

To: P. Milgrom  
From: E. Kwerel  
Date: June 20, 2000 9:29

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Paul,

I have one additional question about your letter on package bidding designs:

What additional rules could we implement to ensure a rapid close of an auction based on your "benchmark" proposal?

Thanks again for all your help!!

Evan

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To: E. Kwerel  
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Evan:

Here is my response to your question.

As we have discussed, my gravest concern about the benchmark design is the incentive for parking: bidders who can slow the pace of increase in their bids on the packages they ultimately win can gain an advantage in the auction. In a package auction with activity rules like the Milgrom-Wilson rule, a bidder can maintain eligibility by bidding intermittently on many different packages. If many bidders do so, that would threaten the success of the auction, slowing the pace to a crawl and making most of the bids insincere. Therefore, to create a practical implementation of the benchmark design, a key concern is to limit such parking strategies without constraining straightforward bidding.

To see how to accomplish that, it is useful to review straightforward bidding in the theoretical version of the benchmark auction. Initially, straightforward bidders would be active on just one package--the one which is most profitable at the reserve prices. As the price of that package rises, at some point, one or more additional packages would become as profitable at the prevailing prices. The straightforward bidder would continue by bidding on all of those. (In the theoretical version of the auction, the bid increments are the same on all packages, so equally profitable packages remain equally profitable as the bids rise.) Near the end of the auction, a straightforward bidder would be active simultaneously on all the packages in which it is interested.

#### RECOMMENDATION

On the basis of the preceding characterization and analysis, my suggestion is that the FCC add a package-specific activity rule to the benchmark design, as follows. Let A be a package on which a bidder has once placed a bid. Subsequent to that bid, if there are any two consecutive rounds in which (1) the bidder had not had a provisionally winning bid and (2) the bidder has not bid on package A, then the bidder loses eligibility to bid

on package A.

This activity rule would very substantially reduce the opportunities for parking by bidding intermittently on a changing set of packages. The consecutive rounds condition is an imperfect way to account for the inequality of bid increments among packages.

Combined with a minimum bid rule such as we have discussed which ensures (1) that all bids are substantial and (2) that each participant's actual bids for each package of interest rise during the auction, the rules would ensure a reasonably timely close to the bidding.

Paul Milgrom