Wrege Associates

Comments on the Consultation on the Award of Available Spectrum at 10, 28, 32 and 40 GHz Bands

Wrege Associates welcomes the opportunity to comment on the consultation on the award of available spectrum at the 10, 28, 32 and 40 GHz Bands. Karen Wrege, founder of Wrege Associates was responsible for developing the auction software programs for the Federal Communications Commission (FCC) and served as Deputy Chief of the Wireless Telecommunications Bureau, Spectrum Management Resources and Technologies Division at the Federal Communications Commission until January 2006. Wrege and Associates was formed in 2006 and is a consultancy specializing in auction policy and strategic bid consulting to international spectrum authorities and spectrum auction bidders.

While at the FCC, I managed the design, programming and implementation of various spectrum auction software programs including auction systems for SMR ascending (SMRA) and SMR package bidding (SMRPB) auctions in addition to the development of a simulation tool that used a combinatorial clock auction with a final proxy round.

Given my experience in the field, I share the OFCOM view that there are many benefits of a combinatorial clock mechanism for auctioning spectrum, especially where the lots being offered are strong complements.

I agree that the SMRA auction format works well with substitutable lots, but there can be difficulties associated with aggregation and exposure and introducing mitigating factors such as withdrawals introduce their own complexities and risks. While the SMRPB auction format can facilitate aggregation it also introduces complexity for both bidders and the auctioneer.

With regard to simplicity, my experience in developing and testing all 3 systems - has shown that combinatorial clock auctions are indeed simple when compared to SMRA and SMRPB auctions. Pricing is especially clear and straightforward. Having to solve a combinatorial winner determination problem only in a best and final stage simplifies computation and speeds the auction.

Furthermore, bidding on quantities of lots rather than specific frequency channels recognizes the substitutability of the lots and the common price aspect can speed the auction considerably.

Allowing for the submission of a single preferred package but allowing for multiple best and final offers on other packages gives bidders flexibility and also reduces threshold problems inherent in package bidding. The strict activity rule will also force bidders to focus on desired lots and speed the auction. I believe that allowing for the submission of best and final offers during the initial clock stage will offer bidders valuable information as well as make the process simpler for bidders than waiting until a best and final round to submit all offers.

While auction transparency has benefits, it must also be weighed against encouraging

or allowing for strategic behavior. Indeed in many of the FCC auctions bid signaling, price manipulation, retaliatory bidding and eligibility parking have been used as strategic tactics by bidders. It is also well documented that strategic demand reduction has been used in SMRA auction in the US and other countries using this auction design. I agree that the combinatorial clock format coupled with the final round should be less vulnerable to strategic manipulation than the simple SMRA.

I am concerned about the proposal to introduce rules that would require bidders to top up their deposits at certain points during the combinatorial clock auction depending on the amount of their bids. The Federal Communications Commission considered adopting similar rules for its early auctions and determined after careful thought and consideration that it would be difficult, complicated and time consuming to administer.

I commend Ofcom?s efforts to improve on the SMRA auction format and for considering a combinatorial clock auction for the award of available spectrum at 10 GHz, 28 GHz, 32 GHz and 40 GHz. Since this design has not been used in this context, I would recommend that Ofcom develop a simulation for the telecommunications industry so that potential bidders are comfortable and confident with the new rules before they participate in the actual auction event.