

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
)	WC Docket No. 17-192
Toll Free Assignment Modernization)	
)	
)	CC Docket No. 95-155
Toll Free Service Access Codes)	
)	

**COMMENTS ON THE TOLL FREE ASSIGNMENT MODERNIZATION
NOTICE OF PROPOSED RULEMAKING**

To: The Commission

Power Auctions LLC hereby provides these comments in response to the *Toll Free Assignment Modernization* Notice of Proposed Rulemaking.¹ Power Auctions supports the Commission’s proposal to permit the use of auctions, among other assignment mechanisms, to assign toll free numbers. However, Power Auctions believes that the assignment of mutually exclusive toll free numbers should be done with an open auction, because an open auction has significant advantages over a single-round, sealed-bid Vickrey auction. Power Auctions also supports the Commission’s proposals to only allow RespOrgs to bid in the auction and to allow a secondary market for toll free numbers to develop.

¹ *Toll Free Assignment Modernization*, Notice of Proposed Rulemaking, FCC 17-124 (Sept. 28, 2017) (“*Toll Free Assignment Modernization NPRM*”).

Power Auctions, www.powerauctions.com, was founded in 2003 as a provider of auction design, auction software, auction management services and auction strategy, all under one roof. Power Auctions provided extensive services in support of the FCC's Incentive Auction program and provides ongoing auction capabilities to the FCC and other national regulatory authorities.

I. The Commission should permit the use of auctions to assign toll free numbers

Power Auctions supports the Commission's proposal to use auctions to assign mutually exclusive toll free numbers.² As the Commission has recognized, a market-based approach would create disincentives for warehousing and hoarding, and it would yield a more efficient and equitable outcome. The first-come, first-served rule is not fair, as RespOrgs with enhanced connectivity to the toll free database have an unfair advantage in reserving desirable numbers. Moreover, the first-come, first-served rule does not generally assign mutually exclusive toll free numbers efficiently, because it does not allow RespOrgs to express their valuations for the numbers and it does not select the highest valuation. The efficiency gains of an auction are likely to far outweigh the costs of implementing an auction.

II. Toll free numbers should be assigned with an open auction

Open auctions have a number of advantages over sealed-bid auctions. As the Commission has recognized, open auctions offer bidders the opportunities of price discovery and can lead to more efficient outcomes. Additional advantages of open auctions are described below.

² Following the *Toll Free Assignment Modernization NPRM*, footnote 5, "mutually exclusive" numbers are those toll free numbers for which there are two or more requests for assignment.

First, an open auction allows bidders to better control their budgets compared to a sealed-bid Vickrey auction. For example, suppose that a bidder with a budget of \$15,000 values item A at \$10,000 and item B at \$12,000. The bidder may be reluctant to bid truthfully in simultaneous sealed-bid Vickrey auctions, because it could be assigned both A and B for a payment that would exceed its budget. In an open auction, such as a simultaneous clock auction, a bidder would have the opportunity to drop out of the bidding for an item in the event that the price became too high.

Second, simultaneous open auctions provide bidders with some capability to handle substitute goods, as compared to simultaneous sealed-bid auctions. For example, in the context of toll free numbers, two or more numbers might be substitutes for a bidder (e.g. 833-777-7777 and 833-999-9999). In simultaneous sealed-bid auctions, the bidder has to decide how much to bid for each of these numbers at the outset. On the other hand, in simultaneous open auctions, the bidder can drop out of the bidding for one number when it wins the other.

Third, an open auction preserves the privacy of the winning values, even if the bids are disclosed after the auction.³ As the Commission has recognized, it might be undesirable for bidders in a Vickrey auction to fully reveal their valuations in the auction, when bids become public information. Furthermore, one of the definitive accounts of early communications auctions points to the potential for public relations disasters present in Vickrey auctions:

That auction design matters is illustrated by the experience of the innovator in the field of spectrum auctions, New Zealand, which began auctioning the spectrum for radio, television, and cellular-telephone use in 1990. Following the advice of a U.S.-U.K. consulting firm, National Economic Research Associates (NERA), the government adopted second-price auctions (NERA, 1988). Politically embarrassing newspaper headlines resulted, as winners paid prices far below their

³ See, e.g., Michael H. Rothkopf, Thomas J. Teisberg, and Edward P. Kahn, "Why are Vickrey Auctions Rare?", *Journal of Political Economy*, Vol. 98, Issue 1, 94-109 (1990), and Lawrence M. Ausubel, "An Efficient Ascending Auction for Multiple Objects," *American Economic Review*, Vol. 94, No. 5, 1452-1475 (2004).

bids (Mueller, 1991). In one extreme case, a firm that bid NZ\$100,000 paid the second-highest bid of NZ\$6. In another the high bid was NZ\$7 million and the second bid NZ\$5,000. (NZ\$1 equaled US\$0.55.) ... The auction form had a political defect. By revealing the high bidder's willingness to pay, the second-price auction exposed the government to criticism, because after the auction everyone knew that the firm valued the license at more than it paid for it.⁴

By contrast, in an open auction, the highest value is never learned or disclosed.

