



PUBLIC NOTICE

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AUCTION OF LICENSES IN THE 747 – 762 AND 777 – 792 MHz BANDS SCHEDULED FOR SEPTEMBER 6, 2000

PROCEDURES IMPLEMENTING PACKAGE BIDDING FOR AUCTION NO. 31

BIDDER SEMINAR SCHEDULED FOR JULY 24, 2000

Report No. AUC-00-31-H (Auction No. 31)

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I. INTRODUCTION AND GENERAL INFORMATION

A. Introduction

This public notice announces revised procedures to allow for package bidding for the upcoming auction of licenses for services in the 747-762 and 777-792 MHz bands¹ (“Auction No. 31”). On February 18, 2000, the Wireless Telecommunications Bureau (“Bureau”) announced the procedures and minimum opening bids for Auction No. 31.² On May 18, 2000, the Bureau released a public notice seeking comment on modifying those procedures to allow combinatorial (or “package”) bidding for Auction No. 31.³ The Bureau received twelve comments, five reply comments, and a number of *ex parte* communications in response.⁴ On June 22, 2000, the Commission adopted the *700 MHz Memorandum Opinion and Order and Further Notice of Proposed Rulemaking* in which it stated that the Bureau may implement a combinatorial auction design for Auction No. 31 pursuant to its existing delegated authority if, after review of the comments, the Bureau finds combinatorial bidding to be appropriate and feasible.⁵

In general, package bidding should be an improvement over our usual auction design when (1) there are strong complementarities among licenses for some bidders, and (2) the pattern of those complementarities varies for different bidders. Under these circumstances, package bidding should yield the more efficient outcome, with licenses being sold to those bidders who value them the most. The comments we previously received in this docket have suggested these conditions are true for Auction No. 31. For example, some potential bidders have expressed the importance of acquiring a nationwide footprint, and others the importance of acquiring all 30 MHz in a region.⁶ The comments we received in response to the *Auction No. 31 Package Bidding*

¹ See Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules, WT Docket No. 99-168, *First Report and Order*, FCC 00-5 (rel. Jan. 7, 2000) at ¶ 15, 15 FCC Rcd 476, 483 (2000) (describing types of services permitted).

² See “Auction of Licenses in the 747-762 and 777-792 MHz Bands; Auction Notice and Filing Requirements for 12 Licenses in the 700 MHz Bands Auction Scheduled for May 10, 2000; Minimum Opening Bids and Other Auction Procedural Issues,” *Public Notice*, DA 00-292, 15 FCC Rcd 2921 (rel. Feb. 18, 2000), 65 Fed. Reg. 12251 (Mar. 8, 2000) (“*Auction No. 31 Procedures Public Notice*”); “Auction of Licenses for the 747-762 and 777-792 MHz Bands Postponed until September 6, 2000,” *Public Notice*, DA 00-942 (rel. May 2, 2000), 65 Fed. Reg. 30598 (May 12, 2000) (“*Postponement PN*”).

³ See “Auction of Licenses in the 747-762 and 777-792 MHz Bands Scheduled for September 6, 2000; Comment Sought On Modifying The Simultaneous Multiple Round Auction Design To Allow Combinatorial (Package) Bidding,” *Public Notice*, DA 00-1075 (rel. May 18, 2000), 65 Fed. Reg. 35636 (June 5, 2000) (“*Auction No. 31 Package Bidding Comment Public Notice*”).

⁴ A list of commenters is contained in Appendix A. Copies of the filings may be found at the Bureau’s Auctions web site at <http://www.fcc.gov/wtb/auctions/700/700.html#comments>.

⁵ Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules, WT Docket No. 99-168, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, FCC 00-224 (rel. June 30, 2000) at ¶ 76 (“*700 MHz Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*”).

⁶ See *Auction No. 31 Procedures Public Notice* at 32-36, 15 FCC Rcd at 2952-56.

Comment Public Notice largely concur that package bidding is appropriate for the types of licenses being sold in Auction No. 31.

Under the procedures we establish here, as discussed more fully below, bidders may place bids on individual licenses, as under our usual auction procedures, and may also place all-or-nothing bids on up to twelve packages of licenses of their own design.⁷ This approach allows bidders to better express the value of any synergies (benefits from combining complementary items) that may exist among licenses. The winning bids are the set of “consistent” bids⁸ on individual licenses and packages that maximize total revenue when the auction closes.

The specific procedures we establish are designed to meet a number of objectives. They are designed to be efficient, and to avoid both *exposure problems* — the risk of bidders winning licenses they do not desire — and *threshold problems* — the difficulty that multiple bidders desiring the single licenses (or smaller packages) that constitute a larger package may have in outbidding a single bidder bidding for the larger package. The procedures are also designed to allow the auction to proceed at an appropriate pace; to encourage straightforward bidding and deter gaming; and to be simple for straightforward bidders while permitting bidders to employ flexible backup strategies.

As a general matter, bidders in our simultaneous multiple round auction that wish to acquire a certain combination of licenses, and only that combination, may face an *exposure problem*. Although they desire either all of the licenses or none, by bidding on the licenses individually they risk winning only some of the licenses. They therefore risk either acquiring licenses they do not desire or paying more for each license than they would have paid if they knew that the license was not going to be part of the combination they desired.⁹ With the package bidding procedures we establish today, however, this risk can be avoided. For example, a bidder desiring an aggregation of all six 20 MHz licenses in order to implement a nationwide service could bid on the six licenses as a package and thereby avoid the risk of winning only some of the desired licenses or of paying more for those licenses than it wishes.

Allowing package bidding, however, introduces a *threshold problem* — the difficulty that multiple bidders for the single licenses (or smaller packages) that constitute a larger package may have in outbidding a single bidder on the larger package, even though the multiple bidders may value the sum of the parts more than the single bidder values the whole. This may occur because bidders for parts of a larger package each have an incentive to hold back in the hope that a bidder for another part will increase its bid sufficiently for the bids on the pieces collectively to beat the

⁷ Bidders may design their 12 packages at any point during the auction.

⁸ Consistent bids are bids that (i) do not overlap and (ii) are made or renewed by an individual bidder in the same round (bids made by an individual bidder in different rounds are treated as mutually exclusive under the procedures we are establishing for this auction).

⁹ In other words, a bidder may be willing to pay \$50 per license if it can acquire all of the licenses in the combination it desires, but only \$30 per license if it acquires only some of those licenses.

bid on the larger package. The package bidding procedures that we establish are designed to facilitate the emergence of bids that will overcome this problem.

The changes we adopt from our initial package bidding proposal respond to three design weaknesses that were identified by commenters. First, the proposal to allow only nine specific packages was too restrictive. Second, in some circumstances the rules could have resulted in bidders being caught with retained but non-winning bids¹⁰ that they no longer wished to hold. This possibility could have chilled bidding and made bidders unable to switch to backup strategies. Third, the pace of the auction could be too slow because there were inadequate incentives for bidders to make bids that would be or could become provisional winning bids, as opposed to bids that merely preserved bidders' eligibility but were unlikely to become winning. In addition, implementation of package bidding procedures for Auction No. 31 makes unnecessary the nationwide bid withdrawal procedure we established in the *Auction No. 31 Procedures Public Notice*.¹¹

B. Auction Specifics

1. Auction Procedures and New Dates and Deadlines

The auction procedures announced in the February 18, 2000, *Auction No. 31 Procedures Public Notice* remain in effect except as modified by (1) the dates announced in the May 2, 2000, *Postponement Public Notice*, and (2) the package bidding and other auction procedures established here.¹² The new schedule is as follows:

Filing Window Opens for FCC Form 175	July 17, 2000
Bidder Seminar	July 24, 2000
Filing Deadline for FCC Form 175	August 1, 2000, 6:00 PM ET
Upfront Payment Deadline	August 18, 2000, 6:00 PM ET
Mock Auction	August 31, 2000
Auction Start Date	September 6, 2000

¹⁰ A "retained" bid was defined as a provisionally winning bid or a bid that has the potential to become a provisionally winning bid because of changes in other bids in subsequent rounds.

¹¹ See *Auction No. 31 Procedures Public Notice* at 32-36, 15 FCC Rcd at 2952-56.

¹² The Public Notices regarding this auction can be found on the Bureau's Auction web site at <http://www.fcc.gov/wtb/auctions/700/700.html#PN>.

2. Licenses and Packages To Be Auctioned

The licenses available in this auction consist of one 20 megahertz license (consisting of paired 10 megahertz blocks) and one 10 megahertz license (consisting of paired 5 megahertz blocks) in each of six regions to be known as the 700 MHz Band Economic Area Groupings (“700 MHz Band EAGs”). These licenses are listed in this public notice in Attachment A and are shown in the following table.

700 MHz Band EAGs

	Northeast	Mid-Atlantic	Southeast	Great Lakes	Central / Mountain	Pacific
10 MHz	WXEAG701-C	WXEAG702-C	WXEAG703-C	WXEAG704-C	WXEAG705-C	WXEAG706-C
20 MHz	WXEAG701-D	WXEAG702-D	WXEAG703-D	WXEAG704-D	WXEAG705-D	WXEAG706-D

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed to permit bidders to submit all-or-nothing bids on nine packages of licenses: a global package of all of the licenses; a nationwide package of either 10 MHz or 20 MHz consisting of the six 10 MHz or the six 20 MHz licenses, respectively; or six regional 30 MHz packages consisting of the 10 MHz license and the 20 MHz license for a particular 700 MHz Band EAG. We also sought comment on whether the Commission should allow all possible packages composed of the twelve individual licenses, or only certain additional packages.

Nextel Communications, Inc. (“Nextel”) supports the packages identified in the *Auction No. 31 Package Bidding Comment Public Notice* and opposes allowing bidders to create their own packages as it would add excessive complexity to the auction.¹³ SBC Wireless, Inc. and BellSouth Cellular Corporation (“SBC/BellSouth”) also argue in their joint comments that bidders should not be able to create any package they choose, stating that the proposed nine packages represents a reasonable balance for the Commission’s first package bidding auction.¹⁴ On the other hand, Verizon Wireless (“Verizon”) states that bidders should be able to choose more than just those few packages already identified; for example, bidders should be able to choose packages containing licenses in adjacent 700 MHz Band EAGs.¹⁵ Prof. Frank Kelly and Dr. Richard Steinberg (“Kelly/Steinberg”) believe that all possible packages should be allowed.¹⁶

¹³ Nextel Comments at 3.

¹⁴ SBC/BellSouth Comments at 5.

¹⁵ Verizon Comments at 6-7.

¹⁶ Kelly/Steinberg Comments at 1.

Telephone Data Systems (“TDS”) notes that limiting the number of packages may be inefficient and favors bidders whose choices coincide with the Commission’s.¹⁷ Prof. Charles Plott and Dr. Tim Salmon (“Plott/Salmon”) believe any restriction on the number of packages is unnecessary but may be a reasonable choice for the Commission’s first combinatorial auction.¹⁸ Spectrum Exchange Group, LLC (“Spectrum Exchange”) similarly favors allowing a larger collection of packages than proposed but understands why the Commission might wish to limit the number of packages in its initial combinatorial auction.¹⁹ We also note that the comments of participants at the Combinatorial Bidding conference²⁰ were in favor of allowing significantly more packages than were proposed.

We agree with Verizon and others that limiting packages to those identified by the Commission is overly restrictive and may lead to inefficient results. On the other hand, we are also concerned that allowing an unlimited number of packages would be needlessly complex and could facilitate strategic bidding. It is highly unlikely that any serious bidder actually needs to bid on all 4,095 combinations of licenses that are possible in this auction.²¹ Moreover, allowing bidders to bid upon an unlimited number of packages would introduce the risk of bidders “parking” bids²² which could lead to an unacceptable pace for the auction. Finally, from a purely practical view, allowing 4,095 possible packages may lead to computational difficulties.

Bidders will be permitted to create and bid on up to twelve different packages of their own choosing during the course of the auction.²³ This is a somewhat larger number than the nine packages originally proposed, and does not wed bidders to the Commission’s choice of packages (although bidders may very well choose to bid on some of the packages already identified.) We believe that this provides bidders with sufficient flexibility to achieve any reasonable business plan, while maintaining simplicity for bidders and the Commission, as well as limiting the opportunity for “parking” on an unlimited number of packages. Bidders will not be required to identify or create their packages before start of the auction, but may create their packages as the auction

¹⁷ TDS Comments, Attachment of Prof. Robert J. Weber (“Weber attachment”) at 1.

¹⁸ Plott/Salmon Comments at 4.

¹⁹ Spectrum Exchange Comments at 6.

²⁰ Conference on Combinatorial Bidding jointly sponsored by the Federal Communications Commission, the Stanford Institute for Economic Policy Research and the National Science Foundation, May 5-7, 2000. Once again, the Bureau wishes to express its gratitude for the time and invaluable assistance of those who participated in the conference, as well as those who have submitted comments here.

²¹ With twelve licenses, there are $(2^{12}-1)$ possible packages, or 4,095.

²² Parking is the placing of a bid that a bidder does not expect to become a winning bid for the purpose of maintaining eligibility and/or keeping the auction open.

²³ Each variation of a package is considered a separate package.

progresses.²⁴ Bidders may modify or delete a package after they create the package but before they bid on it. Once a bidder bids on a package, however, the package may not be modified or deleted and counts as one of the bidder's twelve allowable packages.²⁵

3. Bidding Methodology

The bidding methodology for Auction No. 31 will be simultaneous multiple round combinatorial (package) bidding.²⁶ Bidding will be permitted only from remote locations, either electronically (by computer) or telephonically.

4. Requirements for Participation

Those wishing to participate in the auction must:

- Submit a short form application (FCC Form 175) electronically by 6:00 p.m. EDT, August 1, 2000.
- Submit a sufficient upfront payment and an FCC Remittance Advice Form (FCC Form 159) by 6:00 p.m. EDT, August 18, 2000.
- Comply with all provisions outlined in this public notice and the February 18, 2000, *Auction No. 31 Procedures Public Notice*.
- Comply with all rules set forth in the Commission's orders in WT Docket No. 99-168, Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules.

