Dear Sir,

We submit this document as part of the pre-consultation paper on **Allocation of spectrum in 2G band in 22 Service Areas by auction.**

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Auction participants rarely can exhibit rational behavior in any auction event. While the competitive attitude can increase revenues for the government, it is unlikely to maximize social welfare which leads to higher risks for the operator and higher costs for the subscribers.

Spectrum auction should not be blindly adopted but adapted to the local market conditions. Simultaneous Ascending Auctions are not suited to a package bids. While this method will maximize revenue for the government by means of aggressive bidding, a vanilla SAA may not lead to maximal social efficiency.

Referring to SAA for 3G in India, as we realized in our analysis in the paper referred in [1], there was no pan-India winner which may lead to a poorer choice for the customer. It also leads to a higher administrative overhead for the government. A single pan-Indian winner would, in-order to protect commercial interests, work towards preventing opportunistic coalitions among other bidders.

There have been instances of combining SAA with Sealed Bids during the last stages of the auction where the choice has narrowed from many bidders to 1 or 2 excess bidders. These are called Anglo-Dutch auctions [2]. The Sealed Bids could be a Second Price Auction (SPA), as against the default First Price Auction in the Anglo Dutch, which could lead to an aggressive price bid yet keep the result restrained. *By using SPA, the participants are assured that if they are winning the bid, they may not be paying their bid value and hence resort to bidding aggressively. This can also satisfy the government's aim of maximizing revenue.*

However, detailed specifics need to be simulated and cannot be a part of this document.

While reserve pricing and SAA would help reduce the number of bidders who can value the resource appropriately, sealed bids (in Anglo Dutch format) will help new entrants. If entrants and incumbents are to be clubbed in same auction, a special treatment to the mechanism design is essential to remain fair in allocation.

A detailed study, simulating behavior, has to be carried out for the above method to prove its efficacy.

Further, we argue that long term allocations should not be a perpetual right for the highest bidder, but should be subject to usage audits. Moreover, the spectrum usage charges are at a fixed percentage for each operator. Since the wireless communication is a highly competitive domain, there has to be incentives from the government to the efficient operator. Any operator with more than 85% usage for spectrum should be given appropriate incentive by reducing the revenue percentage. This will encourage operators to remain competitive. A figure of 85% usage of spectrum would mean utilizing the resource (spectrum) such that the regular peak usage is near to 85% of the maximum possible.

References:

1. Analysis of the 3G and BWA Auctions in India. Akshay Mishra, Gaurav Varshney, Abhay Karandikar, To be published, ITS 2012.
2. What Really Matters in Auction Design ?, Paul Klemperer, August 2001 (Working paper)
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Authors: Akshay Mishra, Abhay Karandikar.

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