

Alan F. Ciamporcero
Special Agent

1275 Pennsylvania Avenue, N.W.
Suite 400
Washington, DC 20004
Tel: 888 6476

DOCKET FILE COPY ORIGINAL
EX PARTE OR LATE FILED

PACIFIC  TELESIS
Group

June 7, 1994

RECEIVED

JUN - 7 1994

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

EX PARTE

William F. Caton
Acting Secretary
Federal Communications Commission
Mail Stop 1170
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Dear Mr. Caton:

Re: *PP Docket No. 93-253, Competitive Bidding*

In the attached document, Paul Milgrom of Stanford University responded to questions regarding PCS Auction issues from Evan Kwerel, Office of Plans and Policy. Please associate this material with the above-referenced proceeding.

I am submitting two copies of this notice in accordance with Section 1.1206(a)(1) of the Commission's Rules.

Please stamp and return the provided copy to confirm your receipt. Please contact me should you have any questions or require additional information concerning this matter.

Sincerely,



Attachment

cc: Evan Kwerel

No. of Copies rec'd 0+1
List A B C D E

To: ekwerel@fcc.gov

Jun 6, 94 02:57:27 pm -0700

Subject: Questions

To: ekwerel@fcc.gov

Date: Mon, 6 Jun 1994 14:57:27 -0700 (PDT)

Cc: fwilson@peso (Robert Wilson)

Hi Evan:

I've just been able to turn back to your questions. Apart from the growth conference this weekend that I already told you about, I was grading comprehensive exams (we gave our micro comp on Friday), writing the final exam for intermediate micro, and attending my daughter's performance in a play called "The Tower." Since you said your questions weren't urgent and since my first free moment was at 10 pm last night, I decided my written response could wait until today.

I called Bob Wilson late on Saturday night. He is in Bonn, Germany, at a conference (where Preston McAfee and John McMillan are, too), and indicated that he is satisfied to delegate commenting on your questions about auction rules to me. So, you won't be hearing a contrary story from him.

BID INCREMENTS

Bid increments of one percent of the value are smaller than any I personally have ever seen (but I have only attended much smaller auctions than the ones proposed for PCS). In principle, small bid increments are important when one expects the bidders' values to be closely clustered, as for example in auctions for T-bills. In that case, small increments help to ensure that the highest value bidder can afford to outbid the other bidders, so that the outcome is Pareto efficient. Moreover, in cases like the T-bill auction, small increments would not be a source of costly delays, because one can get the bidding started at a price pretty close to the final price.

Generally, one wants the bidding increment to be greater the greater is the uncertainty about value (so that bidding can quickly search a wide area of prices) and, relatedly, the greater the likely difference in values between the two highest valuers (so that the highest value bidder can be sure to win). Also, as recognized in the Second Report and Order, the greater the value of the items, the less weight is to be put on transaction costs. This last consideration favors smaller bid increments for higher valued licenses.

These are just abstract principles, but they apply immediately to the PCS auction case. The discussions I have heard among industry analysts and others suggest enormous uncertainty about the value of PCS licenses and great divergence of opinion as well as capabilities. These make it unlikely that bid increments should be much smaller in percentage terms than the increments found in other kinds of public auctions.

TIES

As I have explained before, Wilson and I paid little attention to ties in our proposals, because any bidder who is worried about losing in the event of a tie at a given price can create its own tiebreaker by bidding \$1 more. The only substantive issue I recognized before last week is that the rule should be determinate, so that bidders could verify that the rules are properly applied. Breaking ties based on bidder ID numbers or based on the time of bid submission would satisfy this criterion.

Last week, however, McAfee observed that a bidder might prefer to LOSE a tie bid under the activity rule, since it would then be deemed active without having committed itself to any license at any particular price. The feared consequence is that bidders might want to be last to submit a bid just meeting the minimum bid increment in order to lose when there is a tie. This might add to congestion when bids are submitted just before the deadline.

