearing round and any subsequent round, bidders are also informed about which areas have been assigned.

125. Prior to each round, the Commission also proposes to make available to each bidder the implied support amounts at the round's clock percentage for the areas and performance tier and latency combinations for which the bidder is eligible to bid.

126. In addition to informing bidders whether the number of bidders that placed bids at the previous round's clock percentage was 0, 1, or 2 or more, the Commission seeks comment on making available to bidders the lowest T+L weight of any bid for each area in which there were 2 or more bids at the round's clock percentage. This information could encourage bidders with relatively higher T+L weights to move some bids to areas where they may be more likely to win support, thereby increasing the number of areas receiving winning bids. Commenters should also consider whether this modification might negatively impact the auction, such as by risking collusion or discouraging participation by bidders with higher T+L weights. The Commission seeks comment on how this proposal could impact competition in the auction or affect potential bidders' interest.

(ii) Application Information Procedures

127. The Commission proposes to withhold from the public, as well as other applicants, the following information related to the short-form application process at least until the auction closes and the results are announced:

- The state(s) selected by an applicant.
- The state(s) for which the applicant has been determined to be qualified to bid.
- The performance tier and latency combination(s) selected by an applicant.
- The spectrum access attachment submitted with the short-form application.
- The performance tier and latency combination(s) for which the applicant has been determined to be eligible to bid and the associated weight for each combination.
- An applicant's responses to the questions in Appendix A and any supporting documentation submitted in any attachment(s) that are intended to demonstrate an applicant's ability to meet the public interest obligations for each performance tier and latency combination that the applicant has selected in its application.
- Any financial information contained in an applicant's short-form application for which the applicant has requested confidential treatment under the abbreviated process.
- An applicant's letter of interest from a qualified bank that the bank would provide a letter of credit to the applicant.

All other application information that is not subject to a request for confidential treatment under section 0.459 of the Commission's rules would be publicly available upon the release of the public notice announcing the status of submitted short-form applications after initial review.

128. The Commission proposes to permit any applicant to use the abbreviated process under section 0.459(a)(4) to request confidential treatment of the financial information contained in its short-form application. The abbreviated process would allow all applicants to answer a simple yes/no question on FCC Form 183 as to whether they wish their information to be withheld from public inspection. The Commission will not grant requests to withhold financial data that applicants elsewhere disclose to the

public, and that information will be disclosed in the normal course.

129. The Commission would withhold information on the progress of the auction from the general public until after the close of bidding when auction results are announced. Accordingly, during the auction, the public would not have access to such interim information as the current round, clock percentage, aggregate cost, or any summary statistics on bidding or assigned bids that may reveal or suggest the identities of bidders associated with any specific bids.

130. After the close of bidding and announcement of auction results, the Commission proposes to make publicly available all short-form application information and bidding data, except for an applicant's operational information, letter of interest, confidential financial information, and proxy bidding instructions.

131. The Commission seeks comment on its proposals to limit the availability of bidding information during the auction and to adopt limited information procedures for the Rural Digital Opportunity Fund auction concerning the application and bidding data that will be publicly available before, during, and after the auction.

Proposed Auction 904 Short-Form Application Operational Questions

132. *Operational History.*

1. Has the applicant previously deployed consumer broadband networks (Yes/No)? If so:
 - a. Provide the date range when broadband service was offered and in which state(s) service was offered. Specify dates for each state.
 - b. Provide an estimate of how many subscribers are currently served in each state. (If the applicant is no longer providing service in any state, estimate the number of customers that were served at the beginning of the last full year that the applicant did provide service.)
 - c. What services (e.g., voice, video, broadband Internet access) were or are provided in each state?
 - d. List any data-usage limit (data cap) used as part of existing broadband access services.

- e. What specific technologies and network architecture are used for last-mile; middle-mile/backhaul; and internet interconnections?
 - f. What are the deployed voice technologies and how are these voice services implemented?
133. Proposed Network(s) Using Funding from the Rural Digital Opportunity Fund Auction.

Answer for each state the applicant selected in its application:

2. Network Infrastructures:

- a. Briefly describe from a high-level network perspective which network architectures and technologies will be used in the applicant's proposed deployment. If there are variations by state, region, or other criteria, describe each network or location.
 - b. Last-mile: What are the relevant topologies, technologies and protocols and the corresponding industry standards for the last-mile network infrastructure in the applicant's proposed deployment?
 - c. Middle-Mile/Backhaul: What are the relevant topologies, technologies and protocols and the corresponding industry standards for the middle-mile/backhaul network infrastructure in the applicant's proposal?
 - d. Internet Access: What are the relevant topologies, technologies and protocols and the corresponding industry standards for the Internet access network infrastructure in the applicant's proposal? This is the connection to major IXPs, transit providers, etc.
 - e. If the applicant is proposing to use non-standard technologies and protocols, the applicant should identify which vendor(s) and product(s) are being considered and provide links to the vendors' websites and to publicly available technical specifications of the product(s).
3. Voice Services: Briefly describe the anticipated system(s) that will be used to provide voice services to the applicant's subscribers. Examples of such solutions could include: (1) internally designed and operated; (2) provided by a Managed Voice Service Provider; or (3) or an OTT (Over-The-Top) solution available to subscribers via the applicant. If the applicant is considering multiple solutions, provide information on each one and identify possible vendors or service

providers.

