

TELECOM REGULATORY AUTHORITY OF INDIA

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TRAI issues Recommendations on 'Allocation and pricing of spectrum for 3G services and Broadband Wireless Access'

- The recommendations are based on the following principles: *Maximization of consumer interest including affordability, Responsible and efficient use of spectrum, Aiding growth of the sector particularly in rural areas, ensure technology and service neutrality/convergence, Recovery of costs and pricing of spectrum, Orient spectrum policy to the future, Competition:, Keeping a level playing field, Sharing of infrastructure.*
- In order to provide long-term vision and planning for spectrum availability and its efficient usage, a National Frequency Management Board may be constituted.
- Spectrum identified for 3G should be treated as a stand-alone allocation and not as an extension of earlier spectrum allocation of 2G.
- Department of Telecom should realize a spectrum acquisition fee from telecom service providers.
- The spectrum for immediate allocation in case of 3G services should be in 450 MHz, 800 MHz and 2.1 GHz. As per present estimates 2X32.5 MHz of spectrum will be available in a time scenario of 6 to 9 months for 3G services.
- Five blocks of 2x5 MHz in 2.1 GHz band, one block of 2x5MHz in 450 MHz band and two blocks of 2X1.25 MHz in 800 MHz band to be made

available through a prescribed auction procedure as detailed in the recommendations.

- Rural roll out obligation imposed as part of overall roll out obligation in a time bound manner.
- Base price for acquisition of spectrum for 3G services recommended at Rs. 80 crore for category 'A' circles, Delhi and Mumbai metro, Rs. 40 crore for category 'B' circle and metro Chennai and Kolkata and Rs. 15 crore for category 'C' circle.
- Broadband Wireless Access (BWA) given a high priority. The Authority has identified 200 MHz of spectrum in 3.3-3.4 GHz and 3.4-3.6 GHz bands to about 13 carriers in contiguous blocks of 15 MHz each.
- On grounds of non-availability in a short-term time frame and also on account of technical issues particularly in mixed band plan, the Authority has not immediately taken into account PCS 1900 MHz, 2.3 GHz, 2.5 GHz and 700 MHz for 3G and BWA services.
- Stiff penalty for de-hoarding and non-compliance of roll out obligations.

The Authority has released its recommendations on the allocation and pricing of spectrum for 3G and BWA services. The recommendations focus on level playing field, technological neutrality and affordability while ensuring that spectrum is available to telecom operators wishing to provide 3G and BWA and thus deepening the penetration of telecom services in rural and urban India. The

Authority gave a high priority to a forward looking but pragmatic long-term road map identifying bands of spectrum for immediate and future use thus ensuring that the benefits of technology is spread all over the country. Keeping with the broad working guidelines of the Authority, the recommendations fulfill the objectives of healthy competition, sectoral growth, level playing field and maintaining a technologically neutral stance. The key theme of the recommendation is that the consumer must reap the benefits of affordable and varied services.

It is evident to all that the spectrum is a scarce commodity and allocation should be considered in a holistic manner and any piecemeal or ad-hoc solutions should not find place in future planning. Accordingly, the Authority has also made suo-moto suggestions on the wider issue of management spectrum.

The salient features of the recommendations by the Authority are:

- (i) The allocation of 3G has to be treated as a stand alone exercise and not as an extension of 2G spectrum. Accordingly allocation criteria has to be specified separately coupled with the basis of spectrum acquisition fee.
- (ii) For 3G services 3 bands i.e. 450 MHz, 800 MHz and 2.1 GHz have been identified. The total available spectrum presently is 2x32.5 MHz in a time scenario of 6 to 9 months for 3G services.

- (iii) The DoT should take immediate steps for allocation of 5 blocks in 2x25 MHz of spectrum in 2.1 GHz band.
- (iv) Allocation for 3G services should also be made in 450 MHz (one block of 2x5 MHz) and 800 MHz (2 carriers of 2x1.25 MHz).
- (v) As already requested by TRAI, DoT to verify technical feasibility of co-existence of mixed band allocation. In case found feasible then DoT should work towards refarming of the PCS 1900 bands, specifically 2x10 MHz in the medium-term scenario for allocation to telecom service operators with CDMA technology.
- (vi) The allocation and also the waiting list if any of telecom service operators should be determined through a process of auction. Only licensed telecom service operators will have the eligibility for participation in the auction. Reserve price for spectrum in the 2.1 GHz band shall be:
- Rs. 80 Crore for Mumbai, Delhi, Category A circles,
 - Rs. 40 Crore for Chennai, Kolkatta, Category B circles and
 - Rs. 15 Crore for Category C circles.
- (vii) UASL CDMA operators to be given an option of one carrier for EV-DO services in the 800 MHz band and one block of 2x5 MHz in the 450 MHz band subject to specified conditions. If there are more UASL CDMA operators claiming the available spectrum in 450 MHz or 800 MHz band then a one stage bid process will be organized.

