Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	**EX PARTE**
	)	
Auction for Advanced Wireless Services,	)	DA 06-238
Scheduled for June 29, 2006	)	
Comment Sought on Reserve Prices or	)	AU Docket No. 06-30
Minimum Opening Bids and Other	)	
Procedures	)	

EX PARTE SUBMISSION OF THE DEPARTMENT OF JUSTICE

The U.S. Department of Justice ("Department") hereby submits the following ex parte submission in connection with the above-captioned Public Notice outlining the procedures to be used for Auction No. 66, the auction of licenses for Advanced Wireless Services ("AWS") spectrum. The Department believes that the Federal Communications Commission's proposal to make public only leading bid amounts and not bidders' identities will reduce opportunities for tacit collusion among bidders, thereby enhancing competition in the AWS auction.

I. Introduction

In its Public Notice regarding the auction of AWS spectrum, the Federal Communications Commission ("FCC") seeks comment on several different proposals regarding the design of the auction. One of these proposals would limit the amount of information available to bidders during the auction to the gross bid amount of the provisionally winning bidder, not make public after each bidding round the winning bidder's identity or losing bidder information. In support of this proposal, the FCC notes that "bidders could use the information revealed over the multiple

rounds to signal each other and implement a division of the licenses at lower than market prices, and in some cases, to retaliate against competing bidders."[1]

The Department[2] agrees with the FCC that revealing bidder identity can encourage tacit agreements among bidders not to bid against each other for certain licenses in an auction. Analysis of previous FCC auctions that appear in the economic literature suggests that the availability of bidder identity can create the opportunity for tacit collusion and affect the outcome of spectrum auctions.[3] Comments submitted by economists in this proceeding mirror this concern.[4] For example, as Paul Milgrom and Gregory Rosston of the Stanford Institute for

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[1] FCC Public Notice DA 06-238, "Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006: Comment Sought on Reserve Prices or Minimum Opening Bids and Other Procedures," § II.A.2 (Jan. 31, 2006).

[2] The Department's responsibilities include enforcing the antitrust laws and promoting competition, and has participated in prior FCC proceedings involving the role of competition in telecommunications. The Department has also conducted several investigations into collusion occurring during FCC wireless spectrum auctions that resulted in complaints and consensual Final Judgments. *See United States v. Mercury PCS II, LLC*, Civ. No. 98-2751 (D.D.C. entered Apr. 27, 1999); *United States v. 21st Century Bidding Corp.*, Civ. No. 98-2752 (D.D.C. entered Feb. 24, 1999); *United States v. Omnipoint Corp.*, Civ. No. 00-2750 (D.D.C. entered Feb. 24, 1999).

[3] *See* Peter Cramton & Jesse A. Schwartz, *Collusive Bidding: Lessons from the FCC Spectrum Auctions*, Journal of Regulatory Economics, Vol. 17, at 229-252 (May 2000) ("Cramton & Schwartz (2000)"), *available at <http://www.cramton.umd.edu/papers2000-2004/00jre-collusive-bidding-lessons.pdf>* (specific page citations are to the Internet version). Cramton was a consultant to the Department in its investigations of collusion in past spectrum auctions, but his analysis is based upon the FCC's publicly available bidding information.

[4] *See* Comments of Patrick Bajari, Univ. of Mich., & Jeremy T. Fox, Univ. of Chicago (filed Feb. 6, 2006); Comments of Sandro Brusco, State Univ. of N.Y.-Stony Brook, & Guiseppe Lopomo, Duke Univ. (filed Feb. 6, 2006); Comments of Paul Milgrom & Gregory Rosston, Stanford Inst. for Econ. Policy Research, Stanford Univ. (filed Feb. 14, 2006); Comments on the Auctions of Advanced Wireless Services by the FCC, Ctr. on the Study of Auctions, Procurements and Competition (CAPCP), Penn State Univ. (filed Feb. 14, 2006).