5. Auction Registration and Remote Electronic Bidding Software

Procedures for replacement of lost security identification and access to remote electronic bidding software will be announced in a future Public Notice.

II. AUCTION EVENT

The first round of bidding for Auction No. 31 will begin on September 6, 2000. The initial bidding schedule will be announced in the public notice listing the qualified bidders, which is released approximately 10 days before the start of the auction.

²⁴ Bidders are limited to bidding on, and hence creating packages from, those licenses which they selected on their FCC Form 175 and for which they have eligibility. *See generally* Section II.A.2, Maximum Eligibility, and II.A.3, Activity Rules.

²⁵ Bidders may therefore wish to save one or more of their opportunities to create packages for use near the end of the auction.

²⁶ *See* below Section II.A.1, Simultaneous Multiple Round with Package Bidding.

A. Auction Structure

1. Simultaneous Multiple Round with Package Bidding

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed to award 12 licenses in the 700 MHz bands in a single, simultaneous multiple round auction with package bidding.²⁷ A majority of the commenters state that the Commission should implement a package bidding design for this auction.²⁸ Nextel observes that this auction “is particularly suited for the Commission’s first use of combinatorial bidding.”²⁹ Some commenters, however, while generally supportive of package bidding, argue that insufficient time exists to implement package bidding for this auction.³⁰ For example, Verizon argues that the proposal is too complicated to be understood by bidders in the limited time before the auction short-form applications are due.³¹ TDS states that the Commission should not adopt package bidding as proposed for this auction, but should instead consider package bidding in separate proceedings.³² Finally, VoiceStream Wireless Corp. (“VoiceStream”) argues that nothing has occurred since the Commission’s conclusion in the *700 MHz First Report and Order*³³ that would warrant a change in the conclusion that package bidding should not be used for this auction and states that further study and testing are required.³⁴ VoiceStream is also concerned that package bidding may encourage the award of nationwide packages, whereas it believes that regional or local packages will lead to the quicker deployment of services.³⁵

We conclude that it is appropriate and operationally feasible to implement the package bidding design described below for Auction No. 31. We believe that package bidding provides many advantages over our current simultaneous multiple round auction design. For the reasons we stated in the introduction, we believe that package bidding will allow bidders in this auction to take advantage of any synergies that exist among licenses and will lead to the most efficient outcome consistent with our objectives under Section 309(j) of the Communications Act of

²⁷ *Auction No. 31 Package Bidding Comment Public Notice*. To clarify our references, when we refer to “simultaneous multiple round” we mean without package bidding; when we refer to “package bidding” we mean simultaneous multiple round with package bidding.

²⁸ Nextel Comments at 1 (“urges the Commission to implement combinatorial bidding promptly”); SBC/BellSouth Comments at 1; Spectrum Exchange Comments at 1; Kelly/Steinberg Comments at 1; Levin Comments at 1; Pekec/Rothkopf Comments at 1; Plott/Salmon Comments at 1.

²⁹ Nextel Comments at 3.

³⁰ Verizon Comments at 1-6; Salant Comments at 1-2.

³¹ Verizon Comments at 1-2.

³² TDS Comments at 1-5.

³³ *700 MHz First Report and Order* at ¶ 124, 15 FCC Rcd at 526-27.

³⁴ VoiceStream Comments at 2-6.

³⁵ VoiceStream Comments at 5-6.

1934.³⁶ Although VoiceStream expresses concern that package bidding may encourage nationwide bidders to win licenses, we note that one of the objectives of developing large service areas, as the Commission did here, is “[t]o provide optimum opportunity for alternative aggregation approaches to suit a wide variety of possible services and business plans such as building a nationwide footprint or acquiring both licenses in a particular region.”³⁷ We believe that package bidding promotes this objective.

While commenters stated that we (and they) have not had sufficient time to consider package bidding and that more study is needed, in fact the Commission has been considering the possibility of implementing combinatorial bidding since 1994.³⁸ Congress has also instructed us to experiment with this form of bidding.³⁹ In 1997, the Commission awarded research and development contracts to consultants to provide and test combinatorial bidding approaches.⁴⁰ Experiments and tests were completed this spring demonstrating that combinatorial bidding is feasible and generally leads to more efficient auction results. The material presented at the Combinatorial Bidding Conference that occurred this spring⁴¹ also supported the view that it was feasible to implement combinatorial bidding for this auction. We have made these studies and papers presented at the Conference available on the Commission’s web site.⁴² In addition, the delay of the auction date provided more time to implement this auction design. We conclude that there has been sufficient time to implement a proper package bidding auction design for this auction. We also have carefully considered the comments submitted in response to the *Auction No. 31 Package Bidding Comment Public Notice* which were very helpful in our process of determining the procedures for implementing package bidding. We are confident that the procedures we establish today adequately address the concerns raised in the comments.

Finally, we note that the auction will not occur for another two months. We believe that this time is sufficient for bidders to understand the package bidding procedures and to develop appropriate auction strategies. Moreover, we have endeavored, to the extent possible, to make the package bidding procedures similar to the simultaneous multiple round auction procedures with which bidders are familiar. We therefore believe that bidders will be able to grasp the new

³⁶ 47 U.S.C. § 309(j).

³⁷ *700 MHz First Report and Order* at ¶ 59, 15 FCC Rcd at 501.

³⁸ Implementation of Section 309(j) of the Communications Act, Competitive Bidding, PP Docket No. 93-253, *Second Report and Order*, 9 FCC Rcd 2348, 2365-66 ¶¶ 99-105 (1994).

³⁹ See 47 U.S.C. 309(j)(3) (Commission shall provide for the design and testing of competitive bidding using a contingent combinatorial bidding system).

⁴⁰ See The FCC Report to Congress on Spectrum Auctions, WT Docket No. 97-150, *Report*, FCC 97-353, at 36 (rel. Oct. 9, 1997).

⁴¹ Conference on Combinatorial Bidding jointly sponsored by the Federal Communications Commission, the Stanford Institute for Economic Policy Research and the National Science Foundation, May 5-7, 2000.

⁴² The papers and reports presented at the Combinatorial Bidding Conference can be found at <http://combin.fcc.gov>.

procedures quickly. We also plan on extensive bidder education efforts and will be available both before and during the auction to answer any questions bidders might have.

2. Maximum Eligibility

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed no change in upfront payments established for individual licenses. We proposed to calculate bidding units and associated upfront payment for a package by adding together the bidding units and associated upfront payments of the individual licenses that make up the package.⁴³ Verizon supports this approach.⁴⁴ We conclude that the bidding units for a package will be calculated by adding together the bidding units of the individual licenses that make up the package.

We also proposed no change in our procedure for determining initial maximum eligibility, which calculates initial maximum eligibility based on the bidding units represented by a bidder's upfront payment. We noted, however, that, under some circumstances, bidders might wish to purchase more eligibility than the total bidding units associated with all licenses.⁴⁵ Verizon comments that we should not modify our procedure for determining initial maximum eligibility.⁴⁶ Also, comments filed by Professors Aleksandar Pekec and Michael H. Rothkopf ("Pekec/Rothkopf") generally support our proposal.⁴⁷ We conclude that we will not change our procedure for determining initial maximum eligibility.⁴⁸

3. Activity Rules

In order to ensure that the auction closes within a reasonable period of time, an activity rule requires bidders to bid actively throughout the auction, rather than wait until the end before participating. Bidders are required to be active on a specific percentage of their maximum eligibility during each round of the auction if they wish to maintain their current eligibility.

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed that in each round of the auction a bidder desiring to maintain its current eligibility would be required to be active on licenses encompassing at least 50 percent of its current eligibility. For a bidder that failed to meet the activity requirement in a given round, we would reduce the bidder's eligibility for the next round to two times its activity in the current round. Thus, a bidder's eligibility in the

⁴³ *Auction No. 31 Package Bidding Comment Public Notice* at 5.

⁴⁴ Verizon Comments at 8.

⁴⁵ *Auction No. 31 Package Bidding Comment Public Notice* at 6.

⁴⁶ Verizon Comments at 8.

⁴⁷ Pekec/Rothkopf Comments at § 5.2.

⁴⁸ Because, as described below, we are modifying the activity rule to account for mutually exclusive bids, bidders will never need to purchase more eligibility than the total bidding units associated with all licenses.

current round would be the *lesser* of: (i) its eligibility in the previous round, or (ii) twice its activity in the previous round.⁴⁹

Verizon comments that the 50 percent activity requirement is appropriate.⁵⁰ SBC/BellSouth advocate a 50 percent activity rule at the beginning of the auction but a 66 percent minimum activity requirement later in the auction.⁵¹ We adopt the 50 percent activity requirement. We reserve the right, however, to increase to two-thirds the proportion of bidding units on which bidders must be active to retain their current eligibility (*i.e.*, a 66 percent activity requirement). The two-thirds limit will ensure that bidders retain the flexibility to switch from bidding on a 20 MHz package to a 30 MHz package with the equivalent population. Any such change will be announced to bidders prior to the beginning of the round in which the change takes effect.

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed that a bid would be considered “active” if it was either a “retained” bid⁵² from the previous round or an accepted bid in the current round. The bidding units associated with licenses on which a bidder was active, including retained bids, would count towards the bidder’s activity. To account for the possibility of overlapping bids, which by definition can not simultaneously be part of the winning set, we proposed to measure a bidder’s activity in a round as the *maximum* number of bidding units associated with the bidder’s active bids that could simultaneously be in a provisional winning set.⁵³

Verizon comments that our activity rule proposal appeared logical in the context of combinatorial bidding, but desired more examples.⁵⁴ We received numerous other comments on the issue of how retained bids count toward activity. These comments make clear that our proposal provided inadequate incentives for bidders to make bids that would be or could become provisional winners, as opposed to bids that would be considered active and preserve eligibility but were unlikely to become winning.⁵⁵ Several commenters offered various alternative proposals for calculating activity, but the suggestions generally focused on different aspects of activity

⁴⁹ But see the discussion of activity rule waivers in Section II.A.4, Activity Rule Waivers and Reducing Eligibility.

⁵⁰ Verizon Comments at 10.

⁵¹ SBC/BellSouth Comments, attachment of Prof. Ronald M. Harstad (“Harstad attachment”) at 41-42.

⁵² A “retained” bid was defined as a provisionally winning bid or a bid that has the potential to become a provisionally winning bid because of changes in other bids in subsequent rounds.

⁵³ *Auction No. 31 Package Bidding Comment Public Notice* at 7.

⁵⁴ Verizon Comments at 9-10.

⁵⁵ See, e.g., Plott/Salmon Comments at 2; SBC/BellSouth Comments, Harstad attachment at 11; Milgrom *Ex Parte* Comments (June 19, 2000) at 4.

(especially activity for retained bids) and did not present a consensus alternative.⁵⁶ Prof. Ronald M. Harstad (“Harstad”) observes that a rule that requires a bidder to have eligibility equal to the sum of the eligibility for each overlapping bid without regard to the overlaps (*i.e.*, a rule that would count the overlapping licenses more than once in calculating minimum eligibility to bid on packages of license) would tend to increase upfront payments by bidders and thus yield greater interest revenue.⁵⁷ We note, however, that the goal of the Commission’s spectrum auction program is not solely to maximize Federal revenues.⁵⁸ Prof. Harstad also considers two other possible rules, including the rule we adopt below.⁵⁹ Finally, we note that under the procedures we establish today, we have not implemented the concept of “retained” bids as the term was used in the *Auction No. 31 Package Bidding Comment Public Notice*.⁶⁰ We therefore cannot establish the activity rule originally proposed in the *Auction No. 31 Package Bidding Comment Public Notice*.

To determine activity in the current round, we will count accepted new bids made in the current round and provisionally winning bids that are “renewed” in the current round.⁶¹ Bids placed in a prior round no longer count towards a bidder’s activity, except for bids that are provisionally winning bids at the end of the previous round.⁶² Therefore, a bidder is active on a license or package in the current round if (1) it has a bid on the license or package that is part of the provisionally winning set at the end of the previous round, or (2) it submits a new accepted bid or renews a provisionally winning bid for the license or package in the current round.

A bidder's activity level in a round is the maximum number of bidding units that the bidder can win considering only the licenses and packages on which the bidder is active — *i.e.*, counting the set of bids with the most bidding units in the case of mutually exclusive bids.⁶³ For example,

⁵⁶ Milgrom Reply Comments at 4; Pekec/Rothkopf Comments at §4-5; Plott/ Salmon Comments at 1-2; SBC/BellSouth Comments, Harstad attachment at 11-16; Salant Comments at 6-8; Spectrum Exchange Comments at 7-8; Vohra/Weber Comments, letter at 1.

⁵⁷ SBC/BellSouth Comments, Harstad attachment at 42-44. *See* 47 U.S.C. § 309(j)(8)(c)(iii) (interest accrued on bidders’ deposits shall be transferred to Telecommunications Development Fund).

⁵⁸ *Cf.* 47 U.S.C. § 309(j)(7) (limiting the Commission’s consideration of revenues in making public interest determinations).

⁵⁹ *See* SBC/BellSouth comment, Harstad attachment at 42-44.

⁶⁰ *See* Section II.B.3, Minimum Accepted Bids and Bid Increments (retaining bids did not comport well with other elements of package bidding procedures), Section II.B.6.b, Winning and Provisionally Winning Bids (discussing problems with use of retained bids).

⁶¹ As described below in Sec. II.B.5, Renewed Bids, a bidder may “renew” its prior bid on a license or package without increasing the amount it previously bid.

⁶² *See* below, Section II.B.6, Winning and Provisionally Winning Bids, for the explanation of how provisionally winning bids are determined.