That analysis is clever, but its importance is pretty minor. Some bidders may wish to lose, but there is little reason to suppose that all would: a winning bidder gets extra time to think and may have the advantage conferred by the minimum bid increment. Moreover, many bids will be submitted close to the deadline even without this effect. Not much commitment is demanded from the bidders early in the auction, so there isn't much incentive to game the system to avoid commitments then. If there is active competition for a particular license (as required for the McAfee effect to be a problem), then being the leading bidder on it is even less of a commitment. These observations all tend to mitigate the problem. In addition, in the early phases of the auction, a bidder that wishes to temporize could do so by bidding on some obviously undervalued license to maintain its eligibility. That strategy would, of course, serve the FCC's purposes quite well. In later phases, there isn't enough activity to make congestion a problem: the eligibility ratio is just 1.5 or less throughout phase III.

I cannot say that McAfee is wrong: the effect he has described is possible. However, it seems certain to be too insignificant to merit any modification of the rules. I think you should let simplicity rule here: let the first bid recorded win in the event of a tie (or use bidder ID numbers or the last two digits of the time that the bid is recorded).

ACTIVITY DEFINITION AND WAIVERS

You asked about the details of activity definition. Is a bidder active for the purposes of closing if the bidder exercises a waiver? You have already decided - quite correctly from the point of view of deterring strategic manipulation - that the auction should not be reopened merely because a waiver request is filed after the auction is announced closed.

Again, this is a fine detail. The risks to be weighed are, on one hand, that a series of successive waivers could delay the closing of the auction or, on the other hand, that a bidder with substantial extra value has made a mistake or taken time to reevaluate and been shut out. Both risks are relatively small. The consequences of one such waiver being exercised is, at most, just

a one-day delay, and the bidders have little reason to try to manipulate the system that way. And, late in the auction when final bids are being determined and matters are pretty well settled, serious bidders ought to be well prepared to make their bids on time. On balance, my guess is that the first risk - that a sequence of waivers will delay closing for a few days - is smaller. It isn't very likely that a waiver request will prevent the auction closing; its likely consequence if it does happen is just a one day delay; and if the disaster scenario arises in which a series of waivers does become a problem, the Commission could exercise its judgment to announce the final round(s) of bidding then.

PHASE TRANSITIONS

Wilson's and my analyses of phase transitions have tended to emphasize the risk that transitions would occur too early, forcing a too rapid pace of bidding in the final stages. We have emphasized that, under our proposed rule, the ratio of eligibility to available spectrum (the "eligibility ratio") at the beginning of the second and third phases would be no more than 3.0 and 1.5, respectively, allowing an orderly completion of the bidding.

These analyses assume that bidders lay back to the maximum extent permitted by the rules. Actually, it will be in the interests of some bidders to clarify the situation on the licenses that most interest them during in phase I, in order to guide their later bidding decisions. If you raise the level of activity that triggers a phase change (compared to the Milgrom-Wilson proposal), that would encourage a higher level of activity in the early phases by bidders seeking to clarify the allocation before committing to a set of licenses.

The cost-benefit tradeoffs involved in speeding up the auction are not perfectly clear to me. Wilson and I initially considered only economic efficiency - not public relations - in our design. We were not much concerned about the possibility of a lull in the auction just before each phase change; we were instead concerned about the possibility that the auction would advance too fast. The specific percentages we adopted were designed to keep the pace slow while still guarding against the possibility that the auction would take many months to close.

In principle, the best way to speed the auction along would be to get a quick start, just as auctioneers commonly do when they ask for a substantial opening bid. I have already suggested ideas to you that could help with that, though it might be impossible to adopt rules to that effect at this late stage. The next best way to speed up the auction is to speed up phase I, requiring substantial bid increments (such as those you have proposed) or allowing less time between rounds while the eligibility ratio is still high -- say 4.5 or higher. That could occur only during a period in which the prices are so low that demand for licenses is substantial, new bids are being submitted on 50% of the available spectrum, and the potential winners have little trouble finding attractively priced licenses to maintain their bidding eligibility. Rounds could be slowed from twice daily to once-a-day when the eligibility ratio hits 4.5. Finally, the phase transition could be sped up by imposing a higher activity threshold for phase continuation than under the

Milgrom-Wilson proposal. A one-round criterion instead of a multi-round criterion seems especially apt.

This message was prepared under the usual email etiquette, in which it is to be interpreted much like ordinary speech. It has not been edited by my client or anyone else, nor have I taken days to mull it over, spell and grammar check it, and get nuances of wording right. These are thoughts designed to respond to the issues you raised, and I'd be happy to elaborate on them further if you have additional questions or want to test your ideas about them.

I do hope you find them helpful.

Paul Milgrom