4. Network Performance:

- a. Can the applicant demonstrate that the technology and the engineering design will fully support the proposed performance tier, latency and voice service requirements for the requisite number of locations during peak periods (Yes/No)?
- b. Briefly describe the capabilities of the network technologies that will enable performance tier (speed and usage allowance), latency and (where applicable) voice service mean opinion score (MOS) requirements to be met. This can include traffic management, Quality of Service, over-building/scalability, using equipment that easily allows upgrades and other techniques.
- c. State the target or design peak period over-subscription ratio(s) for the last-mile, middle-mile/backhaul and Internet interconnection that will be used. Additionally, describe the basic assumptions and calculation that will be used in determining these ratios.
- d. What general rules-of-thumb will be used to determine if any portion of the network infrastructure needs to be improved, upgraded or expanded to ensure the network is able to meet the required speed, latency and where required voice quality? For example, taking action when (1) when middle-mile link average peak period load is greater than 70%; when a link peak period load exceeds 95% more than 10 times; when a router's average peak period processing utilization exceeds 70%; when an Internet access link load exceeds 75% for a specified time period; when call setup, call drop, call completion rates meet or exceed applicant targets.
- e. For fixed broadband wireless access networks, describe how the proposed frequency band(s) and technology attributes, for both last mile and backhaul, will achieve the performance tier(s) and latency requirements to all locations. Specifically, describe how the planned frequency bands, base station configuration, channel bandwidths, traffic

assumptions and propagation assumptions and calculations yield sufficient capacity to all the planned locations.

5. Network Buildout: Can the applicant demonstrate that all the network buildout requirements to achieve all service milestones can be met (Yes/No)? The applicant will be required to submit a detailed project plan in the long-form application if it is named as a winning bidder. Describe concisely the information that the applicant would make available in such a detailed project plan.
6. Network Equipment, Consultants and Deployment Vendors: For the proposed performance tier and latency combination, can the applicant demonstrate that potential vendors, integrators and other partners are able to provide commercially available and fully compatible network equipment/systems, interconnection, last mile technology and customer premise equipment (CPE) at cost consistent with applicant's buildout budget and in time to meet service milestones (Yes/No)? Describe concisely the information and sources of such information that the applicant could make available to support this response.
7. Network Management:
 - a. Briefly describe the method(s) that will be used to monitor, operate, problem resolution, provision and optimize the network and associated services such as voice. Identify if the proposed solution is internally developed and operated; expands existing systems; uses a third-party network management provider; or is some variant or combination of these methods.
 - b. Remember to include how voice operations will be monitored, operated, problems resolved, provisioned and optimized as appropriate.
 - c. If the applicant will expand existing network management systems, describe how the current system provides successful operations.
 - d. If the applicant will use third-party network management provider, identify any providers the applicant is currently considering.

- e. If the applicant will develop, deploy and operate a new system can the applicant demonstrate that it can provide internally developed operations systems for provisioning and maintaining the proposed network including equipment and segments, interconnections, CPE and customer services at cost consistent with applicant’s buildout budget and in time to meet service milestones (Yes/No)? If not, can the applicant demonstrate that potential vendors, integrators, and other partners are able to provide commercially available and fully compatible operations systems and tools for provisioning and maintaining the proposed network at cost consistent with applicant’s buildout budget and in time to meet service milestones (Yes/No)? Describe concisely the information and sources of such information that the applicant could make available to support these responses.
8. Satellite Networks: If the applicant is using satellite technologies, identify which satellites would be used, and describe concisely the total satellite capacity available, that is, capacity that is not currently in use for existing subscribers.

Proposed Auction 904 Spectrum Chart

Spectrum Band/Service	Paired Licensed		Unpaired Licensed	Unlicensed
	Uplink Freq. (MHz)	Downlink Freq. (MHz)	Uplink & Downlink Freq. (MHz)	Unlicensed (MHz)
600 MHz	663- 698	617- 652		
Lower 700 MHz	698- 716	728- 746	716- 728 (Downlink only)	
Upper 700 MHz	776- 787	746- 757		
800 MHz SMR	813.5/817- 824	858.5/862- 869		
Cellular	824- 849	869- 894		
Broadband PCS	1850- 1915	1930- 1995		
AWS- 1	1710- 1755	2110- 2155		
AWS (H Block)	1915- 1920	1995- 2000		
AWS- 3	1755- 1780	2155- 2180	1695- 1710 (Uplink only)	