⁶³ As discussed in more detail in Section II.B.6.b, Winning and Provisionally Winning Bids, bids that are made by the same bidder in different rounds are treated as being mutually exclusive, or as contingent “or” bids. The

suppose license A has 10 bidding units associated with it; license B, 20; and license C, 20. If the only bids made by a bidder were on packages AB and BC its activity would be 40 since AB and BC are mutually exclusive (*i.e.*, license B is included in both packages, but can only be awarded as part of one package) and the package BC has more bidding units. Counting activity as the maximum number of bidding units a bidder could win makes activity a measure of (1) a bidder's potential contribution to moving the auction along and (2) the maximum amount of bidding units associated with active licenses for which the bidder could be financially responsible and for which it therefore must have eligibility (as determined by the bidder's upfront payment).

4. Activity Rule Waivers and Reducing Eligibility

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed that each bidder in the auction would be provided five activity rule waivers that may be used in any round during the course of the auction. Use of an activity rule waiver preserves the bidder's current bidding eligibility despite the bidder's activity in the current round being below the required minimum level. An activity rule waiver applies to an entire round of bidding and not to a particular license.⁶⁴

One commenter, SBC/BellSouth, stated that five activity rule waivers is too few and that the Bureau should allow each bidder at least eight waivers.⁶⁵ There were no other comments on this issue. Based upon our experience in previous auctions, we adopt our proposal that each bidder be provided five activity rule waivers that may be used in any round during the course of the auction. We are satisfied that our practice of providing five waivers over the course of the auction provides a sufficient number of waivers and maximum flexibility to the bidders, while safeguarding the integrity of the auction.

We also proposed that bidders would not have the ability to apply waivers proactively, as they can under our current simultaneous multiple round auction format.⁶⁶ We received no comment on this issue. We adopt our proposal.

We proposed, with the exception of the proactive waiver rule described above, no other changes to activity rule waivers and reducing eligibility. Thus, automatic waivers and reducing eligibility will continue to function as described below.

bidder may win with the bids in one round, or the other, but not both. (Conversely, if a bidder wants to win with both sets of bids, it must make both sets in the same round). Thus, a bidder who made an accepted new bid or renewed a provisionally winning bid on a license or package in the current round and has a mutually exclusive provisionally winning bid in the previous round will be accorded activity credit for (and only for) the bid with the greater number of bidding units associated with it. If a provisionally winning bid is renewed and any new accepted bids are made, the current round will have the highest activity since activity in the previous round will be based on only the provisionally winning bid.

⁶⁴ *Auction No. 31 Package Bidding Comment Public Notice* at 8.

⁶⁵ SBC/BellSouth Comments, Harstad attachment at 31-32.

⁶⁶ *Auction No. 31 Package Bidding Comment Public Notice* at 8-9.

The FCC automated auction system assumes that bidders with insufficient activity would prefer to use an activity rule waiver (if available) rather than lose bidding eligibility. Therefore, the system will automatically apply a waiver at the end of any round where a bidder's activity level is below the minimum required unless: (1) there are no activity rule waivers available; or (2) the bidder overrides the automatic application of a waiver by reducing eligibility, thereby meeting the minimum requirements.

A bidder with insufficient activity that wants to reduce its bidding eligibility rather than use an activity rule waiver must affirmatively override the automatic waiver mechanism during the round by using the reduce eligibility function in the software. In this case, the bidder's eligibility is permanently reduced to bring the bidder into compliance with the activity rules as described in the previous section. Once eligibility has been reduced, a bidder will not be permitted to regain its lost bidding eligibility.⁶⁷

5. Auction Stages and Stage Transitions

As stated above in Section II.B.3. Activity Rules, in the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed that in each round of the auction a bidder desiring to maintain its current eligibility would be required to be active on licenses encompassing at least 50 percent of its current eligibility.⁶⁸ We sought comment on whether we should instead adopt multiple stages with increasing activity requirements. Verizon supports the 50 percent activity requirement.⁶⁹ SBC/BellSouth supports the 50 percent activity requirement at the beginning of the auction, but recommends a stage transition and a two-thirds activity requirement “at or near the end of the auction.”⁷⁰ They point out that the stage transition would have the effects of inducing a small spurt of bidding and revealing some information about the amount of excess demand still in the auction, but they also caution that the Bureau must be careful not to make the stage transition too early or with too little warning.⁷¹

We adopt our proposal for a 50 percent activity requirement, but we retain the discretion during the auction to increase to two-thirds the proportion of bidding units on which bidders must be active to retain their current eligibility (a 66 percent activity requirement). The two-thirds limit

⁶⁷ Because a bidder's bids from the two most recent rounds in which it placed bids are considered in determining provisionally winning bids, see Section II.B.6, Winning and Provisionally Winning Bids, it is possible for a bidder to become a provisional winner for a license or package even though it does not have sufficient eligibility to place a new bid on that license or package. In such a case, the bidder will be awarded the license or package at the end of the auction if it has made the winning bid, but it will not be permitted to place any new bids on the license or package during the auction.

⁶⁸ See *Auction No. 31 Package Bidding Comment Public Notice* at 8.

⁶⁹ Verizon Comments at 10.

⁷⁰ SBC/BellSouth Comments, Harstad attachment at 41-42.

⁷¹ *Id.*

will ensure that bidders retain the flexibility to switch from bidding on a 20 MHz package to a 30 MHz package with the equivalent population. Any such change will be announced to bidders prior to the beginning of the round in which the change takes effect.

6. Auction Stopping Rules

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed to employ a two-round simultaneous stopping rule approach.⁷² A two-round simultaneous stopping rule means that all licenses remain open until two consecutive rounds have occurred in which no new bids are accepted. After the second consecutive such round, bidding closes simultaneously on all licenses. Thus, unless circumstances dictate otherwise, bidding would remain open on all licenses until bidding stops on every license.

The Bureau also sought comment on a modified version of the two-round simultaneous stopping rule that would close the auction for all licenses after the second consecutive round in which no bidder submits a new accepted bid on any license on which it is not the provisional winning bidder. Thus, absent any other bidding activity, a bidder placing a new bid on a license for which it is the provisional winning bidder would not keep the auction open under this modified rule.

SBC/BellSouth comments that after a round in which no bids are received, signaling that the next round could be the last in the auction, the Commission should halt the auction until the next day.⁷³ SBC/BellSouth and Pekec/Rothkopf also suggest halting the auction until the next day if a round ends with revenue \$1 billion or higher than at the beginning of the day.⁷⁴

We weigh against SBC/BellSouth's comments our experience in past auctions with a simultaneous stopping rule that closed the auction after one round of no new bids (or withdrawals or proactive waivers). Based on this experience, we believe that the two-round stopping rule we proposed allows adequate time for bidders. We therefore adopt the two-round simultaneous stopping rule we proposed, with one clarification. Renewed bids are not considered new bids for purposes of the stopping rule; in other words, a round in which the only bids that are placed are renewed bids is considered a round with no new bids for purposes of the stopping rule.

As in previous auctions, the Bureau proposed to retain the discretion to keep an auction open even if no new accepted bids are submitted. The activity rule would apply as usual, and a bidder with insufficient activity will either lose bidding eligibility or use a remaining activity rule waiver. We also proposed that the Bureau reserve the right to declare that the auction will end after a specified number of additional rounds ("special stopping rule"). The Bureau would exercise this option only in certain circumstances, such as, for example, where the auction is proceeding very slowly, there is minimal overall bidding activity, or it appears likely that the

⁷² *Auction No. 31 Package Bidding Comment Public Notice* at 10.

⁷³ SBC/BellSouth Reply Comments at 7-8.

⁷⁴ SBC/BellSouth Comments at 4-5; Pekec/Rothkopf Comments at §11.

auction will not close within a reasonable period of time. Before exercising this option, the Bureau is likely to attempt to increase the pace of the auction, for example, by increasing the number of bidding rounds per day, and/or by increasing the amount of the minimum bid increments for the limited number of licenses where there is still a high level of bidding activity. We received no comments on these proposals, and we retain the discretion to keep an auction open or to implement a “special stopping rule.” Any such change will be announced to bidders before it takes effect.

7. Auction Delay, Suspension, or Cancellation

We proposed no change to the procedures regarding auction delay, suspension, or cancellation. By public notice or by announcement during the auction, the Bureau may delay, suspend or cancel the auction in the event of natural disaster, technical obstacle, evidence of an auction security breach, unlawful bidding activity, administrative or weather necessity, or for any other reason that affects the fair and competitive conduct of competitive bidding.⁷⁵ In such cases, the Bureau, in its sole discretion, may elect to: resume the auction starting from the beginning of the current round; resume the auction starting from some previous round; or cancel the auction in its entirety. Network interruption may cause the Bureau to delay or suspend the auction. We emphasize that exercise of this authority is solely within the discretion of the Bureau, and its use is not intended to be a substitute for situations in which bidders may wish to apply their activity rule waivers

B. Bidding Procedures

1. Round Structure

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed no changes in the round structure from those we have already adopted for Auction No. 31.⁷⁶ Spectrum Exchange agrees with this proposal.⁷⁷ Plott/Salmon, on the other hand, argue for continuous bidding phases.⁷⁸ We are concerned about the operational feasibility of implementing continuous bidding at this time. We therefore adopt our proposal to use the round structure previously announced.

Thus, the Commission will use an automated auction system to conduct the package bidding auction format. The initial bidding schedule will be announced in a public notice to be released at least one week before the start of the auction, and will be included in the registration mailings. The package bidding format will consist of sequential bidding rounds, each followed by the release of round results. Multiple bidding rounds may be conducted in a single day. Details regarding the location and format of round results will be included in the same public notice.

⁷⁵ See 47 C.F.R. § 1.2104(i).

⁷⁶ See *Auction No. 31 Procedures Public Notice* at 27, 15 FCC Rcd at 2947.

⁷⁷ Spectrum Exchange Comments at 8.

⁷⁸ Plott/Salmon Comments at 3-4.

The Bureau has discretion to change the bidding schedule in order to foster an auction pace that reasonably balances speed with the bidders' need to study round results and adjust their bidding strategies. The Bureau may increase or decrease the amount of time for the bidding rounds and review periods, or the number of rounds per day, depending upon the bidding activity level and other factors. Any changes will be announced to bidders before they take effect.

2. Reserve Price or Minimum Opening Bid

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed no change in the minimum opening bids from those we previously adopted for the individual licenses.⁷⁹ For a package, we proposed to calculate the minimum opening bid by adding together the minimum opening bids of the individual licenses that make up the package.

Pekec/Rothkopf generally support the proposal, although they propose a small change to ensure that no ties occur in the bidding.⁸⁰ We deal with ties separately in Section II.B.4, Last and Best Bids. We adopt our proposal for the minimum opening bids for individual licenses. For a package, we adopt our proposal that the minimum opening bid is the sum of the minimum opening bids of the individual licenses that make up the package. We retain the discretion to lower the minimum opening bids during the auction.

3. Minimum Accepted Bids and Bid Increments

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed that for a bid to be accepted in any round it must be $x\%$ greater than the minimum amount to have become a retained bid in the previous round, where the Bureau will specify the value of x . This was analogous to the minimum accepted bid rule in a simultaneous multiple round auction. We also sought comment on other methods for calculating the minimum accepted bid. We noted that one possibility was to determine the bid increment as the maximum of (a) the increment as calculated above and (b) an increment based on the total revenue (the provisionally winning bids) in the previous round. Another possibility was to determine the minimum accepted bid by allocating the total amount needed to beat the provisional winners ("the shortfall approach").⁸¹ We also proposed to set the minimum increment for a license or package initially at five percent and retain the discretion to vary the minimum bid increments in each round of the auction by announcement prior to each round.

Verizon states that it prefers simple rules and therefore prefers calculating the minimum accepted bid as the previous retained bid plus $x\%$.⁸² Plott/Salmon also essentially support this

⁷⁹ See *Auction No. 31 Procedures Public Notice* at 27-29, 15 FCC Rcd at 2947-49.

⁸⁰ Pekec/Rothkopf Comments at § 7.

⁸¹ See DeMartini, Christine, Anthony M. Kwasnica, John O. Ledyard, and David Porter, "A New and Improved Design for Multi-Object Iterative Auctions," Social Science Working Paper No. 1054, November 1998, revised March 1999. Available at <http://masada.hss.caltech.edu/~jledyard/Ledyard.html>.

⁸² Verizon Comments at 8-9.

approach.⁸³ SBC/BellSouth makes a similar comment;⁸⁴ however, SBC/BellSouth's proposed minimum bid rule is part of an integrated and, in part, complicated proposal which SBC/BellSouth contends the Bureau should implement as a whole and should not implement only some of its parts.⁸⁵ Spectrum Exchange believes that several of the alternatives we proposed have merit, although it does not state a preference for any particular alternative.⁸⁶ Pekec/Rothkopf state that they prefer the shortfall approach.⁸⁷ Salant states that minimum accepted bids should not be based on bids of larger packages because there is no economically acceptable method for allocating the bid for the package among the package's components.⁸⁸ Some commenters proposed completely different procedures for calculating minimum accepted bids. Some commenters suggested that the initial minimum bid increments be greater than 5%.⁸⁹ No party commented on whether the Commission should retain discretion to change the minimum bid increment.

We conclude that our original proposal for basing minimum accepted bids on retained bids did not comport well with other elements of our proposed package bidding procedures (*e.g.*, the use of contingent "or" bids or allowing cancellation of retained but non-provisionally winning bids) nor with other elements of the package bidding procedures we establish today (*e.g.*, allowing bidders to place mutually exclusive bids across rounds). With any of those procedures, the determination of retained bids as potentially winning bids is complicated. Accordingly, it is necessary to modify our proposal.

The major purpose of a minimum accepted bid rule is to ensure the proper pacing for the auction even if bidders act strategically.⁹⁰ In the case of package bidding, a properly designed minimum accepted bid rule also can facilitate bids that overcome the threshold problem (the potential difficulty of combining small packages to beat larger ones). We believe that simplicity, while obviously desirable, ranks as a lesser factor. In this regard we note that bidders will not be required to calculate minimum accepted bids themselves, but will have the minimum accepted bids provided to them by the bidding software.

We adopt a variation of our first proposed alternative method for calculating minimum accepted bids. The minimum accepted bid for any license or package will be the greater of: (i) the

⁸³ Plott/Salmon Comments at 3-4.