Fourth, when bidders have correlated, interdependent values, open auctions generally raise higher revenues than the corresponding sealed-bid auctions, as well as achieving more efficient outcomes.⁵

The Commission has recognized that open auctions have advantages over sealed-bid auctions, but it is apparently concerned that open auctions may be more costly to implement. Based on our experience in conducting auctions, Power Auctions believes that the incremental cost of conducting an open auction is more than outweighed by its advantages over a sealed-bid Vickrey auction. Even if bidder valuations are not subject to significant uncertainty, the other advantages described above are important. It is worth noting that an open auction for toll free numbers can be conducted in a way that would have a significantly shorter duration than the simultaneous multi-round auctions employed by the Commission for the allocation of electromagnetic spectrum. Open auctions are used in a variety of applications, including electricity and resources, and are often completed within a single day.⁶ Furthermore, an open auction format can be combined with a proxy capability, whereby a bidder who knows in

⁴ John McMillan, "Selling Spectrum Rights," *Journal of Economic Perspectives*, Vol. 8, No. 3, 145-162, Summer 1994 at p. 148.

⁵ See, e.g., Paul R. Milgrom and Robert J. Weber, "A Theory of Auctions and Competitive Bidding," *Econometrica*, Vol. 50, No. 5, 1089-1122 (1982) and Eric S. Maskin, "Auctions and Privatization," in *Privatization: Symposium in Honor of Herbert Giersch*, edited by H. Siebert, J.C.B. Mohr Publisher, 115-136 (1992), available at https://scholar.harvard.edu/files/maskin/files/auctions_and_privatization.pdf.

⁶ See, Lawrence M. Ausubel and Peter Cramton, "Auctioning Many Divisible Goods," *Journal of the European Economic Association*, Vol. 2, Nos. 2-3, pp. 480-493 (April-May 2004) at p. 487.

advance that it is willing to pay up to some amount for a specific toll free number can submit a proxy instruction for that amount and participate as if it were a sealed-bid auction.

An appropriate open auction format for assigning mutually exclusive toll free numbers would be a simultaneous ascending clock auction with multiple independent clocks. Specifically, there would be one clock for each toll free number (*item*) that is being auctioned. In the first round, all clocks would be set equal to the reserve price and each bidder would indicate which items it wants at the clock prices. An item with demand from a single bidder would be assigned to that bidder. For items with demand from two or more bidders, the clock prices would increase in the next round. The process would repeat in successive rounds. Bidding would stop on an item when that item is demanded by at most one bidder. After each round, bidders would be informed about which items were assigned (but not to which bidders the items were assigned) and would be provided with aggregate demand information for the remaining items (but not the identities of the bidders demanding each item). The auction would conclude when, after a round, every item is demanded by at most one bidder.

III. Reserve prices

The Commission seeks comment to the potential advantages and disadvantages of reserve prices in an auction for toll free numbers. For various auction formats (such as a single-round, sealed-bid Vickrey auction or a clock auction), a reserve price can raise the auction revenue in situations where all bidders except for one place little value on a mutually exclusive toll free

number.⁷ Specifically, in such situations, reserve prices substitute for the absence of competition. On the other hand, a modest reserve price would not have any effect in situations where competition is strong.

Given that the level of interest in mutually exclusive toll free numbers varies widely among RespOrgs, it appears useful to use reserve prices in the auction. Another advantage of setting a reserve price for items in the auction (i.e., mutually exclusive numbers) is that it would limit the auction to serious bidders and reduce the length of the auction.

Setting a modest reserve price for all toll free numbers would have three advantages. First, it would reduce the number of items that are mutually exclusive (and thus need to be auctioned). Second, it would discourage warehousing and hoarding. Third, if a secondary market is authorized for all toll free numbers (i.e., not only for the ones in the auction), the absence of a reserve price could be considered unfair, as a subscriber could be paid for reassigning a number that it was originally assigned for free. On the other hand, it is important for the reserve price to be modest, or else the reserve price could lead to some toll free numbers inefficiently never being assigned or used.

