

TELECOM REGULATORY AUTHORITY OF INDIA

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Trai Issues Recommendations on Spectrum related issues

- Spectrum policy recommendations are based on objectives of Government viz. target of 200 million mobile phones by 2007, adequate spectrum to operators to permit longer term spectrally efficient planning, reduced input costs for telecom services so as to increase coverage in semi-urban and rural areas and ensuring roll out of 3G services.
- Since it would be difficult to get additional 2G spectrum vacated by existing users in a reasonable time frame and this spectrum limitation could limit cellular growth and prevent achieving Government targets, TRAI recommends immediate constitution of a very high level group at the level of ministers assisted by professionals to draw up and oversee implementation plan to achieve guaranteed spectrum availability by 2006. Even then, TRAI visualizes shortage of 2G spectrum.
- Existing ceiling on annual spectrum charges of 6% AGR should be brought down to 4% of AGR.
- Present spectrum allocation criterion for both GSM and CDMA operators may be revised within one month of acceptance of these recommendations such that while retaining the subscriber base approach, the quantum and steps for additional spectrum allocation and area of co-ordination are technology neutral.
- Partial mitigation of spectrum constraints through introduction of services in IMT-2000 spectrum.

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- IMT-2000 (3G) services in the 2GHz band for both GSM and CDMA for reasons of spectrum availability. TRAI recognizes that US-PCS 1900 MHz band for CDMA operators cannot be vacated by defence, hence even CDMA services will have to be allocated spectrum in 2 GHz band. Further, TRAI recognizes interference problems in mixed allocation of 1900 MHz US-PCS and IMT 2000 2 GHz spectrum.
- IMT-2000 2GHz spectrum allocation to the existing operators as extension of 2 GHz spectrum allocation with no one time entry fee but an additional annual per MHz charge till service provider rolls out IMT-2000 services. Cancellation of IMT-2000 spectrum if IMT-2000 (3G) services are not rolled out within 2 years from the date of allocation of spectrum
- New operators should be allowed in areas where spectrum requirements of existing operators have been met and additional spectrum is available.
- CorDECT spectrum delinked from mobile spectrum and distributed rationally.
- Spectrum trading may be considered at a later stage through a consultation process.
- Spectrum charging for terrestrial wireless links rationalized. This will help in increasing internet and broadband penetrations. For shorter distances and lower spectrum bandwidth discounts from 50% to 98%.

2. Spectrum projections show that to meet the Government's objective of providing 200 million cellular telephones by 2007 and to sustain the telecom sector growth beyond 2007 also, spectrum availability will prove to be a major bottleneck. This is also impacting the quality of service in high traffic areas. For spectrally optimized planning, adequate spectrum has to be made available. Present level of spectrum allocated to mobile operators is much below the international averages. The spectrum allocation criteria both for

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GSM and CDMA needs to be revised urgently while retaining the existing subscriber based approach. There is a need for immediate time bound action for making more spectrum available as currently the 2G/2.5G spectrum is largely occupied by other users. The salient features of TRAI's recommendations are as follows:-

2.1 Strategy for availability of additional spectrum

- 2.1.1 Present level of spectrum allocated to Mobile operators is much below the International averages and there is a need for immediate time bound action for making more spectrum available.
- 2.1.2 To ensure the availability of adequate spectrum to achieve the target of 200 million mobile subscribers by 2007, TRAI has strongly recommended immediate constitution of a group at the level of Ministers of the Union Government assisted by professionals from Defence, Department of Telecom and TRAI to draw a detailed time bound step-by-step programme and monitor its implementation. This activity has to be taken up on war footing to be able to meet the Government objectives of growth.
- 2.1.3 The spectrum shortage is not likely to be faced in too many cities and certainly not all over the country. Area specific (city level or even specific area within a city) co-ordination may be required to ensure availability of adequate spectrum.
- 2.1.4 After analysing the spectrum requirements to achieve the target of 200 million mobile subscribers (both GSM & CDMA) in the year 2007, Authority recommends that :-
- ☐ While retaining the subscriber base approach, the actual spectrum allocation criterion should be urgently revised within a month from date of acceptance of TRAI's recommendation.
  - ☐ Additional carriers to be allocated to CDMA operators in 800 MHz band based on revised criterion.
  - ☐ After vacation by existing users part of 2x4.8 MHz spectrum in 900 MHz band in Circles to be allocated to GSM operators having only

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1800 MHz band to improve the coverage in semi- urban and rural areas.