⁸⁴ SBC/BellSouth, Harstad attachment at 22-24.

⁸⁵ *Id.*

⁸⁶ Spectrum Exchange Comments at 6.

⁸⁷ Pekec/Rothkopf Comments at 2.

⁸⁸ Salant Comments at 10.

⁸⁹ *See, e.g.*, Salant Comments at 10.

⁹⁰ *See Milgrom Ex Parte* Comments (June 22, 2000).

minimum opening bid; (ii) the bidder's own previous high bid on that package plus x%, where the Bureau will specify the value of x in each round; and (iii) the number of bidding units for the license or package multiplied by the lowest \$/bidding unit on any provisionally winning package in the last 5 rounds. We retain the discretion to change the minimum accepted bid, and to do so on a license-by-license and package-by-package basis, if circumstances so dictate. We will notify bidders of any such change before it takes effect.⁹¹

Part (i) of the formula simply ensures consistency with the minimum opening bids we have adopted. With regard to part (ii) of the formula, by using a bidder's own prior bid as a base we ensure that the price each bidder faces is rising, generally in small steps above the amount it has indicated it is willing to pay. Moreover, we find that when we allow for mutually exclusive bids across rounds⁹² and package bidding, there are disadvantages to requiring a bidder to beat a high bid on a package or license. One effect of allowing mutually exclusive bids is that a bid does not necessarily have to be the highest bid on a particular package or license in order for it to be a provisional winner. An example will illustrate this point.

Bidder 1 places a bid of 50 on Package A, and Bidder 2 places a bid of 50 on Package B. In the next round, Bidder 1 places a bid of 100 on Package B, which is mutually exclusive with its bid of 50 on Package A from the previous round. If Bidder 3 is allowed to bid 40 on Package A,⁹³ even though it is not higher than Bidder 1's bid of 50, Bidder 3 will become a provisional winner (assuming that these are the only bids). Bidder 3's bid of 40 on Package A plus Bidder 1's bid of 100 on Package B totals 140, and this total is higher than Bidder 1's bid of 50 on Package A plus Bidder 2's bid of 50 on Package B which totals only 100. We wish to encourage such bids. Moreover, Bidder 3 may not have bid if it were required to beat Bidder 1's bid of 50 on Package A, which is not the efficient outcome.

Under part (iii) of the formula, we calculate the least expensive provisionally winning "unit price" (the provisionally winning bid for a license or package divided by the number of bidding units associated with the bid) for the five prior rounds. To perform this calculation, we examine all of

⁹¹ As described further below in Section II.B.4, Last and Best Bids, and Section II.B.5, Renewed Bids, there are two exceptions to the minimum accepted bid requirement. First, bidders who choose to place no further bids in the auction may place one last set of bids at any amount between their previous high bid and the minimum accepted bid. Second, at any time bidders may "renew" their highest previous bid on a license or package without increasing the bid; however, a bidder is not conferred activity credit for renewing a non-provisionally winning bid. Because bids in each round are considered mutually exclusive, renewing a provisionally winning bid does not double count that bid towards a bidder's total activity credit.

⁹² As discussed in more detail in Section II.B.6.b, Winning and Provisionally Winning Bids, bids that are made by the same bidder in different rounds are treated as being mutually exclusive, or as contingent "or" bids. The bidder may win with the bids in one round, or the other, but not both.

⁹³ The bid of 40 must, of course, comply with the minimum accepted bid rule. Thus, assuming that it is Bidder 3's first bid on Package A, the bid must be at least as high as (1) the minimum opening bid for Package A (part (i) of the minimum accepted bid rule) or (2) the amount determined by part (iii) of the rule, whichever is greater.

the provisionally winning bids for the five prior rounds. We then divide each of those provisionally winning bids by the number of bidding units associated with it, to yield a “unit price” for each provisionally winning bid. Finally, we determine the lowest unit price of all of the provisionally winning bids (in other words, the lowest unit price that any bidder has bid for any provisionally license or package in the prior five rounds). To apply part (iii) of the formula to a new bid, we multiply that lowest unit price by the bidding units associated with the license or package for which the bidder is bidding. It is possible, and indeed likely, that the lowest unit rate will come from a different license or package than the one on which the bidder is bidding.

Part (iii) of the formula essentially requires that bids on any license or package be not too far from the provisionally winning bids; unless we include such a provision, bids might not become competitive without many rounds of bidding. Part (iii) thereby facilitates bids that will overcome the threshold problem. By using the least expensive provisionally winning rate for any license or package over the previous five rounds, we believe that we have ensured that minimum accepted bids will not be too high. Although we recognize that part (iii) may not meet some commenters’ concerns about simplicity, omitting part (iii) would adversely and unacceptably affect the pace of the auction. We also believe that the rule as a whole will discourage parking⁹⁴ because any minimum accepted bid has a reasonable chance of becoming a provisional winner.

SBC/BellSouth comment that in the later rounds of the auction, and especially for packages, the minimum bid increment (by which we understand them to mean the minimum increase in their bid to make an accepted new bid) could become quite high.⁹⁵ SBC/BellSouth state that it is conceivable that bidders could be required to place bids that are \$1 billion higher than those made the previous day.⁹⁶ They therefore propose that the minimum bid increment on the global license be capped at \$250 million and the minimum bid increments on smaller packages and licenses be capped proportionately. For similar reasons, they also propose changes to the stopping rule, which we discuss in Section II.A.6, above.

While we are mindful of SBC/BellSouth’s concerns, we decline to adopt their proposal and do not restrict our discretion regarding the size of minimum accepted bids. Nonetheless, we do retain the discretion to limit minimum accepted bids when circumstances warrant, and to do so on a round-by-round, package-by-package and license-by-license basis. We believe that this discretion, along with our discretion to increase the time for the bidding rounds and review periods and the number of rounds per day, which we will exercise with sensitivity to the needs of bidders to study round results and adjust their bidding strategies,⁹⁷ is sufficient to meet SBC/BellSouth’s concerns, and those of others, of having adequate time in which to make decisions involving potentially hundreds of millions of dollars.

⁹⁴ “Parking” is the placing of a bid that a bidder does not expect to become a winning bid for the purpose of maintaining eligibility and/or keeping the auction open.

⁹⁵ SBC/BellSouth Comments at 4, Harstad attachment at 22-26.

⁹⁶ *See id.*

⁹⁷ *See* Section II.B.1, Round Structure, above.

We note that part (ii) of the minimum accepted bid rule is specific to each bidder. It may therefore be the case that different bidders will have different minimum accepted bids on the same license or package. We do not believe that this will yield an inefficient result because when part (ii) applies the bidder's new bid is based on an amount that it has already bid and therefore indicated it is willing to pay. Moreover, any inefficiency or inequity caused by part (ii) of this rule is mitigated by the ability of bidders to renew bids without increasing them and by the last and best bid procedure, described in the next section, which allows a bidder to make a final set of bids without regard to the minimum accepted bid rule.

As has become standard in our auctions, we also proposed that we would use "click box" bidding. Specifically, we proposed to allow package bids to increase by one increment in each round, while bids on individual licenses could increase by one to nine increments.

Under our previously adopted procedures, a bid increment was defined as $x\%$ of the standing high bid, where x was specified by the Bureau, and the minimum accepted bid was the standing high bid plus $x\%$. Thus, if x was equal to 10, bidders were permitted to make bids of the standing high bid plus 10%, plus 20%, etc., with the maximum bid being equal to the standing high bid plus 90%. Under the procedures we establish today, however, there are no standing high bids and minimum accepted bids are not based on standing high bids. We believe, however, that the prior definition of a bid increment is one that is easy for bidders to understand. Accordingly, we believe our new definition of a bid increment should be analogous to the old definition. Accordingly, for this auction, we are defining a bid increment as $x\%$ of the minimum accepted bid, where the minimum accepted bid is determined as discussed above. As under our previously established procedures, the Bureau will specify the value of x in each round. The Bureau also retains the discretion to change the bid increment, and to do so on a license-by-license and package-by-package basis, if circumstances so dictate. Any such change will be announced to bidders prior to the beginning of the round in which the change takes effect.

Several commenters disagreed with our proposal to restrict bidders from raising a bid on a package by more than one increment. Because we believe that the minimum bid rule we are adopting helps overcome the threshold problem, we no longer find it necessary to adopt that restriction. We note that we currently use click box bidding in our simultaneous multiple round auctions. Click box bidding eliminates the use of trailing digits for bid signaling. It also helps prevent bidders from making mistakes when placing their bids. The nine-increment limit constrains jump bidding to some degree while generally not preventing a bidder from making up in a single bid the entire shortfall necessary to become a provisional winner. We therefore adopt our proposal to use click box bidding and to allow bids on either individual licenses or packages to increase by one to nine increments. We reserve the right to change the number of possible increments. Any such change will be announced to bidders prior to the beginning of the round in which the change takes effect.

4. Last and Best Bids

Bidders that wish to drop out of the auction or that believe they are about to lose their bidding eligibility will have the opportunity before they drop out to make a "last and best" bid on

any packages for which they remain eligible. Such bids may be of any amount (in thousand dollar increments) between their previous high bid and the minimum accepted bid. This is a limited exception to the minimum accepted bid rule and to click box bidding. If a bidder chooses this option, it will not be permitted to make any further bids during the auction.

We adopt this procedure primarily as a method of ensuring that there are no tie bids at the end of the auction. Several commenters had expressed their concern that, especially with click box bidding, bidders could submit tie bids. We believe that this procedure provides a fair and efficient way to break ties should they occur, although it is not limited to those situations where there is a tie. An example of how this procedure would break a tie is provided below at the beginning of Section II.B.6, Winning and Provisionally Winning Bids. The procedure also allows bidders to bid the maximum amount they are willing to pay for a package regardless of how the Commission sets the minimum accepted bid, and thus mitigates the possible inefficiency that would result from setting minimum accepted bids too high.

5. Renewed Bids

Without regard to the minimum accepted bid requirement, a bidder may “renew” in the current round the highest previous bid it made on any license or package; that is, it may resubmit the bid without increasing the amount bid.⁹⁸ No activity credit will be conferred for renewing a non-provisionally winning bid (provisionally winning bids, however, receive activity credit whether or not they are renewed). Renewed bids will be treated as being made in the current round.

Allowing bidders to renew bids provides several benefits. For example, because bids made in different rounds are treated as mutually exclusive,⁹⁹ if a bidder wishes to win both a license for which it is the provisional winner and another license, it must bid on both licenses in a single round. Therefore, unless we provide bidders an opportunity to renew their provisionally winning bids without increasing them, provisionally winning bidders that desired additional licenses would be forced to raise their bids on the licenses for which they were already provisional winners. Allowing bidders to renew bids also mitigates the potential concern that we are not retaining all potentially winning bids and a bidder may not be able to submit a new bid on a license or package on which it previously bid because the bid increment is too high.

6. Winning and Provisionally Winning Bids

The first part of this section describes how we will determine the winning and provisionally winning bids from among the bids we examine. The second part describes the universe of bids we will examine and includes a discussion of retained bids, contingent “or” bids, and bid cancellation.

⁹⁸ This procedure was suggested by Milgrom. *See* Milgrom Reply Comments at 4.

⁹⁹ *See* note 92 below.

a. In the *Auction No. 31 Package Bidding Comment Public Notice*, we defined winning bids as the set of gross bids on individual licenses and packages that maximizes gross revenue when the auction closes, assigning each license to only one party (a bidder or, in the case of unsold licenses, the Commission).¹⁰⁰ We defined provisionally winning bids as the set of bids that maximize revenue in a particular round (*i.e.*, they would win if the auction were to close in that round), assigning each license to only one party (a bidder or the Commission).

No commenter disagrees with how we proposed to determine the winning bids. Accordingly, we adopt our proposal with a clarification to take into account the fact that, as explained in section b below, for each bidder, we will treat the bids it makes in different rounds as mutually exclusive. The *winning bids* are the set of “consistent” bids (bids that (i) do not overlap and (ii) are made or renewed by an individual bidder in the same round) that maximize total revenue when the auction closes. The *provisionally winning bids* are the consistent bids that maximize total revenue in a particular round. The Bureau is developing computer software to perform these tasks.¹⁰¹

We note that, in the case of a tie among bids, the algorithm we are using to calculate the winning and provisionally winning bids selects the winning bid randomly.¹⁰² The procedure we are adopting for last and best bids, described in Section II.B.4, above, should help ensure that the winning bid is not the result of a tie. In the case of a tie, the bidder(s) whose bid is not chosen has the opportunity in the next round to make another bid. If the bidder believes that the minimum bid increment is too high and so would ordinarily cease bidding on that license or package, it still has the opportunity, using the last and best bid procedure, to make one final bid on the license or package (which may be as little as \$1,000 more).¹⁰³ The bidder whose bid was chosen randomly then has the opportunity in the next round to beat the new bid.¹⁰⁴

Bidder 1 and Bidder 2 both bid \$100 million on License A in Round 20. The algorithm randomly selects Bidder 1 as the provisional winner. In round 21,

¹⁰⁰ If the auction closes with any license(s) unsold, those license(s) remain held by the FCC. As stated below, in determining the set of bids that maximizes gross revenue, FCC held licenses will be treated as having a bid at the minimum opening bid.

¹⁰¹ For example, we are using the ILOG CPLEX, version 6.5 software for our solving algorithm. Prior to the auction date, the Bureau will release further information describing the computer software in detail. Further, we will make available a bidder aid for bidders to be able to determine for themselves what bid amount would have been necessary to beat the other bids and become a provisional winner in the prior round.

¹⁰² To ensure randomness, we will use a National Institute of Standards and Technology (“NIST”) tested pseudo-random generator, which will permute the order of the set of all bids prior to consideration by the solving algorithm.

¹⁰³ The bidder would ordinarily choose the best and final bid option only when it has decided to stop bidding and drop out of the auction altogether.

¹⁰⁴ If, however, the bidder whose bid is not chosen chooses not to bid and no other bidder makes a higher bid (and the provisionally winning bidder does not make a mutually exclusive bid on a different license or package), then the provisional winner will become the winner at the end of the auction.