Economic Policy Research note, revealing bidder identities can allow less well informed bidders to make inferences about valuations of spectrum by using the bids of other (presumably better informed) bidders, but sharing such information comes at a cost--the possibility of bidder coordination that chills competition.[5] The Department's previous investigations and analysis of bidding data in recent auctions substantiate the potential for signaling and market allocation agreements during FCC spectrum auctions. The Department believes that competition would be enhanced, and thus the public interest would best be served, by not revealing bidder identities at the end of each bidding round during the upcoming AWS spectrum auction.[6] The Department recommends that the FCC adopt this reform of its auction procedures for Auction No. 66.

II. Discussion

The planned AWS auction involves a simultaneous auction for multiple blocks of spectrum in a variety of different geographic areas. This structure, in contrast to a sequential auction, allows participants efficiently to bid on multiple complementary geographic areas to meet their business needs. However, the presence of simultaneous bids and multiple rounds of bidding also creates the opportunity for tacit collusion with bidders possibly agreeing not to bid against each other for certain licenses, thus reducing competition for these licenses. Fundamental to any implicit agreement reached among a small number of auction participants, however, is knowledge of the identity of other players, without which one cannot reach a tacit agreement or punish a bidder who violates the agreement. When identities are known, auction participants

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[5] Comments of Milgrom & Rosston, *supra* note 4, at 3.

[6] Given that several completed auctions of spectrum for wireless services and an active secondary market provide prospective bidders substantial information on how to value spectrum, there appears to be little value associated with having bidder identities revealed.

can take a variety of actions, depending on their bidding strategies. Those strategies may include actively bidding in certain markets to signal another bidder or simply refraining from bidding in certain markets based on the identity of other bidders in an attempt to conform with an implicit agreement. When bidders are not identified, however, such strategies are less likely to succeed simply because reaching any tacit understanding is more difficult when bidders are uncertain about the identity of competing bidders.

The Department's concern about the potential loss of competition from tacit collusion is based in part on bidder behavior observed in previous FCC spectrum auctions. In Auction No. 11 for the D, E, and F blocks of PCS spectrum, Mercury PCS used the last few digits of its bids to identify a specific BTA and thereby to signal another bidder, High Plains Wireless, that unless High Plains ceased bidding on a block of spectrum in the identified BTA, Mercury PCS would bid up the price for spectrum in another BTA that High Plains sought to buy. The FCC fined Mercury PCS for engaging in this type of "reflexive" or code bidding, and later changed its auction procedures to require bidding in pre-established increments to end this type of signaling.[7] This conduct was also the basis for a Department enforcement action.[8] The use of code bids, however, is only one way in which intentions can be signaled to other participants in an auction.

A much more basic way of reaching a tacit understanding that is possible under the existing rules is simply to bid in a market where it seems unlikely that a firm would bid unless it were trying to signal. Where bidders have some knowledge about the identity and likely

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[7] Applications of Mercury PCS II, LLC, Notice of Apparent Liability for Forfeiture, FCC Docket No. 97-388 (Oct. 28, 1997).

[8] *See United States v. Mercury PCS II, LLC*, Civ. No. 98-2751 (D.D.C. entered Apr. 27, 1999)

strategies of other firms (possibly gained by observing a firm's bidding pattern), the presence of trailing digits in a bid is superfluous. In such cases, a firm can signal simply by making a bid in an unexpected market to reach a tacit understanding about ending competition for certain licenses and dividing the licenses between them. In analyzing Auction No. 11, Cramton and Schwarz found over 50 bids that did not employ trailing digits but still appeared to be intended as signals or invitations to collude (which they described as retaliatory bids), and found that such bids were often successful in ending the competitive bidding shortly after they were made.[9]

Making high bidders' identities public can also facilitate tacit collusion by reducing the number of competing bidders. Some bidders may refrain from bidding against particularly well-financed bidders, even when they must then bid substantially more for a comparable block than if they had bid against the well-financed firm. The reduced number of bidders makes it easier for the remaining well-financed bidders to reach a potential tacit understanding to effectively divide the licenses among themselves.[10] For example, in Auction No. 11, AT&T was a particularly aggressive bidder, winning licenses covering 140 million people. In this auction, the D and E blocks were good substitutes, and therefore one would have expected that the prices for the two blocks would be similar. Cramton and Schwarz compared how the bidding behavior of other