Spectrum Band/Service	Paired Licensed		Unpaired Licensed	Unlicensed
	Uplink Freq. (MHz)	Downlink Freq. (MHz)	Uplink & Downlink Freq. (MHz)	Unlicensed (MHz)
AWS- 4			2000- 2020 2180- 2200 (Downlink only)	
BRS/EBS			2496- 2690	
WCS	2305- 2315	2350- 2360	2315- 2320 2345- 2350	
CBRS (3.5 GHz)			3550- 3700	
UMFUS (terrestrial)			24,250- 24,450 24,750- 25,250 27,500- 28,350 37,600- 38,600 38,600- 40,000 47,200- 48,200	
70- 80- 90 GHz unpaired & 70- 80 GHz paired (point-to-point terrestrial)	Point- to- Point Pairs for 70- 80 GHz 71,000- 76,000 with 81,000- 86,000		71,000- 76,000 81,000- 86,000 92,000- 94,000 94,100- 95,000	
TV White Spaces				54- 72 76- 88 174- 216 470- 698
900 MHz				902- 928
2.4 GHz				2400- 2483.5
5 GHz				5150- 5250 5250- 5350 5470- 5725 5725- 5850
24 GHz				24,000- 24,250
57- 71 GHz				57,000 – 71,000
Ku Band (satellite)	12,750- 13,250 14,000- 14,500	10,700- 12,700		
Ka Band (satellite)	27,500- 30,000	17,700- 20,200		
V Band (satellite)	47,200- 50,200 50,400- 52,400	37,500- 42,000		

Abbreviations

AWS	Advanced Wireless Services
BRS/EBS	Broadband Radio Service / Education Broadband Service
CBRS	Citizens Broadband Radio Service
PCS	Personal Communications Service
SMR	Specialized Mobile Radio
UMFUS	Upper Microwave Flexible Use Service
WCS	Wireless Communications Service

V. PROCEDURAL MATTERS

134. *Supplemental Initial Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act of 1980 (RFA), the Commission prepared an Initial Regulatory Flexibility Analysis (IRFA) in connection with the *Rural Digital Opportunity Fund NPRM*, 84 FR 43543, August 21, 2019, and a Final Regulatory Flexibility Analysis (FRFA) in connection with the *Rural Digital Opportunity Fund Order*. The Commission sought written public comment on the proposals in the *Rural Digital Opportunity Fund NPRM*, including comments on the IRFA. The Commission did not receive any comments in response to the Regulatory Flexibility Analyses.

135. The IRFA for the *Rural Digital Opportunity Fund NPRM* and the FRFA for the *Rural Digital Opportunity Fund Order* set forth the need for and objectives of the Commission's rules for the Rural Digital Opportunity Fund auction; the legal basis for those rules; a description and estimate of the number of small entities to which the rules apply; a description of projected reporting, recordkeeping, and other compliance requirements for small entities; steps taken to minimize the significant economic impact on small entities and significant alternatives considered; and a statement that there are no federal rules that may duplicate, overlap, or conflict with the rules. The proposals in the document do not change any of those descriptions. However, because the Public Notice proposes specific procedures for implementing the rules proposed in the *Rural Digital Opportunity Fund NPRM* and adopted in the *Rural Digital Opportunity Fund Order*, the Commission has prepared a supplemental IRFA seeking comment on how the proposals in the document could affect those Regulatory Flexibility Analyses.

136. The proposals in the document include procedures for awarding Rural Digital Opportunity Fund support through a multi-round, reverse auction and the availability of application and auction information to bidders and to the public during and after the auction. The document also includes detailed proposed bidding procedures for a descending clock auction, including bid collection, clock prices, proposed bid format, package bidding format, proxy bidding, bidder activity rules, bid processing, and how support amounts are determined. The bidding procedures proposed are designed to facilitate the participation of qualified service providers of all kinds, including small entities, in the Rural Digital Opportunity Fund program, and to give all bidders, including small entities, the flexibility to place bids that align with their intended network construction or expansion, regardless of the size of their current network footprints. In addition, the document specifically seeks comment on information the Commission could make available to help educate parties that have not previously participated in a Commission auction, and on whether OEA and the Bureau should work with the Commission's Office of Communications Business Opportunities to engage with small providers.

137. To implement the rules adopted by the Commission in the *Rural Digital Opportunity Fund Order* for the pre-auction process, the document proposes specific procedures and requirements for applying to participate and becoming qualified to bid in the Rural Digital Opportunity Fund auction, including designating the state(s) in which an applicant intends to bid and providing operational and financial information designed to allow the Commission to assess the applicant's qualifications to meet the Rural Digital Opportunity Fund public interest obligations for each area for which it seeks support. The document also makes proposals that address the types of further information that may be required in the post-auction long-form application that a winning bidder must file to become authorized to receive support. The application procedures proposed are intended to require applicants to submit enough information to permit the Commission to determine their qualifications to participate in the Rural Digital Opportunity Fund auction, without requiring so much information that it is cost-prohibitive for any entity, including small entities, to participate.

138. The Commission seeks comment on how the proposals in the document could affect the

IRFA for the *Rural Digital Opportunity Fund NPRM* or the FRFA in the *Rural Digital Opportunity Fund Order*. Such comments must be filed in accordance with the same filing deadlines for responses to the Public Notice and have a separate and distinct heading designating them as responses to the IRFA and FRFA.

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

Federal Communications Commission.

Cecilia Sigmund,

Federal Register Liaison Officer

Office of the Secretary.

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