Bidder 2 may make the minimum accepted bid on License A, for example, \$105 million, in which case bidding on the license would simply continue. If, however, Bidder 2 does not value License A at \$105 million, and if it wishes to cease bidding on all other licenses and packages, it may use the last and best bid option to place any bid it wishes on License A between \$100,001,000 and \$104,999,000 (in thousand dollar increments). (If Bidder 2 wishes to continue to bid on other licenses or packages, it may use the last and best bid option at a later point in the auction.) Bidder 2 therefore bids \$103.5 million on License A, the maximum amount it is willing to bid. Bidder 2 is not permitted to place any new bids in the auction. In Round 22, Bidder 1 has the opportunity to place the minimum accepted bid on License A, for example, \$108.67 million, thereby beating Bidder 2. But if Bidder 1 believes that the minimum bid is too high, Bidder 1 also has the opportunity to choose the last and best bid option to place any bid it wishes on License A between \$103,501,000 and \$108,670,100. He therefore bids \$104 million, and is not permitted to place any new bids in the auction. If no other bidders bid on License A, Bidder 1 would be awarded the license at a price of \$104 million.

We therefore believe that by adopting the last and best bid procedure, we have mitigated any adverse effects the algorithm may have on winning bids. We acknowledge, however, a bidder that submits a tie bid and whose bid is not selected as part of the provisionally winning set will have a higher minimum accepted bid in the next round than the bidder whose bid was selected and who need not raise its bid in order to be considered active on that license or package.

We also proposed that licenses on which no bids have been submitted would be treated as if the minimum opening bid had been submitted. SBC/BellSouth state that licenses for which no bids have been made should be treated as having a bid of \$0. Prof. Paul Milgrom (“Milgrom”) disagrees.¹⁰⁵

In determining provisionally winning bids, individual licenses on which no bids are available to be considered when solving for the provisionally winning set will be treated as having a bid at the minimum opening bid.¹⁰⁶ We believe that at the end of the auction there will not be any licenses on which no bids have been made (either directly or as part of a package), and if it appears that this will occur, the Commission retains the discretion during the auction to lower the minimum opening bid and the minimum accepted bid. Thus, the question of how to treat licenses for which no bids are currently available is one that mostly affects the pace of the auction and the computational simplicity in the early rounds. We believe that treating the licenses as having bids at the opening minimum bid is the better course.

¹⁰⁵ Milgrom Reply Comments at 4.

¹⁰⁶ For example, suppose Bidder 1 bids \$110 for License A, there are no bids for License B, which has a minimum opening bid of \$100, and Bidder 2 bids \$200 for Package AB. In determining the provisional winners, we will consider License B to have been bid on by the FCC at the minimum opening bid. The provisional winning set will therefore consist of Bidder 1 holding License A and the FCC holding License B because the sum of their bids ($\$110 + \$100 = \$210$) exceeds Bidder 2’s bid for Package AB (\$200).

b. *Mutually Exclusive Bids.* In order to determine the provisionally winning bids at the end of each round, we proposed to consider both the bids made in the current round and “retained” bids. We defined “retained” bids as the provisionally winning bids plus bids that have the potential to become provisionally winning bids because of changes in other bids in subsequent rounds. Somewhat simplified, retained bids were the standing high bids for any package or license (except that a bid on a package that was not greater than the sum of the bids on its best components would not be retained).

Commenters have various views of our proposed use of retained bids in calculating provisionally winning bids. Some commenters suggest that we retain all bids. If some or all bids are retained, commenters variously suggest that we permit non-provisionally winning bids to be cancelled, or that we permit contingent “or” bids.¹⁰⁷ We had proposed both of these alternatives in the *Auction No. 31 Package Bidding Public Notice*.¹⁰⁸ We agree with those commenters that state that without one of these procedures (cancellation or contingent “or” bids) bidders face the risk that they will have retained but non-provisionally winning bids that they do not desire, which both consumes some of their eligibility and leads to the possibility that they ultimately may win more licenses than they wish. This risk could make bidders unable to switch to backup strategies and could generally chill bidding.

In the *Auction No. 31 Package Bidding Public Notice*, we noted that contingent “or” bids could provide a bidder greater flexibility to aggressively bid on licenses that it considers substitutes by overcoming the exposure problem. For computational simplicity and transparency, we proposed a number of restrictions on the use of “or” bids. We also noted that we would need to modify our method for determining retained bids. With regard to bid cancellation, we noted that it could avoid the possible complexity of “or” bids while overcoming exposure problems and thereby allow bidders to explore bids that would overcome the threshold problem. On the other hand, by allowing potential partnering bids to be cancelled, bid cancellation could also make it more difficult to overcome the threshold problem. It also could facilitate adverse strategic bidding, and adversely affect the pace of the auction. Finally, we noted that if we permitted bid cancellation, we would probably retain all bids and modify the activity rules and the procedures for calculating minimum accepted bids.

We received several comments on contingent “or” bids and bid cancellation. Verizon states that contingent “or” bids should be permitted on any combination of licenses, but that the number of “or” bids should be limited for the sake of simplicity.¹⁰⁹ Verizon further notes that “or” bids are complicated and that bidders need time to understand it.¹¹⁰ Verizon also states that there should be no restrictions on bid withdrawal in order to allow bidders to change strategy and

¹⁰⁷ Contingent “or” bids would allow bidders to specify that they wish to win one bid or the other, but not both.

¹⁰⁸ *Auction No. 31 Package Bidding Comment Public Notice* at 13-14.

¹⁰⁹ Verizon Comments at 11.

¹¹⁰ *Id.*

correct mistakes.¹¹¹ SBC/BellSouth believe that “or” bids are unnecessary, would add little to the auction, and are complicated to understand and compute.¹¹² SBC/BellSouth propose that bidders choose licenses to bid on and then switch if they change their minds; they also would allow bidders to cancel non-provisionally winning bids.¹¹³ Pekec/Rothkopf oppose using “or” bids and would instead allow the cancellation of non-provisionally winning bids but only if bidders submit other accepted bids.¹¹⁴ Plott/Salmon find that “or” bids have complications and would permit non-provisionally winning bids to be cancelled.¹¹⁵

We conclude that calculating provisionally winning bids using the definition of retained bids as set forth in the *Auction No. 31 Package Bidding Comment Public Notice* does not necessarily “retain” all potentially winning bids when bidders are permitted to submit bids that are mutually exclusive across rounds (“or” bids). As illustrated above in Section II.B.3, Minimum Accepted Bids and Bid Increments, a bid does not have to be the highest bid on a particular package in order for it to be a provisional winner. The definition of retained bids, however, would not retain a bid unless it was the highest bid on a particular package.

We also conclude that it is not computationally feasible at this time to calculate provisionally winning bids using all of the bids that are made throughout the auction (*i.e.*, to retain all bids) when “or” bids are permitted. Similarly, we conclude that permitting unrestricted “or” bids is computationally too complicated to implement for this auction. Finally, we do not favor allowing bidders to freely cancel bids because, as stated above, bid cancellation could be used strategically and because other bidders on a smaller package attempting to beat a larger package need some certainty about what bids are available in order to overcome the threshold problem.

We conclude that the nature of package bidding requires that we devise some system for retaining non-provisionally winning bids so that more than just the bids made in the current round are considered in determining the new provisionally winning bids. Otherwise, it would be very difficult to overcome the threshold problem. Bidders on individual licenses or smaller packages need to know what other bids are available that, when considered along with their bids, could beat a larger package.

We believe that the following procedure meets our objectives and responds to the design weaknesses discussed above. First, we will treat the bids a bidder makes in the current round as mutually exclusive with the bids that same bidder made in prior rounds.¹¹⁶ If a bidder does not want a bid from the previous round (including a provisionally winning bid) to be considered

¹¹¹ *Id.* at 10-11.

¹¹² SBC/BellSouth Comments, Harstad attachment at 44-45.

¹¹³ SBC/BellSouth Reply Comments at 8-10.

¹¹⁴ Pekec/Rothkopf Comments at § 12.

¹¹⁵ Plott/Salmon Comments at 5.

¹¹⁶ This approach was suggested by Milgrom. *See* Milgrom Reply Comments at 3-4.

mutually exclusive with bids made in the current round, it can resubmit the bid in the current round. A bidder may either “renew” a bid without increasing the amount bid or increase the bid.¹¹⁷

Second, to determine the provisionally winning bids, we will consider (i) the bids made by each bidder in the most recent two rounds in which that bidder placed new or renewed bids and (ii) all provisionally winning bids from the prior round.¹¹⁸ This approach ensures that bidders in the current round will have bids by other bidders available for them to “partner” with so they can make a bid that would have made them a provisional winner in the last round.¹¹⁹ It thereby assists bidders in overcoming the threshold problem. This approach also helps ensure that bidding is sincere since bidders are held to their bids even after they stop bidding. Bidders should be willing to pay the amount they previously bid even if they are not willing to raise their bids.

The auction design we establish today therefore takes elements from both contingent “or” bids and bid cancellation. By making a bidder’s own bids mutually exclusive across rounds, we have implicitly provided for a limited number of “or” bids without the imposition of excessive computational burdens. Moreover, by considering only a bidder’s two most recent rounds in which it made a bid (either an accepted new bid or a renewed bid), plus any provisionally winning bids, we have essentially cancelled all of the bidder’s other bids.

More importantly, treating each participant’s bids across rounds as mutually exclusive meets the objectives that both of these methods were attempting to accomplish without either the complications or the risks. As with “or” bids and bid cancellation, bidders may pursue back-up strategies without exposing themselves to the risk that they will win both sets of licenses.¹²⁰ Also, bidders may achieve all of the flexibility of using “or” bids within a round by bidding straightforwardly across rounds. And by considering a bidder’s two most recent rounds of bids in which accepted new bids or renewed bids were made (plus its provisionally winning bids), we allow bidders to explore ways to partner with other bids in order to beat bids on larger packages. Yet the bidding method we are adopting, by automatically canceling bids instead of leaving it to

¹¹⁷ As stated above, “renewing” a non-provisionally winning bid confers no activity credit, while making a minimum accepted bid does. On the other hand, a bidder receives activity for a bid that is a provisionally winning bid at the end of the last round, whether or not it renews the bid.

¹¹⁸ In the early and middle rounds of the auction, the bids being considered will most probably be those bids made in the current round and the prior round. Towards the end of the auction, however, the universe of bids being considered may include those made by bidders that ceased to bid several rounds earlier (whether or not they retained bidding eligibility).

¹¹⁹ The use of the term “partner” does not imply collusion among bidders and collusion is strictly prohibited by the Commission’s Rules. See 47 C.F.R. § 1.2105(c). It simply refers to the fact that in order to beat a larger package, a bidder on an individual license or smaller package needs others to bid on the other licenses or packages that make up the larger package.

¹²⁰ For example, if a bidder wants License A or License B, it can bid on License A in round 10 and bid on License B in round 11, knowing that it might win either License A or License B but not both License A and License B. Conversely, if the Bidder wants both License A and License B, it must bid on both in the same round (assuming that it has sufficient eligibility to do so).

the bidder's discretion, lessens the risk of strategic bidding. We believe that this bidding method meets both the commenters' concerns and their desires.

7. Bidding

During a bidding round, a bidder may submit individual bids for as many licenses as it wishes, subject to its eligibility; may submit bids on any packages it has designed, subject to its eligibility and a limit of bidding on twelve different packages throughout the auction; may renew bids it has previously made; may remove bids placed in that round before the round closes; may use an activity rule waiver, and may permanently reduce eligibility. Bidders may make certain mutually exclusive bids (*i.e.*, overlapping bids) in a bidding round. For example, a bidder may place a bid on License A and a bid on a package consisting of Licenses A and B. The bids are mutually exclusive because it is not possible that both bids can become provisionally winning bids. Bidders have the option of making multiple submissions and removals in each bidding round.

Bidders should note that all bidding will take place remotely either through the automated bidding software or by telephonic bidding. (Telephonic bid assistants are required to use a script when entering bids placed by telephone. Telephonic bidders are therefore reminded to allow sufficient time to bid by placing their calls well in advance of the close of a round, especially since this is the first combinatorial auction conducted by the Commission. For the simultaneous multiple round auctions, normally, four to five minutes were necessary to complete a bid submission. Bid submissions may take longer for combinatorial auctions.) There will be no on-site bidding during Auction No. 31.

A bidder's ability to bid on specific licenses and packages in the first round of the auction is determined by two factors: (1) the licenses applied for on FCC Form 175; and (2) the upfront payment amount deposited. The bid submission screens will be tailored for each bidder to include only those licenses for which the bidder applied on its FCC Form 175. Bidders must create packages on the package creation screen before they are permitted to bid on the packages. Bidders are reminded that they will be able to create only those packages (i) that contain only the licenses for which they applied on FCC Form 175, and (ii) for which they have eligibility based on their upfront payments.

The bidding software requires each bidder to log in to the FCC auction system during the bidding round using its FCC-supplied security identification. Procedures for obtaining security information and accessing the FCC auction system will be announced in a future Public Notice. Bidders are strongly encouraged to download and print bid confirmations *after* they submit their bids.

The bid entry screen of the automated auction system software for Auction No. 31 allows bidders to place multiple increment bids. In addition to placing the minimum accepted bid, bidders may increase the minimum accepted bid by from one to nine bid increments. The bidding software will display allowable bids for each license and package created by the bidder.

To place a new bid on a license or package, the bidder must place a minimum accepted bid, and may place a bid up to nine times the bid increment. A bidder may also place a renewed

bid on a license or package. Both actions are done by clicking the desired bid amount in the Amount Bid box displayed on the bidding screen and then clicking the submit button.

8. Bid Removal and Bid Withdrawal

Bid “removal” is the voiding of a bid made in the current round. Bid “withdrawal” is the voiding of a provisionally winning bid. Bid “cancellation” is the voiding of a non-provisionally winning bid. We discuss bid cancellation above in Section II.B.6.b, Winning and Provisionally Winning Bids. For the reasons set forth below and in Section II.B.6.b, we permit only the removal of bids placed in the current round. The withdrawal or cancellation of bids made in previous rounds is *prohibited*.