IV. Only RespOrgs should be allowed to bid in an auction

Power Auctions supports the Commission's proposal to only allow RespOrgs to bid in an auction. Given that 147 RespOrgs participated in the pre-code opening process and that the top ten mutually exclusive toll free numbers were requested by at least 65 RespOrgs, there appears to be sufficient competition to conduct a successful auction for popular toll free numbers. Allowing

⁷ John McMillan, "Selling Spectrum Rights," *Journal of Economic Perspectives*, Vol. 8, No. 3, 145-162, Summer 1994 at p. 159.

only RespOrgs to bid has two advantages over also allowing subscribers to participate directly in the auction.

First, as the Commission has recognized, RespOrgs may have strengths in maximizing the valuations of certain numbers. For instance, a RespOrg can assign a specific number to one subscriber in one geographic area and to another subscriber in another geographic area. Subscribers may find it difficult to coordinate among themselves to achieve the same result.

Second, the cost of conducting the auction could substantially increase if the number of bidders is significantly increased, which could be the case if all subscribers are allowed to participate in the auction. This is because there is overhead in reviewing applications to participate in the auction, processing any upfront payments, providing login credentials to the auction system, training bidders, collecting payments from winning bidders after the auction, etc. Each of the aforementioned costs increase in the number of bidders.

V. Practical auction considerations

As is standard with the Commission's auctions for the allocation of electromagnetic spectrum, the auction for mutually exclusive toll free numbers should be implemented on a secure electronic auction platform. Bidders will be able to log in to the auction platform to submit their bids and to view auction results. If an open auction such as a simultaneous ascending clock auction is used, then bidders will be able to view their results after every round of the auction through the electronic auction platform.

It is important for bids to be binding commitments, because the lack of binding commitments could cause the auction process to be manipulated or to unravel. A winning bidder

who defaults on its winnings should face a penalty. As is standard with the Commission's auctions for electromagnetic spectrum, in order to participate in the auction, bidders should be required to submit deposits or some other form of financial security. The required deposit amount or financial security for a bidder should depend on the number of items (i.e. mutually exclusive toll free numbers) that the bidder wishes to bid on in the auction.

The auctioneer should be able to conduct an auction impartially and to establish and enforce the auction rules. The auctioneer should be able to process applications for participation in the auction, to handle deposits, and to process payments after the auctions. Furthermore, the auctioneer (or its contractor) should be able to provide a secure electronic auction platform. It appears that the TFNA satisfies all of these requirements and thus could be designated as the auctioneer.

VI. The Commission should allow a secondary market for toll free numbers to develop

Power Auctions supports the Commission's proposal to promote the development of a secondary market for toll free numbers, with an auction as the primary market for mutually exclusive numbers. A secondary market would facilitate an efficient and productive use of toll free numbers. A subscriber's needs for a toll free number may change over time because of various reasons. A secondary market would allow a subscriber who has been assigned a toll free number that it no longer values to reassign that number to another subscriber who now values that number more.

Power Auctions supports the Commission's proposal to change the rules so that even though a subscriber does not own a toll free number, he or she may reassign the right to use that

number for a fee. This would be along the same lines as what is done with spectrum licenses; while the licensees do not own the spectrum, their licenses to use the spectrum are fully transferable and tradeable.

If a secondary market is authorized for all toll free numbers (i.e., not only for mutually exclusive numbers), there should be a minimum payment (or reserve price) for all numbers. There are two reasons for this. First, the absence of a minimum payment could encourage warehousing or hoarding: a party might attempt to be assigned toll free numbers that it does not intend to use, hoping to be able to reassign those numbers to other parties in the secondary market for a fee. Second, the absence of a minimum payment could be considered unfair, as a party could be paid for reassigning a number that it was originally assigned for free. Thus, in the event that a secondary market is authorized for all toll free numbers, Power Auctions supports the use of a minimum payment (or reserve price) for all numbers. See Section III for a broader discussion of reserve prices.

Power Auctions does not take any opinion at this time on whether a secondary market should be authorized for toll free numbers outside of the new 833 toll free code.

VII. Conclusion

The Commission should permit use of auctions, among other assignment mechanisms, to assign mutually exclusive toll free numbers. The assignment of mutually exclusive toll free numbers should be done with an open auction, such as a simultaneous clock auction, due to the significant advantages of an open auction over a single-round, sealed-bid Vickrey auction.

Participation in the auctions should initially be limited to RespOrgs and a secondary market for toll free numbers should be allowed to develop.

Respectfully submitted,

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November 13, 2017