Response to TRAI Consultation Paper on Allocation & Pricing for 2.3 – 2.4, 2.5 – 2.69, 3.3 – 3.6 GHz Bands, published on 2nd May 2008

1. **What should be the revised Reserve Price for the 3.3 – 3.6 GHz Band?**

Telsima Response:

1) Spectrum Pricing:-

Current spectrum allotment is city by city basis.
Current spectrum pricing is based on MCW formula.

Suggestions:-

The frequency band 3.3-3.6 GHz would require very significantly higher degree of CAPEX as compared to the lower 2.x GHz bands as per laws of Physics for network rollout. Hence these bands may not be as attractive for full fledged mobile communications in India as compared to the lower frequency bands.

In line with the earlier recommendation of TRAI of migrating city wise licenses to Circle wise licensing, we feel that the aim of the regulator should be to utilize this band to rollout Broadband Wireless Communication in India.

We are in agreement with TRAI's earlier recommendation for Spectrum pricing of this band with a contiguous allocation of 15MHz per Operator and strongly feel that pricing of spectrum in this band should not be linked to the 3G Spectrum. We also feel thst this action could be taken immediately, without waiting to be linked with any other policy as many Operators have already commenced rollout in this band.

This will as suggested earlier help the network operators in speeding up the Broadband penetration in the country in line with the Broadband Policy. To ensure this, we recommend a more stringent roll out criterion e.g. Metro Circles: 90% coverage in 2 years, Category A, B, C Circles 40% of Rural SDCAs in 2 years, 80% in 5 years.

2) Eligibility:-

Currently multiple Operators already have this spectrum and some Operators have deployed significant quantity of equipment in these bands.

Approximately 150 MHz of spectrum (3300 – 3450 MHz) is usable today without causing interference to Extended C Band Satellite Downlinks. About 9 Operators can

be accommodated (considering inter Operator Guard Band) in any given Circle, which is more or less equal to the number of current allottees

Suggestions:-

To ensure that only serious Players have the spectrum, only the current license of those Operators need to be converted, who have already have some serious extent of deployment within their current license areas. A cutoff point could be at least 20 sectors per license area already in operation. Only that current operator, who has paid all past fees and has current AIP's which are equal to or greater than these numbers, should be allowed to convert their license.

In this process, if any of the current allottees get disqualified, the licensee will be required to vacate the band forthwith and participate in fresh procurements separately as detailed below.

3) Additional Vacated Spectrum & its Treatment:-

Suggestions:-

Once the life of the current Extended C Band Satellite expires and the current users are shifted to other, probably Ku Bands, then another 150 MHz (3450 – 3600 MHz) will become available for allocation to existing or new Operators.

This could also include spectrum freed up from existing users who had to surrender spectrum as in the earlier paragraph. This could then be auctioned using the current proposed reserve price as base, through a single stage auction

2. What should be the eligibility conditions for bidding for the 2.3 -2.4, 2.5 – 2.69 GHz Bands?

Telsima Response: All current UASL & CMTS Operators as well as Category A ISPs should be eligible for bidding.

3. In the 2.3 – 2.4 GHz bands, what should the maximum amount of spectrum that a licensee can bid for?

Telsima Response: A minimum of 15 MHz & a maximum of 30 MHz should be allowed, with steps of 5 MHz. In other words intending licensees could bid for 15, 20, 25 or 30 MHz blocks.

4. In the 2.3 – 2.4 GHz bands, what should be the size of the spectrum blocks for bidding?

Telsima Response: The spectrum should be in blocks of 5 MHz and the auction should be for a minimum of 3 blocks or a maximum of 6 blocks.

5. **In view of limited availability of spectrum and possible conflicts between technologies using FDD & TDD modes, how should the spectrum in 2.6 GHz be allocated?**

Telsima Response: Currently, with the limited spectrum that is available it would not be feasible for having FDD allocations. Later when the BSS portion is shifted to other bands the TDD Operators could be moved to the centre and FDD Operators could be provided spectrum on either side with adequate guard band.

6. **In case the present spectrum is allocated for BWA Technologies using unpaired spectrum, will it be feasible in future from technical and economical angle, to refarm the allocated spectrum in 2.6 GHz in line with the Global practices?**

Telsima Response: Currently all TDD equipment (both Base Station side and Subscriber side, available in this band covers the entire Bandwidth from 2500 -2690 MHz and the channels are software programmed based on the actual spectrum allocation. In case Operators have to be moved from one set of frequencies within this band to another set of frequencies also within this band, it would just be a software upgradation/ programming, and hence would be both technically and economically viable.

7. **A major portion of the 2.6 GHz spectrum is yet to be got vacated by WPC. What measures can be taken to accelerate the process of vacation so that the Indian Telecom Sector is not at a disadvantage in relation to other Countries?**

Telsima Response: WPC should get the portion of the spectrum allocated but not yet used by Dept. of Space vacated at the earliest as unused spectrum is a loss to the National Exchequer. Subsequently the BSS should be moved to a Ku Band, and this should also be freed up.

8. **What should be their reserve price for the purpose of the auction for the spectrum in 2.3 – 2.4 & 2.5 – 2.69 GHz bands?**

Telsima Response: The intention currently is to use the spectrum to provide data/ data centric services. Initially the target segment would be Computers and such other computing devices or Voice over IP devices rather than normal handsets. The penetration of these devices in India is still not very high so the value of this spectrum cannot be the same as the charges for 3G spectrum. Also higher frequencies will require higher amount of infrastructure. Hence the reserve price per 5 MHz block of BWA spectrum should be not more than 25% of the reserve price for 5 MHz + 5 MHz of 3G spectrum.

9. **Is there a need to putting a maximum limit on the cumulative holding of spectrum acquired in these bands by a licensee and what should be that limit?**

Telsima Response: Ideally there should be no restriction on the maximum holding by any Operator between the 2.x and 3.x GHz Bands. Within each of these bands, to avoid portions of the band remaining improperly utilized in the beginning, a cap of 40 MHz could be considered. Typically over and above 30 MHz, the balance of up to 40 MHz could be allocated based on a "number of users" criterion, in blocks of 5 MHz.