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[9] Cramton & Schwartz (2000), *supra* note 3, at 10 (discussing retaliatory bids). For further discussion of how they identified retaliatory bids, see Peter Cramton & Jesse A. Schwartz, *Collusive Bidding in the FCC Spectrum Auctions*, Contributions to Economic Analysis & Policy Vol. 1, Issue 1, Article 11, at 6-7 (2002) ("Cramton & Schwartz (2002)"), *available at* <http://www.cramton.umd.edu/papers2000-2004/cramton-schwartz-collusive-bidding.pdf>.

[10] Cramton & Schwartz (2002), *supra* note 9, at 18.

firms varied in markets where one block had a high bid by AT&T.[11] They found that when AT&T was bidding on one of the D or E blocks, other bidders were much more likely to bid on the non-AT&T block, even when the non-AT&T block was as much as 50% more expensive than the AT&T bid for a comparable amount of spectrum.[12] Whether this behavior was out of fear of retaliation or merely of AT&T's deep pockets, it resulted in a reduction of the number of competing bids for those licenses, facilitating agreements that could lessen competition.

In a declaration filed on behalf of T-Mobile in this proceeding, Cramton refers to some of these same issues, yet comes to the inconsistent conclusion that in the AWS auction, the FCC should continue to make bidder identities available. Cramton, relying on his 2002 article, notes that even in auctions with weak competition, "only a small fraction of the bidders used retaliatory strategies" and that "[t]hese bidders were only sometimes successful at keeping prices low."[13] Although it is true that individual retaliatory bids do not always succeed, the same article notes that "bidders that used code bids or retaliating bids paid significantly less for not only the D and E licenses, but also for the F licenses" and were successful winners of a significant amount of valuable spectrum.[14] Cramton and Schwartz concluded "that the bid signaling strategies were

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[11] Cramton & Schwartz (2000), *supra* note 3, at 17 (using as a control group markets where the high bid on a block was made by much smaller bidders).

[12] Cramton & Schwartz (2000), *supra* note 3, at 16-19.

[13] Declaration of Peter Cramton, submitted on behalf of T-Mobile USA ¶ 23 (citing Cramton & Schwartz (2002), *supra* note 9), *attached to* Comments of T-Mobile USA, Inc. (filed Feb. 14, 2006).

[14] Cramton & Schwartz (2002), *supra* note 9, at 1-2 (observing that six of the 153 bidders in Auction No. 11 regularly signaled using coded or retaliatory bids, and won 40% of the available spectrum in terms of population covered). They found on average, that signaling bidders paid 55% of what non-signaling bidders paid for D and E block licenses, that signaling

effective at keeping prices low on the collection of licenses desired by the signaling bidders."[15] Moreover, it was possible that the methodology used in the study identified only some tacit agreements.[16]

Some commenters have argued that absent any evidence of actual harm, the FCC should not change the rules. In its comments, Cingular notes that the *Public Notice* "cites several theoretical studies," but does not cite as justification for the proposed policy change "any specific evidence that the disclosure of bidder information caused actual collusive behavior by bidders in past auctions."[17] A goal of the FCC in designing rules, however, should be to limit the opportunities for tacit collusion. This is especially true in an industry with a small number of large players who recognize that bidding up spectrum prices is not necessarily in their interest in

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bidders paid 75% of what non-signaling bidders paid for F block licenses. *Id.* at 12.

[15] Cramton & Schwartz (2002), *supra* note 9, at 2.

[16] Succinctly stated by Crampton and Schwartz in an earlier article:

> The analysis above may suggest that clever bid signaling strategies were not effective in the DEF auction [Auction No. 11], and that the FCC need not worry about tacit collusion. We do not believe this to be the case. One must remember that the retaliation and code bidding that we observed are *deviations* from tacit agreements. When tacit agreements are reached without disagreement, then we will not observe deviations. Indeed, it is the cases without disagreement where one would expect prices to be the lowest.