- The availability of at least 2 x 25 MHz spectrum in 1800 MHz band is coordinated by Defence by December, 2006.
- The availability of 2 X 5 MHz in IMT-2000 2 GHz band to each existing mobile service provider who demands it, is coordinated in a very short-time frame to offer IMT-2000 services.
- The availability of spectrum in 450 MHz band is coordinated.

## 2.2 Annual spectrum Charge

- 2.2.1 Keeping in view the objectives of growth, affordability, penetration of mobile services in semi-urban and rural areas, etc. Authority recommends that existing ceiling on annual spectrum charges of 6% AGR should be brought down to 4% of AGR to reduce input costs.

## 2.3 Spectrum Allocation Procedure:-

- 2.3.1 At present though subscribed base approach is followed for allocation of additional spectrum to both GSM and CDMA operators but it follows different criteria for GSM and CDMA operators. Authority recommends that this criterion should be reviewed within one month from the date of acceptance of TRAI's recommendations such that it is technology neutral

## 2.4 Additional annual spectrum charge on IMT-2000 spectrum

- 2.4.1 An additional annual spectrum charge on per MHz basis would be charged for IMT- 2000 spectrum to avoid hoarding of spectrum till the service provider rolls out IMT-2000 services. If roll out does not take place within 2 years from the date of allocation of spectrum, this allocation is to be cancelled.

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## 2.5 Level of competition and entry of new mobile service providers

- 2.5.1 With 4 to 7 mobile operators in different service areas, there is adequate competition in almost all the service areas. It is, therefore recommended that before we consider allocating spectrum to new service providers it is necessary to ensure that the existing service providers have adequate spectrum. Based on these considerations it is recommended that the Government should not keep the available spectrum with themselves in service areas where there is adequate competition i.e. where HHI is 0.35 or below, and allot spectrum to operators, based on the revised spectrum allocation criteria.
- 2.5.2 One-time spectrum charge for the new entrants (under unified licensing regime subject to approval by Government of India) would be equal to UASL entry fee in that services area minus the component of registration charge based on the entry fee paid by new BSO (entered in/after 2001), specified by TRAI in its recommendations on Unified licensing regime dated 13<sup>th</sup> January 2005. For new UASL the one time entry fee includes one time spectrum charge also.

## 2.6 Allocation Policy for CorDECT Services

- 2.6.1 The spectrum allocated for alternative technologies, such as CorDECT de-linked from spectrum for cellular technologies like CDMA and GSM. To this end, clause of the Unified Access Services License should be suitably modified.
- 2.6.2 To promote the most efficient usage of the CorDECT platform spectrum allocation for specific operators should be altered from its current format and out of the total 11 carriers 7 carriers to be left open to be shared by

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all operators with the clearance to operate CorDECT equipment in their service area.

## 2.7. Policy for Other Terrestrial Wireless Links

2.7.1 The present system for acquiring and pricing of point-to-point and point-to-multi-point wireless links to be modified as it uses slabs for determining the pricing multiples for both the distance factor M and the bandwidth factor W. These slabs were too large in certain ranges and the changes between slabs too drastic, therefore not reflecting the full potential of wireless technology and the requirements of operational deployment, and also not encouraging efficient utilization. New proposed formula would rationalize and reduce costs particularly for fixed wireless links over short distances helping to reduce costs for semi-urban and rural areas.

## 2.8 Contiguous allocation of spectrum

2.8.1 It is understood that WPC is already making efforts for contiguous allocation of the spectrum, Authority recommends that this process should be expedited.

## 2.9 Spectrum Trading

2.9.1 Spectrum trading may not be permitted at this stage. However, depending upon market conditions the issue may be considered at a later stage through a consultation process.

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## 2.10 Review of Spectrum policy

Authority recommends that the spectrum policy may be reviewed periodically depending upon the development in the market, level of competition, development of technologies and availability of equipments and spectrum.

*—R. Singh*