

Response to TRAI Consultation Process

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The TRAI Consultation paper in the context of the Supreme Court judgment is a part of TRAI's well established processes. While the Supreme Court judgment mandated cancelling of the 2G licenses and for TRAI to come out with "...fresh recommendations for grant of license and allocation of spectrum in 2G band in 22 service areas...", TRAI should utilize this opportunity to liberalize the framework for spectrum management and not limit itself to 2G alone. The decisions taken for 2G band cannot be delinked from implications for service in other bands. This is more true in the context of spectrum than possibly in other resource category as due to convergence, similar services can be provided in different bands.

As a perspective, there cannot be a level playing field which takes the past, present and future into account. In the business environment, there are emergent situations, which businesses need to respond to. This is what leads to innovation. At the specific points in time, regulators and policy makers need to be fair and transparent.

Liberalization and Strategic Perspective on Spectrum

Therefore, questions related to liberalization and refarming (Q4, 9, 10, 12) are related. Unless WPC/DOT/TRAI undertake this exercise not only for the identified bands (700 MHz, 900 Mhz, 1800 MHz, 1900 MHz) but also a plan for other bands, this exercise will have limited value. Some elements of this approach will be the consideration of the bands to be delicensed as well as the licensing framework for the available bands simultaneously. If a coherent approach is not adopted, it would lead to legacy issues for the future. For example, besides the auction design of 3G and BWA auctions, what drove higher prices was the lack of clear roadmap of spectrum allocation in 2G bands (the issue of SLC - differing values by various committees and issues related to modeling assumptions). This was exacerbated by the delays in 3G auctions for nearly two years. Therefore, TRAI needs to have a strategic perspective.

DOT/TRAI should work towards making as large amounts of spectrum available for commercial purposes as they can, as soon as they can, because DOT as a trustee of spectrum has the responsibility to ensure as much spectrum deployed for services for the citizens of India as it can.

Amount of Spectrum to be Auctioned

Q3, 7, 13, 17, 18 are related. On examining the evidence from various countries, including the one on specific bands mentioned in the TRAI paper, most have considered 10MHz to 20MHz. In our case, the high population density in urban areas creates constraints on the amount of

minimum spectrum required to make a good business case. But 10 MHz is a good starting point, until we come across bands where more than 10MHz is a minimum limit.

5MHz for 3G is a minimum, but does it make business case? We need to ensure that private companies can make a good business case to equipment providers, bankers and ensure good service quality to subscribers.

Timing of Spectrum Auction

Linked to liberalization of spectrum, Q11, 12, 16 are related. As mentioned above, these auctions should be held as soon as possible. Therefore, DOT/TRAI should come out with the time plan for spectrum auctions in different bands say within a year. DOT would have already been working on these aspects as these issues have been highlighted for a long time, especially since the offtake of mobile services.

Spectrum Caps

Q19, 20, 21 are related. Spectrum caps should be denoted as a part of the total spectrum allocated for commercial use at that point in time in that band. These should be related to the prevalent M&A guidelines.

Refarming Process

The liberalization framework mentioned above and Q5, 6, 8, 9, are related. No comments

Roll out Obligations

Roll out obligations should be based on coverage within a shorter period of time rather than the five year period as is the current roll out requirements. Longer time roll out requirements, could leave spectrum unused.

Spectrum Usage Charges

Once operators have paid for spectrum in auctions, there is no rationale for spectrum usage charges. There could be a small amount of administrative charge to cover the costs of spectrum regulation. In any case, while operators pay spectrum usage charge on the entire amount allocated to them, their actual usage grows only with number of subscribers.

Design of Auctions (in collaboration with Dr. V. Sridhar)

Q14, 15, 17, 19-26 are related. Simultaneous Multiple Round auctions have worked well around the world, including for 3G and BWA in India. We should adopt them, with some modifications. There should be a group that can meet the bidders in the 3G auctions and then work out to fine tune the auctions vis-à-vis increment levels, activity levels, closure rules. The reserve price

works when there is insufficient competition, and even there if reserve price is high, then bidders are unlikely to come forward. Therefore, for bands where TRAI expects competition, there is no need to have a reserve price. For bands, where there is little competition, there could be an administrative charge.

Our suggestion is that DOT/TRAI should work towards a model where auction rounds allocate a fixed amount of spectrum to service providers, so that there is no need to have clauses regarding allocation of “additional spectrum”. Then SLC norms or other types of subjective norms need not be applied. There is an implied assumption that the unit of allocation is sufficient to make business case not just the technical minimum.

There should be spectrum caps. All other participants (both incumbents and new entrants) who are eligible as per the technical and financial criteria should be allowed to participate. A suitable variant of uniform price multi-unit multi-stage ascending auction can be used. The reserve price shall be set at the 2001 auction price prorated per MHz and adjusted for inflation.

All spectrum available should be divided into blocks (minimum required for incremental spectrum say x MHz). The spectrum for auctions should be tranches of these bundles say $2x$, $3x$ etc). Each bidder shall bid for one or multiple blocks to enable the incumbent to acquire more spectrum to improve trunking gain in their networks and the new entrants to acquire enough blocks (i.e. n blocks) to start their services. A suitable variant of uniform price multi-unit multi-stage ascending auction as was used in some of the US FCC auctions, can be used (Ref: http://en.wikipedia.org/wiki/Uniform_price_auction). Then auction could be designed as a hierarchical package bids as was done in the case in the FCC 700 MHz auction (among other sites, http://en.wikipedia.org/wiki/United_States_2008_wireless_spectrum_auction). For example, incumbents could bid for x or $2x$ MHz, whereas new entrants could bid for a bundle of say $4x$.

Regarding payment methodology, we feel that whatever is the bid amount, a percentage say 35% is paid as an entry fee. The remaining amount can be paid linked to the operators’ revenue generation. This will help in de-risking the market operations of bidders, especially for the new operators.

In addition, there is a caveat that the fee of the consultant for designing the auction should not be linked to the revenue generated from the auctions. With so many countries undertaking the auctions in different bands, there is going to be enough competition amongst consultants.

Q 11) Spectrum in 700 MHz **(in collaboration with Dr. V. Sridhar)**

In India, thanks to Cable and Direct To Home (DTH) satellite television that the relevance of over the air broadcasting as reduced over the years. Currently the only government operator provides over the air broadcasting. Though this is viewed by rural household, DTH is fast penetrating the rural areas as well. There are about 60,000 Local Cable Operators and 7 DTH providers in the country with close to 80% of the 135 Million TV sets are either connected to Cable TV or DTH. Further the government has set a deadline of digitalization of Cable TV System with the sunset date for analogue as December 2013. TRAI shall specify due date for the

switch-over for analogue to digital over the air transmission if at all it exists, and arrange to release of digital dividend spectrum in the 700 MHz for commercial mobile services, to harness its improved propagation characteristics.

For a roadmap of issues of switchover, please refer to
http://www.iitcoe.in/index.php?option=com_docman&task=cat_view&gid=12&Itemid=20&limitstart=10