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed to retain the bid removal procedures that we previously established.¹²¹ Spectrum Exchange endorses the proposal¹²² and no commenter objects. Accordingly, we retain the bid removal procedures previously announced. At any time before the close of a bidding round, a bidder has the option of removing any bids placed in that round. By using the remove bid function in the software, a bidder may effectively “unsubmit” any bid placed within that round. This is not the same as withdrawing a bid, which, in our simultaneous multiple round auction system, can occur in rounds subsequent to the round in which the high bid was placed. A bidder removing a bid placed in the same round is not subject to withdrawal payments.¹²³ Once a round closes, a bidder may no longer remove a bid.

We also proposed not to allow bidders to withdraw provisionally winning bids from previous rounds. If a bid is declared the winner and the bidder does not pay the amount due, it is liable for a default payment as set forth in the Commission’s Rules.¹²⁴ Spectrum Exchange agrees that bid withdrawals are unnecessary.¹²⁵ Verizon seeks to allow unlimited bid withdrawals in order to allow the correcting of mistakes and changes in strategy.¹²⁶

We believe that by making bids placed in different rounds mutually exclusive, we have eliminated a bidder’s exposure risk when changing strategies. Bidders will win at most one set of bids, not both. Moreover, the bid withdrawal procedure was designed to allow bidders to back

¹²¹ Auction No. 31 Procedures Public Notice, 15 FCC Rcd at 4951-52.

¹²² Spectrum Exchange Comments at 8.

¹²³ See 47 C.F.R. § 1.2104(g).

¹²⁴ See *id.*

¹²⁵ Spectrum Exchange Comments at 8.

¹²⁶ Verizon Comments at 10-11. Pekec/Rothkopf, SBC/BellSouth and Plott/Salmon all state that they would permit bidders to withdraw only non-provisionally winning bids. See Pekec/Rothkopf Comments § 5.3; SBC/BellSouth Reply Comments at 8-9; Plott/Salmon Comments at 5. We have termed such a procedure bid cancellation and it is discussed above in Section II.B.6.b.

out of failed aggregations — to avoid winning some licenses that are worth less to them than the amount bid without the other licenses they need to implement their business plan. Therefore, since bidders may make package bids on all combinations of licenses with significant complementarities, the use of withdrawals to mitigate such risk is no longer necessary. Moreover, while there is no offsetting benefit from allowing bid withdrawals, there would still be potential harm. Withdrawals may be used strategically to provide incorrect price signals during the auction and lead other bidders to place inefficient bids. Also, when withdrawals are permitted, one cannot ensure that the auction will proceed at an acceptable pace. Moreover, the harm associated with withdrawals is likely to be more severe in auctions with package bidding since a single withdrawal of a bid (on either an individual license or a package) can affect the entire provisionally winning set. Accordingly, we will *not* permit bidders to withdraw their provisionally winning bids.

Finally, we proposed that the previously announced special 30 MHz nationwide bid withdrawal procedure¹²⁷ would no longer apply. No commenter objects. We believe that such a special procedure is unnecessary once package bidding is generally permitted. Accordingly, upon approval by the Commission, we will not apply the previously announced special 30 MHz nationwide bid withdrawal procedure.¹²⁸

9. Bid Composition Restriction

We sought comment on bid composition restrictions to deter bidders without complementarities from strategically bidding on large packages in order to create a threshold problem for competitors that want only parts of the larger package. For example, the Milgrom-McAfee bid composition restriction¹²⁹ would not allow a bidder that is active in a round on a package, but not on a subset of that package, to bid subsequently for the subset. No commenter believes that such a bid composition restriction is necessary for this auction.¹³⁰ We agree. Therefore, we are not adopting any restrictions on bid composition (other than limiting bidders to creating and bidding on at most twelve packages).

10. Default

In the *Auction No. 31 Package Bidding Comment Public Notice*, we proposed to modify the default procedures and rules to take into account package bidding. In the *700 MHz Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, the Commission stated that after the Bureau has reviewed the record in this proceeding and determined whether or

¹²⁷ See *Auction No. 31 Procedures Public Notice* at 32-36, 15 FCC Rcd at 2952-56.

¹²⁸ In the *700 MHz First Report and Order*, the Commission directed the Bureau to adopt a special 30 MHz nationwide withdrawal rule if it was operationally feasible to do so. Accordingly, the Bureau established such a rule in the *Auction No. 31 Procedures Public Notice*. As discussed below in Section II.B.10, Default, the Commission has stated that prior to the due date for the filing of short form applications for Auction No. 31, it will adopt any rule changes necessary to implement package bidding.

¹²⁹ We note that Milgrom and McAfee have a pending patent application for this device.

¹³⁰ See, e.g., Plott/Salmon Comments at 6.

not to implement package bidding, which we do today, it will adopt any necessary rule changes, such as changes to the general competitive bidding default payment rule, in a further reconsideration order to be adopted prior to the due date for the filing of short forms for Auction No. 31.¹³¹ Accordingly, we leave for the Commission the discussion of the proposed modifications to the default rule and the comments received to that proposal.

11. Round Results

Although we did not propose any changes to the round results that would be provided, the modified procedures we establish today change some of the results that will be reported. As we stated in the *Auction No. 31 Procedures Public Notice*, bids placed during a round will not be published until the conclusion of that bidding period. After a round closes, the Commission will compile reports of all bids placed, provisionally winning bids, whether or not there were ties for the provisionally winning bids, and bidder eligibility status (bidding eligibility and activity rule waivers), and post the reports for public access.¹³² Reports reflecting bidders' identities and bidder identification numbers for Auction No. 31 will be available before and during the auction. Thus, bidders will know in advance of this auction the identities of the bidders against which they are bidding.

12. Auction Announcements

The Commission will use auction announcements to announce items such as schedule changes. All Commission auction announcements will be available on the FCC Extranet and on the Internet.

13. Maintaining the Accuracy of FCC Form 175 Information

As we stated in the *Auction No. 31 Procedures Public Notice*, after the short-form filing deadline, applicants may make only minor changes to their FCC Form 175 applications. For example, permissible minor changes include deletion and addition of authorized bidders (to a maximum of three) and certain revisions to exhibits. Impermissible changes include changes to the selection of licenses on which the applicant wishes to bid. Filers must make these changes online, and submit a letter to:

Amy Zoslov, Chief,
Auctions and Industry Analysis Division,
Wireless Telecommunications Bureau,
Federal Communications Commission,
445 12th Street, S.W., Washington, D.C. 20554

¹³¹ 700 MHz Memorandum Opinion and Order and Further Notice of Proposed Rulemaking at ¶ 76 (rel. June 30, 2000).

¹³² See Attachment I.

A separate copy of the letter should be mailed to Howard Davenport, Auctions and Industry Analysis Division), briefly summarizing the changes. Questions about other changes should be directed to Howard Davenport, Auctions and Industry Analysis Division at (202) 418-0660.

C. Post-Auction Procedures: Refund of Remaining Upfront Payment Balance

The package bidding procedures we adopt here necessitate a slight change in the post-auction procedures regarding the refund of a bidder's remaining upfront payment balance. Because a bidder with no provisionally winning bids during the auction may still be a winning bidder at the end of the last round of the auction, bidders may not drop out of the auction completely. Accordingly, bidders are no longer eligible for a refund of their upfront payments before the close of the auction. The refund procedures are therefore as follows:

All applicants that submitted upfront payments but were not winning bidders for a 700 MHz license may be entitled to a refund of their remaining upfront payment balance after the conclusion of the auction. At the end of the auction, those bidders who are eligible for a refund must submit a written refund request which includes wire transfer instructions, a Taxpayer Identification Number ("TIN"), and a copy of their bidding eligibility screen print, to:

Federal Communications Commission
Financial Operations Center
Auctions Accounting Group
Shirley Hanberry
445 12th Street, S.W., Room 1-A824
Washington, DC 20554

Bidders are encouraged to file their refund information electronically using the Refund Information portion of the FCC Form 175, but bidders can also fax their request to the Auctions Accounting Group at (202) 418-2843. Once the request has been approved, a refund will be sent to the party identified in the refund information.

NOTE: Refund processing generally takes up to two weeks to complete. Bidders with questions about refunds should contact Michelle Bennett or Gail Glasser at (202) 418-1995.

D. Contact Information

Auctions and Industry Analysis Division: Howard Davenport, Attorney, Auctions Legal Branch; Joel Rabinovitz, Attorney, Auctions Legal Branch, or Craig Bomberger, Analyst, Auctions Operations Branch, at (202) 418-0660.

Media Contact: Meribeth McCarrick at (202) 418-0654.

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APPENDIX A

Parties Submitting Comments, Reply Comments, Late-Filed Comments and *Ex Parte* Comments

Comments

Prof. Frank Kelly and Dr. Richard Steinberg (Kelly/Steinberg)
Prof. Dan Levin (Levin)
Motorola (Motorola)
Nextel Communications, Inc. (Nextel)
Prof. Aleksandar Pekec and Prof. Michael H. Rothkopf (Pekec/Rothkopf)
Prof. Charles Plott & Dr. Tim Salmon (Plott/Salmon)
Dr. David J. Salant (Salant)
SBC Wireless, Inc. & BellSouth Cellular Corporation (SBC/BellSouth)
Spectrum Exchange Group, LLC (Spectrum Exchange)
Prof. Rakesh Vohra & Prof. Robert J. Weber (Vohra/Weber)
Verizon Wireless (Verizon)
VoiceStream Wireless Corporation (VoiceStream)

Reply Comments

Prof. Paul Milgrom (Milgrom)
Prof. Aleksandar Pekec and Prof. Michael H. Rothkopf (Pekec/Rothkopf)
SBC Wireless, Inc. & BellSouth Cellular Corporation (SBC/BellSouth)
Telephone and Data Systems, Inc. (TDS)
VoiceStream Wireless Corporation (VoiceStream)

Late Filed Comments and Ex Parte Communications

Prof. Jeremy Bulow (Bulow)
Prof. Paul Milgrom (Milgrom) (multiple communications)
Prof. Michael H. Rothkopf (Rothkopf)
Prof. Rakesh Vohra (Vohra)

ATTACHMENT A

**Auction No. 31
Licenses to be Auctioned**

Economic Area Grouping	License Numbers	License Bandwidth (MHz)	Description	Population (1990)	Bidding Units	Upfront Payment	Minimum Opening Bid
EAG701	WXEAG701-C	10	Northeast	41,567,654	14,000,000	\$14,000,000	\$40,000,000
EAG702	WXEAG702-C	10	Mid-Atlantic	42,547,218	14,000,000	\$14,000,000	\$40,000,000
EAG703	WXEAG703-C	10	Southeast	44,516,919	14,000,000	\$14,000,000	\$40,000,000
EAG704	WXEAG704-C	10	Great Lakes	41,560,906	14,000,000	\$14,000,000	\$40,000,000
EAG705	WXEAG705-C	10	Central / Mountain	40,926,284	14,000,000	\$14,000,000	\$40,000,000
EAG706	WXEAG706-C	10	Pacific	41,427,686	14,000,000	\$14,000,000	\$40,000,000
			Subtotal		84,000,000	\$84,000,000	\$240,000,000
EAG701	WXEAG701-D	20	Northeast	41,567,654	28,000,000	\$28,000,000	\$80,000,000
EAG702	WXEAG702-D	20	Mid-Atlantic	42,547,218	28,000,000	\$28,000,000	\$80,000,000
EAG703	WXEAG703-D	20	Southeast	44,516,919	28,000,000	\$28,000,000	\$80,000,000
EAG704	WXEAG704-D	20	Great Lakes	41,560,906	28,000,000	\$28,000,000	\$80,000,000
EAG705	WXEAG705-D	20	Central / Mountain	40,926,284	28,000,000	\$28,000,000	\$80,000,000
EAG706	WXEAG706-D	20	Pacific	41,427,686	28,000,000	\$28,000,000	\$80,000,000
			Subtotal		168,000,000	\$168,000,000	\$480,000,000
			Total		252,000,000	\$252,000,000	\$720,000,000

ATTACHMENT B

FCC AUCTION SEMINAR REGISTRATION FORM

Auction No. 31

The FCC will sponsor a one-day seminar for the 747-762 and 777-792 MHz Band auction applicants. The seminar is free of charge and will provide information about pre-auction procedures, service and auction rules, conduct of the auction, and the FCC remote bidding software.

Reservation will be taken on a first-come, first-served basis until room capacity is filled. The seminar will be held:

Monday, July 24, 2000
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554
Registration 8:30 a.m. - 9:30 a.m.
Seminar 9:30 a.m. - 4 p.m.

If hotel accommodations are needed,
please contact 1-888-225-5322 (option #2) for a list of hotels in the area.

To register, complete the form below and return no later than
Friday, July 21, 2000, by mail or fax to:

FCC Auction 31
Auctions Operations Branch
1270 Fairfield Road
Gettysburg, PA 17325-7245

FAX: 717-338-2850
Phone: 717-338-2888

I/We will attend the Auction No. 31 seminar,
Monday, July 24, 2000.

Name of attendee: _____

Name of attendee: _____

Company name: _____

Phone: _____ Fax: _____

ATTACHMENT C

**ELECTRONIC FILING AND REVIEW
OF THE FCC FORM 175**

Applicants must submit their FCC Form 175 applications electronically, using either the FCC Auctions System page on the Internet or the Commission's remote access system. The remote access system will generally be available 24 hours per day. FCC Form 175 applications must be submitted and confirmed by **6:00 p.m. ET on Tuesday, August 1, 2000**. Late applications or unconfirmed submissions of electronic data will not be accepted.

Applicants must press the **Submit Form 175** button on the *Submit* page to successfully submit their FCC Form 175. The electronic filing process consists of an initial filing period and a resubmission period to make minor corrections. During each filing period, submitted applications may be updated and amended multiple times until the filing deadline.