- (viii) In case UASL CDMA operators bids and succeeds for 450 MHz band, such an operator would not be eligible for participation in the auction of 2.1 GHz band.
- (ix) The Authority has requested to DoT for immediate resumption of unused spectrum so that additional spectrum is available in 800 MHz band for the growth of CDMA services. The resumption of unused spectrum should be implemented in a time bound manner in next 3 months. It will be possible to free some carriers in 800 MHz, reallocate them to the fast growing operators, and thus open the possibility to separately earmark two to three carriers for 3G services in the 800 MHz band.
- (x) The Authority also examined the option of adding one more carrier to the existing 800 MHz without making major adjustments to increase the total number of carriers available in this band from 14 to 15 . The Authority recommended that DoT may coordinate with the operators in the next three months to modify the existing 800 MHz band plan, adjusting guard bands to add one additional carrier. Hence, at least two carriers, i.e. 2 x 2.5 MHz, can exclusively be dedicated for 3G (EV-DO) services in the 800 MHz band in all circles.
- (xi) DoT should take steps for vacating 2 x 5 MHz of spectrum in the 900 MHz band in order to re-farm GSM operations within the band, and then allocate an additional 2 x 5 MHz for CDMA operations in the 800 MHz band.
- (xii) DoT should grant a one year moratorium on incremental annual spectrum fees for 3G spectrum from the time of spectrum assignment. After this one year,

the DoT should charge operators an additional annual spectrum charge of 1 per cent of the operator's total annual gross revenue (AGR).

- (xiii) For operators in 2.1 GHz band, Rollout obligations of covering 90% of area in Metros and in circles 50% of the DHQs or cities in the circle out of which 10% should be rural, at the end of 5 years. At the end of 3 years, 30% of the DHQ or within the circle out of which at least 10% should be rural.
- (xiv) At least 200 MHz of spectrum should be made available for BWA to accommodate growth requirement until 2007, and additional 100 MHz of spectrum should be earmarked by 2010.
- (xv) Operators with current spectrum assignments in the 3.3-3.4 GHz band should be given the option to migrate to circle-wide operations by December 2006, and the DoT should then allocate this spectrum for BWA technologies.
- (xvi) The DoT should get 100 MHz for broadband wireless applications in the 3.4 – 3.6 GHz band, coordinated with Department of Space urgently and make appropriate allocations.
- (xvii) 200 MHz of spectrum in the 3.3-3.4 GHz and 3.4-3.6 GHz bands may be allocated to 13 operators in contiguous blocks of 15 MHz each. The majority of BWA spectrum as identified should be allocated among UASLs, CMSPs, or Category A and B ISPs and for circle level deployments. One block of BWA spectrum for allocation among captive networks, which can operate in any Secondary Switching Area (SSA).
- (xviii) DoT should organize a one-stage sealed bid auction for every circle to allocate BWA spectrum for circle-wide licensees.

- (xix) 5.15-5.35 GHz and 5.725-5.875 GHz bands may be delicensed for outdoor usage.
- (xx) Considering the growth and development of wireless technologies and services, a long-term view on overall spectrum management policy including the organizational structure for spectrum management is necessary.
- (xxi) In order to ensure availability of additional spectrum, its efficient utilization, planning for future requirement and effective monitoring a National Frequency Management Board (NFMB) may be constituted.
- (xxii) A specialized division to study spectrum related issues considering future developments of wireless technology and application to be located in TRAI to assist NFMB.
- (xxiii) The revenue estimated from the base price not accounting for final auction bid is around 1500 crores for 3G and BWA services.
- (xxiv) If operators do not achieve their roll out obligations, they should be given one year within which to fulfill their roll out obligations. After one year, the operators should be fined a spectrum hoarding cess of 2.5 per cent of their winning auction bid (i.e. their spectrum acquisition price) per quarter in the next year. If the operators do not complete their roll out obligations within this one year, their spectrum assignments should be cancelled and the spectrum be re-allocated to a new operator.