Cramton & Schwartz (2000), *supra* note 3, at 11. That study also notes that the retaliating bidders won 40% of the spectrum (measured by 1994 population), which suggests that although the absolute number of bidders using these strategies was small, the overall effect was substantial.

[17] Comments of Cingular Wireless LLC, at 7-8 (filed Feb. 14, 2006); *see also* Comments of MetroPCS Communications, Inc., at 9 (filed Feb. 14, 2006); Comments of T-Mobile USA, *supra* note 13, at 5-6.

an auction where multiple blocks of spectrum are offered during successive rounds of bidding. Collusion where communications are made through the bidding process can be difficult to detect and prosecute. We know that there has been explicit collusion in past auctions and that there has been anomalous bidding behavior in more recent auctions as discussed below. A change in the bidding process would reduce the opportunity for tacit collusion.

Our review of public bidding information in the FCC's recent Auction No. 58 is illustrative. In Roanoke, Virginia, there were three nearly identical 10 MHz blocks of spectrum available. After several rounds of bidding, three bidders, each affiliated with a large wireless carrier, were the sole bidders on each 10 MHz block. In response to a new smaller bidder, one bidder affiliated with a large wireless carrier chose to bid against the smaller bidder for one of these blocks rather than against the two other large carrier affiliates that were the winning bidders for the other two license blocks. It eventually bid significantly higher (nearly 25% more) than the other large carrier affiliates bid to win their nearly identical license blocks. The only apparent difference among the blocks is that the block that the large carrier affiliate pursued and won was not being sought by another large carrier affiliate.

In a situation like that in Roanoke, but without disclosure of bidder identities, the auction bidding might have pursued a different, less anomalous pattern. If bidders have avoided challenging their largest competitors as part of a tacit agreement to allocate licenses, denying them the information about which bidders to avoid would make such an arrangement less likely. As a result, there would be more competition from a larger number of bidders seeking any particular license. Without bidder identities, smaller bidders might also have a lower cost of

participating because their bids would not necessarily be targeted before other similarly situated blocks of spectrum.

Several firms in their comments in this proceeding raised concerns that withholding bidder information would lead to uncertainty about the technology choices of bidders for licenses in the same and adjacent geographic markets. Such information could affect their business plans, by raising interference issues and limiting roaming options, which all would lessen their ability to properly value the spectrum.[18] This concern appears to be misplaced for several reasons. First, knowing who the current leading bidder is for a block is not the same as knowing the winner of a block, as a new high bid might be placed by another firm that uses a different technology. Second, given the dynamic nature of the wireless industry and ongoing advances in technology, the technology that actually will be deployed in this AWS spectrum is not known with certainty now, and may still be uncertain at the time of the auction's close and for some time thereafter. Thus, to the extent that firms will commit to specific technologies, they will likely do so only after this auction concludes, and the prevailing technology will likely reflect preferences of

[18] *See, e.g.,* Comments of T-Mobile USA, *supra* note 13, at 8; Comments of Leap Wireless International, Inc., at 9 (filed Feb. 14, 2006); Comments of United States Cellular Corp., at 16-18 (filed Feb. 14, 2006).

bidders with large stakes at that point. All winning bidders will be in a better position to determine what technology they will use or roaming partners they will seek after the auction rather than before, and information available from bidder identities during the auction will likely be of little relevance to the bidding decisions and business plans of firms participating in the auction.

III. Conclusion

The Department does not see a compelling pro-competitive reason for disclosing bidder identities in the upcoming auction to counterbalance the potential for tacit collusion that such disclosure facilitates. Although the FCC has adopted other mechanisms to reduce opportunities for collusion, under the current auction procedures knowledge of bidder identities associated with particular bids still can facilitate coordinated behavior by sophisticated and better financed auction participants and potentially result in less opportunity for smaller bidders to compete for certain licenses. The likely result of this potential loss of competition would be lower government auction revenues and potentially less efficient allocations of markets among bidders.

Thus, the Department supports the adoption by the FCC of the proposal not to reveal the identities of bidders making provisionally winning bids until the close of the auction.

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Respectfully submitted,

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