E. Minimum Hardware and Software Requirements

Applicants will need to meet the following minimum hardware and software requirements:

1. Minimum Hardware Requirements

- CPU: Intel Pentium
- RAM: 16 MB (more recommended if you have multiple applications open)
- Modem: 28.8 Kbps Hayes compatible modem or faster (recommend 56.6 Kbps)
- Monitor: VGA or above
- Mouse or other pointing device

2. Minimum Software Requirements

- Operating System: Microsoft Windows 95 or 98
- Web Browser: Netscape Communicator 4.73 is recommended. However, you can also use Netscape Communicator 4.5, 4.51, 4.61, 4.7, or 4.72 (Internet web browser software).

Note: To download Netscape Communicator 4.73 free of charge, access the Netscape download site at <http://home.netscape.com/download/>

- PDF Viewer: Adobe Acrobat Reader 3.0 or higher (available at <http://www.adobe.com>)
- If you wish to use the download feature in the Form 175 Review, you will need a .tar file extraction utility, e.g., Winzip (available at <http://www.winzip.com>) or Pkzip for Windows (available at <http://www.pkware.com/download.html>).

F. Submitting FCC Form 175 Applications

You can submit FCC Form 175 applications electronically via the Internet. Start your Netscape Web browser. In your browser's *Location* field, enter ***http://wtbwww15.fcc.gov*** and then click **175 Submit**.

Note: If you have problems with the Internet, you may submit FCC Form 175 applications via the FCC Wide-Area Network, using Dial-Up Networking. For details, refer to the *Accessing the FCC Network to File FCC Form 175* attachment.

When uploading attachments in FCC Form 175 Submission, applicants may use a variety of file formats — including Word 97 or earlier, WordPerfect 6.x or earlier, Adobe PDF, and ASCII text — and should verify that the files contain all exhibit information. Graphics file uploads (e.g., *.bmp*, *.tiff*, *.jpg*) and spreadsheets (e.g., Excel, Lotus) are not supported, and graphics images should not be imported into any word processing files that are uploaded. ***Do not upload a password-protected file. The FCC system will not be able to open it or convert it.***

After you upload an attachment and it has been converted, check to see if it converted properly by selecting the PDF filename in the rightmost column. The conversion process generally completes within thirty minutes. If you are unable to read this file after it has been converted, please do the following:

1. Re-upload the attachment.
2. If the file still has not converted properly, then simplify the formatting of the file.

For example, if you are using a Table structure in a WordPerfect document, remove the Table structure and leave the contents of the table, then re-upload the attachment.

After you have successfully re-uploaded an attachment, please delete the old, unreadable attachment files.

Applicants must press the **Submit Form 175** button on the *Submit* page to successfully submit their FCC Form 175. Pressing **Submit Form 175** produces a confirmation message showing the assigned FCC Account Number. During each filing period, submitted applications may be updated and amended multiple times until the filing deadline.

G. Reviewing FCC Form 175 Applications

Once the FCC has completed the 175 Review process, you can review FCC Form 175 applications electronically via the Internet. Start your Netscape Web browser. In your browser's *Location* field, enter ***http://wtbwww15.fcc.gov*** and then click **175 Review**.

H. Help

For technical assistance with installing or using FCC software, contact the FCC Technical Support Hotline at (202) 414-1250 (V) or (202) 414-1255 (TTY). The FCC Technical Support Hotline is generally available Monday through Friday from 7 a.m. to 10 p.m. ET, Saturday from 8 a.m. to 7 p.m. ET, and Sunday from 12 p.m. to 6 p.m. ET. *All calls to the FCC Technical Support Hotline are recorded.*

ATTACHMENT D

GUIDELINES FOR COMPLETION OF FCC FORM 175 AND EXHIBITS

A. FCC Form 175

Because of the significance of the FCC Form 175 application to the auction, bidders should especially note the following:

Applicant Name: Name given is used as your bidder name in the auction.

Address: Give a street address (not a Post Office box number) for the applicant, suitable for mail or private parcel delivery.

Applicant Classification: Applicants must indicate their legal classification. The FCC Form 175 requires the applicant to classify itself as an individual, joint venture, partnership, trust, corporation, consortium, association, limited liability company (LLC) or government entity.

Applicant Status: Applicants are also requested to indicate their status as a rural telephone company, minority-owned business and/or women-owned business, so that the FCC can monitor its performance in promoting economic opportunities for these designated entities.

Bidding Credit Eligibility: Be advised that this is the sole opportunity applicants have to elect small business or very small business status and bidding credit level (if applicable), and there is no opportunity to change the election once the short-form filing deadline passes.

- Small business or very small business applicants should enter the applicable bidding credit from the drop down menu. Applicants should be aware that this is the sole opportunity that they will have to elect the appropriate bidding credit.

License Selection: Applicants should identify all licenses on which they want to be eligible to bid in the auction. Be advised that there is no opportunity to change this list once the short-form filing deadline passes. It is critically important that you confirm the licenses that you have selected because the FCC auction system will not accept bids on licenses for which an applicant has not applied on its FCC Form 175. **Note that there are twelve licenses offered in Auction 31 (e.g., EAG701 Channel Block C, EAG701 Channel Block D, EAG702 Channel Block C, etc.) Each of the six regions (Markets) consists of two licenses: one for Channel Block C and one for Channel Block D. To be eligible to bid on a license, individually or as part of a package, that license must be selected. (That is, to be eligible to bid on license EAG701 Channel Block C, a bidder must select EAG701 Channel Block C; to be eligible to bid on EAG701 Channel Block D, a bidder must select EAG701 Channel Block D; to be eligible to bid on the Northeast Region, a package consisting of licenses EAG701 Channel Block C and EAG701 Channel Block D, a bidder must select both EAG701 Channel Block C and EAG701 Channel Block D.)** Please confirm your license selection, by clicking on the “Confirm” button.

Authorized Bidders: Applicants must list the name(s) of the person(s) (no more than three) authorized to represent them at the auction. Only those individuals listed on the FCC Form 175 will be authorized to place or withdraw bids for the applicant during the auction. **Note:** Applicants may only share a common authorized bidder(s) if each applicant has selected separate markets. *See 47 CFR § 1.2105(c).*

Certifications: Applicants should carefully read the list of certifications on the FCC Form 175. These certifications help to ensure a fair and competitive auction and require, among other things, disclosure to the Commission of certain information on applicant ownership and agreements or arrangements concerning the auction. Submission of an FCC Form 175 application constitutes a representation by the certifying official that he or she is an authorized representative of the applicant, has read the form's instructions and certifications, and that the contents of the application and its attachments are true and correct. Submission of a false certification to the Commission may result in penalties, including monetary forfeitures, license forfeitures, ineligibility to participate in future auctions, and/or criminal prosecution.

Contact person/address: If the Commission wishes to communicate with the applicant by telephone or fax, those communications will be directed to the contact person identified on the FCC Form 175. Space is provided for an address, telephone number, fax number, and e-mail address. All written communication and registration information will be directed to the applicant's contact person at the address specified on the FCC Form 175. Applicants must provide a street address; no P.O. Box addresses may be used.

Completeness: Applicants must submit all information required by the FCC Form 175 and by applicable rules. Failure to submit required information by the resubmission date will result in dismissal of the application and inability to participate in the auction. *See 47 C.F.R. § 1.2105(b).*

NOTE: Applicants must press the "Submit Form 175" button on the "Submit" page to successfully submit their FCC Form 175.

Continuing Accuracy: Each applicant is responsible for the continuing accuracy and completeness of information furnished in the FCC Form 175 and its exhibits. *See 47 C.F.R. § 1.65.* It is the FCC's position that during the conduct of an auction, thirty business days from a reportable change is a reasonable period of time. Applicants are reminded that they consent to be audited in the certification section of the FCC Form 175 (see certification item number 6).

B. Exhibits and Attachments

In addition to the FCC Form 175 itself, applicants must submit additional information required by the FCC's rules. Although the FCC does not require a particular format for this information, it has developed the following guidelines that will facilitate the processing of short-form applications. The FCC encourages applicants to submit this information using the following format.

If you find that an attachment has not converted properly to Adobe PDF format, take the following steps:

- 1) Simplify the formatting of the file. For example, if using a Table structure in a WordPerfect document, remove the Table structure leaving the contents of the table, re-save the document.
- 2) Re-upload the attachment.
- 3) When the re-uploaded attachment has successfully converted, delete the failed attachment.

NOTE: Applicants should not list their TIN numbers on any Exhibits to their FCC Form 175s.

Exhibit A — Applicant Identity and Ownership Information: 47 C.F.R. § 1.2105(a)(2)(ii) requires each applicant to fully disclose the real party or parties-in-interest in an exhibit to its FCC Form 175 application. Each member of an applicant applying to bid as a small or very small business consortium must provide this information. The following information is required:

1. General Information

<i>Applicant Status</i>	<i>Required Information</i>
General Partnership	Name, citizenship, and address of all partners, and the share or interest participation of each partner
Limited Partnership	Name, citizenship, and address of each limited partner whose interest in the applicant is equal to or greater than 10 percent (as calculated according to the percentage of equity paid in and the percentage of distribution of profits and losses) Corporation Corporate name and address; and name, title, and citizenship of a responsible officer or director Limited Liability Corporate name and address; and name, address, and citizenship Corporation of all members Trust Name, citizenship, and address of trustee
None of the above	Name, citizenship, title or other relation to the applicant, and address of a principal or other responsible person

2. Ownership Information

<i>Applicant Status</i>	<i>Required Information</i>
All applicants	Name, citizenship, and address of all controlling interests of the applicant as defined in Part II.C.1 of this public notice.
All applicants	Name, citizenship, and address of all parties holding 10 percent or more of each class of stock, warrants, options or debt securities and the amount and percentage held.

- All applicants Name of all parties holding a 10 percent or greater interest in the applicant and the specific amount held.
- All applicants List of any FCC-licensed entity or applicant for an FCC license, in which
- a. the applicant;
 - b. any party with a 10 percent or greater interest in the applicant; or
 - c. a controlling interest (as discussed in Part II.C.1 of this public notice) of the applicant owns a 10 percent or greater interest or 10 percent or more of any class of stock, warrants, options or debt securities. (See also 47 C.F.R. §§ 101.1209 and 1.2110) This list must include a description of each such entities' principal business and a description of each such entities' relationship to the applicant.

Example of a: The applicant owns 10 percent of Company A (an FCC-licensed entity or an applicant for an FCC license). The applicant must list Company A on its Form 175 Exhibit A and provide the required information.

Example of b: Company A owns 10 percent of the applicant and 10 percent of Company B (an FCC-licensed entity or an applicant for an FCC license). The applicant must list both Company A and Company B on its Form 175 Exhibit A and provide the required information.

Example of c: Company A owns 55% of the applicant and owns 10 percent of Company B (an FCC-licensed entity or an Applicant for an FCC license). The applicant must list both Company A and Company B on its Form 175 Exhibit A and provide the required information.

- All applicants List of all parties holding indirect ownership interests in the applicant as determined by successive multiplication of the ownership percentages in each link of the vertical ownership chain, that equals 10 percent or more of the applicant, except that if the ownership percentage for any link in the chain exceeds 50 percent or represents actual control, it shall be reported as if it were a 100 percent interest.

Example: Company A owns 10% of Company B, which owns 60% of Company C, which owns 25% of the applicant. Company B's interest in the applicant would be 25% (the same as Company C's interest since Company B's interest in Company C exceeds 50%), and Company A's interest in the applicant would be 2.5% ($0.1 * 0.25$). Under the 10% attribution benchmark, Company B's interest in the applicant must be reported on the applicant's FCC Form 175 Exhibit A, while Company A's interest in the applicant need not be reported. However, if Company A owned 40% of Company B in the above example, then Company A's interest in the applicant would be 10% ($0.4 * 0.25$), and

the applicant would need to report it on the applicant's FCC Form 175 Exhibit A.

Exhibit B — Agreements with Other Parties/Joint Bidding Arrangements: Applicants must attach an exhibit identifying all parties with which they have entered into any agreements, arrangements or understandings which relate in any way to the licenses being auctioned, including any relating to the post-auction market structure. *See* 47 C.F.R. §1.2105(a)(2)(viii).

Be aware that pursuant to Certification (4) on the FCC Form 175, the applicant certifies that it will not enter into any explicit or implicit agreements or understandings of any kind with parties not identified in the application regarding bid amounts, bidding strategies, or the particular licenses the applicant will or will not bid. *See* 47 C.F.R. § 1.2105(a)(2)(ix). *To prevent collusion, the Commission's Rules generally prohibit communication among applicants for the same license areas between the initial short-form applications filing deadline and the down payment on licenses won, when such communications concern bids, bidding strategies, or settlements.* 47 C.F.R. § 1.2105(c).

Exhibit C — Status as a Small Business or Very Small Business: Applicants claiming status as a very small business or small business must attach an exhibit providing the following information regarding this status.

Entity Required Information

Applicant Average gross revenues for the preceding three years set forth both separately (e.g., for each of the three preceding three years individually) and in the aggregate (for all of the preceding three years combined). Certification that the average gross revenues for the preceding three years do not exceed the required limit, or providing average gross revenues for the 3-year period without providing the gross revenues for each of the preceding three years, is insufficient.

Applicant's Affiliates
see 47 CFR § 101.1209 Same information required as discussed above

Applicant's Controlling Interests
See Part II.C.1, *supra*.
See also Report and Order and Second NPRM at ¶¶ 148-54. Same information required as discussed above

Example. The applicant had gross revenues of \$500,000 in 1997, \$1,000,000 in 1998, and \$3,000,000 in 1999, with average gross revenues for that time period of \$1,500,000.

The applicant owns 60% of Company A, making Company A an affiliate of the applicant under Section 1.2110(b)(4)(i)(B), and Company B owns 52% of the applicant (making Company B a

controlling interest of the applicant, as defined in Part II.C.1 of this public notice. The applicant's Exhibit C would look like this:

Applicant Name

1997 gross revenues	\$ 500,000
1998 gross revenues	\$ 1,000,000
1999 gross revenues	\$ 3,000,000

Average gross revenues for the preceding 3 years	\$ 1,500,000
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Company A (an affiliate of the applicant)

1997 gross revenues	\$ enter amount
1998 gross revenues	\$ enter amount
1999 gross revenues	\$ enter amount

Average gross revenues for the preceding 3 years	\$ enter amount
---	-----------------

Company B (a controlling interest in the applicant)

1997 gross revenues	\$ enter amount
1998 gross revenues	\$ enter amount
1999 gross revenues	\$ enter amount

Average gross revenues for the preceding 3 years	\$ enter amount
---	-----------------

TOTAL: combined average gross revenues for the preceding three years of the applicant, the applicant's affiliates and their controlling interests

NOTE: Each member of an applicant that is applying to bid as a consortium of small or very small businesses must provide this information and qualify for the claimed status.

Exhibit D — Information Requested of Designated Entities: Applicants owned by minorities or women, as defined in 47 C.F.R. § 1.2110(b), or that are rural telephone companies, may attach an exhibit regarding this status. This information, in conjunction with the information requested in Block 10 of the FCC Form 175, will assist the Commission in monitoring the participation of these “designated entities” in its auctions.

Exhibit E — Miscellaneous Information: Applicants wishing to submit additional information should include it in Exhibit E.

Applicants are reminded that all information required in connection with applications to participate in spectrum auctions is necessary to determine the applicants' qualifications, and as such will be available for public inspection. Required proprietary information may be redacted, or confidentiality may be requested, following the procedures set forth in 47 C.F.R. § 0.459. Such requests must be submitted in writing to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, 445 12th Street, S.W., Room 4-A760, Washington, D.C. 20554 (with a separate copy mailed to Howard Davenport, Legal Branch, Auctions and Industry Analysis Division, Room 4-A435), in which case the applicant must indicate in Exhibit E that it has filed a confidentiality request. Because the required information bears on applicants' qualifications, the FCC envisions that confidentiality requests will not be routinely granted.

Waivers: Applicants requesting waiver of any rules must submit a statement of reasons sufficient to justify the waiver sought. *See* 47 C.F.R. § 1.3.

ATTACHMENT E

**ACCESSING THE FCC NETWORK
TO FILE FCC FORM 175**

This attachment describes how to access the FCC Network from a system that is running the Microsoft Windows 95 or Microsoft Windows 98 operating system. This involves configuring dial-up network access and then performing the dial-up procedure.

Note: Dial-up access to the FCC Network is *not* required to submit or review FCC Form 175 applications. You can perform those functions from the Internet, by entering location *<http://wtbwww15.fcc.gov/>* on your Netscape Web browser and clicking the **175 Submit** or **175 Review** button, respectively. For more details, refer to the *Electronic Filing and Review of the FCC Form 175* attachment.

Conventions

The instructions in this section use the following typographical conventions:

- bold** Represents objects on the screen that you click with the mouse pointer, including buttons, Internet links, icons, tabs, menu items (e.g., **Cancel** button, **Auctions** link, **Save** option in the File menu).
- italic* Represents field names or areas of a screen (e.g., *Applicant* field, *Selected Licenses* area of a screen).
- bold italic*** Represents characters that you must type exactly as they appear in the instructions. For example, if you are instructed to type *http://wtbwww15.fcc.gov*, you should type all of the characters shown in bold italic exactly as they are printed.
- SMALL CAPS Represents keys on the keyboard (e.g., ENTER, CTRL, ESC).

Note: Throughout these instructions, “enter” means to type the appropriate information and then press the ENTER key.

I. Accessing the FCC Network to Submit FCC Form 175 Applications

The following section provides the instructions for configuring the dial-up network access in preparation for submitting FCC Form 175 applications. The subsequent section gives the dial-up procedure.

1. Configuring Dial-Up Networking

1. To start dial-up networking:

- a. Click the Windows 95/98 **Start** button.
- b. Click the **Programs** option to display the Programs menu.
- c. Click the **Accessories** option to display the Accessories menu.
- d. In Windows 95, click **Dial-Up Networking**.
In Windows 98, click **Communications**, then **Dial-Up Networking**.

If **Dial-Up Networking** is not an option on your Accessories menu, you should install it from your Windows 95/98 CD or diskettes.

2. When the Dial-Up Networking window appears, double-click the **Make New Connection** icon.

The Make New Connection window appears.

3. Type *FCC Auctions 877#* in the field titled *Type a name for the computer you are dialing*.
4. In Windows 95, click the down arrow at the right of the *Select a modem* field and select your modem from the menu of available modems.

In Windows 98, click the down arrow at the right of the *Select a device* field and select your modem from the menu of available devices.

If your modem does not appear on this list, you must install your modem driver according to the modem manufacturer installation procedures, which are usually described in your modem's user manual.

5. Click the **Next** button.
6. Type *877* and *844-2788* in the *Area Code* and *Telephone Number* fields, respectively.

If you need to dial 9 or some other digit to get an outside line, include that digit in the *Area Code* field. For example, you might type *9, 1 877* in this field.

7. Verify that the correct country is selected in the *Country code* field.

If necessary, click the down arrow at the right of the *Country code* field and select the appropriate country from the menu of available countries.

8. Click the **Next** button.
9. Click the **Finish** button.

An icon labeled *FCC Auctions 877#* appears in the Dial-Up Networking window.

10. Verify that properties are configured correctly before attempting a dial-up session. Put the mouse pointer on the icon and click the **right** mouse button to display a menu. Click **Properties** from the menu.
11. Click the **Configure** button. Click the **Options** tab at the top of the Properties window.
12. In the *Connection control* area of the Options tab, verify that *neither* option is selected. If either option is selected, click the check box at the left of the option to deselect it. Then click **OK**.
13. In Windows 95, click the **Server Type...** button.

In Windows 98, click the **Server Types** tab at the top of the Properties window.
14. In the *Advanced Options* area, verify that **only** *Enable software compression* is selected. If it is not selected, click the check box at the left of the option to select it. If either of the other options is selected, click the check box to deselect it.
15. In the *Allowed Network Protocols* area, **verify that only TCP/IP is selected**.

If it is not selected, click the check box at the left of the option to select it. If either of the other options is selected, click the check box to deselect it.
16. Click the **TCP/IP Settings** button. On the TCP/IP Settings window, select *Server assigned IP addresses* at the top and select *Specify name server addresses* midway down the window.
17. Type **165.135.79.95** as the Primary DNS and **165.135.241.149** as the Secondary DNS. Ensure that these two options are checked:
 - Use IP header compression
 - Use default gateway or remote network
18. Click **OK** on the *TCP/IP Settings* window and the *Server Type* window.
19. Close the *Dial-Up Networking* window.
20.
 - a. Click the Windows 95/98 **Start** button, then click the **Settings** option to display the Settings menu.
 - b. Click **Control Panel** and then double-click the **Network** icon.
 - c. Highlight the *TCP/IP Protocol* and click **Properties**. If there are multiple TCP/IP protocols, highlight *TCP/IP --> Dial-Up Adapter* and click **Properties**.

In a Windows 98 environment, a confirmation dialog appears. Read the information on the dialog, then click the **OK** button.

- d. Click the **DNS Configuration** tab and then click the **Enable DNS** radio button at the top.
- e. Type *bidder* in the *Host* box and type *fcc.gov* in the *Domain* box.

Note: You are limited to three DNS entries. If you already have three DNS entries, you must delete two of them before performing the next two steps. To do this, click the first entry you want to delete and click the **Remove** button. Then click the second entry you want to delete and click the **Remove** button again.
- f. Type *165.135.79.95* in the DNS Server Search Order box and click the **Add** button.
- g. Type *165.135.241.149* in the DNS Server Search Order box and click **Add** again.
- h. Click **OK** on the TCP/IP Properties windows, then click **OK** on the Network windows.

If you are prompted to restart your computer, click **Yes** to restart, then begin the Dial-Up Procedure.

2. Dial-Up Procedure

1. If the Dial-Up Networking window is not currently open, do the following:
 - a. Click the Windows 95/98 **Start** button.
 - b. Click the **Programs** option to display the Programs menu.
 - c. Click the **Accessories** option to display the Accessories menu.
 - d. In Windows 95, click **Dial-Up Networking**
In Windows 98, click **Communications**, then **Dial-Up Networking**.

The Dial-Up Networking window appears.

2. In the Dial-Up Networking window, double-click the **FCC Auctions 877#** icon.
3. Click the **Connect** button on the window. *Do not enter User name or Password.*

The Connection window appears, indicating the status of your connection as your modem dials into the system. This window must remain running during your dial-up session. You may minimize the window, if you wish.

If your modem fails to establish a connection, please see the *Troubleshooting* section.

J. Submitting FCC Form 175 Applications

After you have connected to the FCC Network, start your Netscape Web browser. In your browser's *Location* field, enter <http://wtbwww15.fcc.gov> (primary location) or <http://wtbwww34.fcc.gov> (secondary location) and then click **175 Submit**.

Note: The *wtbwww34* location can only be accessed through dial-up networking; it cannot be accessed through the Internet.

When uploading attachments in FCC Form 175 Submission, applicants may use a variety of file formats — including Word 97 or earlier, WordPerfect 6.x or earlier, Adobe PDF, and ASCII text — and should verify that the files contain all exhibit information. Graphics file uploads (e.g., *.bmp*, *.tiff*, *.jpg*) and spreadsheets (e.g., Excel, Lotus) are not supported, and graphics images should not be imported into any word processing files that are uploaded. ***Do not upload a password-protected file. The FCC system will not be able to open it or convert it.***

After you upload an attachment and it has been converted, check to see if it converted properly by selecting the PDF filename in the rightmost column. The conversion process generally completes within thirty minutes. If you are unable to read this file after it has been converted, please do the following:

1. Re-upload the attachment.
2. If the file still has not converted properly, then simplify the formatting of the file.

For example, if you are using a Table structure in a WordPerfect document, remove the Table structure and leave the contents of the table, then re-upload the attachment.

After you have successfully re-uploaded an attachment, please delete the old, unreadable attachment files.

Applicants must press the **Submit Form 175** button on the *Submit* page to successfully submit their FCC Form 175. Pressing **Submit Form 175** produces a confirmation message showing the assigned FCC Account Number. During each filing period, submitted applications may be updated and amended multiple times until the filing deadline.

When you have finished, exit your Web browser; then click the **Disconnect** button on the Connection window to end your dial-up session.

K. Removing the Dial-Up Networking Service

Once you have finished using the dial-up networking service, you can remove it from your computer, as follows:

1. Click the Windows 95/98 **Start** button, then click the **Settings** option to display the Settings menu.
2. Click **Control Panel** and then double-click the **Network** icon.
3. Highlight the *TCP/IP Protocol* and click **Properties**. If there are multiple TCP/IP protocols, highlight *TCP/IP --> Dial-Up Adapter* and click **Properties**.

In a Windows 98 environment, a confirmation dialog appears. Read the information on the dialog, then click the **OK** button.

4. Click the **DNS Configuration** tab.
5. Click the DNS Server Search Order box containing *165.135.79.95* to select it, then click the **Remove** button.
6. Similarly, click the DNS Server Search Order box containing *165.135.241.149* to select it, then click the **Remove** button.
7. Click **OK** on the TCP/IP Properties windows, then click **OK** on the Network windows.
8. If you are prompted to restart your computer, click **Yes** to restart.
9. Remove the **FCC Auctions 877#** icon from your desktop. That is, click the icon with your *right* mouse button and then click the **Delete** option in the pull-down menu.

L. Troubleshooting

Following are problems you may encounter and possible solutions for resolving or isolating them.

1. Modem does not respond

1. Confirm that all physical connections for the modem are present.
2. Confirm that the phone line is active by connecting it to a telephone and checking for a dial-tone.
3. Confirm that the correct modem driver is installed for your modem.

2. Modem dials but does not connect

1. Confirm that the number the modem is dialing is correct.
2. Confirm that the modem prefix, if any, is correct.

Using a Backup Dial-In Number. If the number and prefix are correct, the 877 number being dialed may be experiencing problems. In this case, you can reconfigure the dial-up software using an alternate dial-in number, which is also toll-free. To use the backup number, perform the *Configuring Dial-Up Networking* procedure again, but this time make the following changes:

- In Step 3, type **FCC Auctions 800#** in the field titled *Type a name for the computer you are dialing*.
- In Step 6, type **800** and **378-7435** in the *Area Code* and *Telephone Number* fields, respectively.
- In Step 17, type **165.135.241.149** as the Primary DNS.
- In Step 20f, type **165.135.241.149** in the DNS Server Search Order box.

3. Modem dials and connects, but nothing appears when you enter the Location in the Web browser

1. Verify the Dial-Up Networking settings specified in the *Configuring Dial-Up Networking* section.
2. Confirm that your Web browser is not using proxies:
 - a) On your browser, click the **Preferences** option in the Edit menu.
 - b) In the Category area at the left, double-click **Advanced**.
 - c) Click the Advanced structure's **Proxies** option.
 - d) Click the radio button labeled **Direct connection to the Internet**.
 - e) Click the **OK** button at the bottom of the window.

4. Receive an Internal Server error in the Web browser

1. Confirm that the *Location* is set to ***http://wtbwww15.fcc.gov*** or ***http://wtbwww34.fcc.gov***
2. On your browser, click the **Preferences** option in the Edit menu. In the Category area at the left, double-click **Advanced**. In the area at the top, confirm that *Enable Java* and *Enable JavaScript* are selected. In the Cookies area, confirm that *Accept all cookies* is selected.

M. Help

For technical assistance with installing or using FCC software, contact the FCC Technical Support Hotline at (202) 414-1250 (V) or (202) 414-1255 (TTY). The FCC Technical Support Hotline is generally available Monday through Friday from 7 a.m. to 10 p.m. ET, Saturday from 8 a.m. to 7 p.m. ET, and Sunday from 12 p.m. to 6 p.m. ET. *All calls to the FCC Technical Support Hotline are recorded.*