

**RECOMMENDATIONS OF TELECOM REGULATORY AUTHORITY OF INDIA ON  
THE REFERENCE ON THE SPECTRUM CHARGING FOR 3G SERVICES  
(DoT letter No. P-11014/02/2008-PP dated 24th November, 2008)**

**Dated: 9<sup>th</sup> December, 2008**

**INTRODUCTION**

1. The Telecom Regulatory Authority of India (TRAI) had submitted recommendation to DoT on “Allocation and pricing of spectrum for 3G and BWA Services” vide letter No. 101-36/2006-MN dated 27<sup>th</sup> September, 2006. The status of the recommendations, with regard to their acceptance or otherwise, is placed on TRAI’s website. DoT made reference for reconsideration on certain select recommendations vide letter dated 10<sup>th</sup> April 2008. The Authority sent its recommendations on the reference vide letter of even No. dated 25<sup>th</sup> April, 2008. **(Annex.-I)**

2. Subsequently, DoT vide its letter No. P-14047/09/2005-NTG (Pt.I) dated 1<sup>st</sup> July 2008, had proposed certain additional modification in the above referred recommendations (‘Allocation and pricing of spectrum for 3G and BWA services’ dated 27<sup>th</sup> Sept.2006) with regard to 3G services **(Annex.-II)** and had requested TRAI for its considered recommendations / comments on the proposed modifications. The Authority sent its recommendations on this reference vide letter of even No. dated 12<sup>th</sup> July, 2008. **(Annex.-III)**

3. Further, DoT vide its letter No. P-11017/02/2008-PP dated 9<sup>th</sup> July, 2008 had proposed certain modifications in Authority’s recommendations on ‘Review of License terms and conditions and capping of number of access providers’ dated

28<sup>th</sup> August, 2007, with regard to annual spectrum usage charges and one time spectrum enhancement charges. The Authority sent its recommendations on this reference vide its letter No. 101-19/2007-MN(Vol III) dated 16<sup>th</sup> July, 2008. **(Annex.-IV)**

## **PRESENT DoT REFERENCE**

4. DoT vide its letter no. P-11014/02/2008-PP dated 24<sup>th</sup> November, 2008 and corrigendum of even no. dated 25<sup>th</sup> November 2008, has sent another reference on the recommendations on 'Allocation and pricing of spectrum for 3G and BWA Services' dated 27<sup>th</sup> September. 2006. (Copy enclosed as **Annex.-V**) on spectrum usage charges for 3G services. The proposal of DoT is largely based on inter-ministerial committee's recommendations on the subject which is enclosed with the DoT's above referred letter. The key paras in the letter of DoT mention the following:

***“4. The Inter-ministerial committee has given the following recommendation:***

- i) Due to the complexity of a system of segregating 2G and 3G revenues, and huge difficulties in verification and audit to prevent creative accounting and arbitrage, and other practical difficulties, the segregation of 2G and 3G revenues is ruled out.*
- ii) GSM 2G operators at present pay from 2% to 5% of AGR as annual spectrum charges and CDMA 2G operators pay 2% of AGR as annual spectrum charges. Due to efficiency in capital expenditure and synergy in operations, the existing operator having 2G spectrum and acquiring 5MHz of 3G spectrum should pay a slightly enhanced rate for the combined 2G+3G spectrum. The committee recommends that an existing operator having 2G spectrum and acquiring 3G spectrum should pay an incremental 1% over*

and above the applicable slab rate of 2G spectrum. For a stand alone 3G operator, the rate shall be the corresponding rate applicable to the 5MHz slab rate of 2G spectrum i.e. 3%.

iii) The Committee recommends that annual spectrum charges on 3G spectrum, both for existing operator with 2G+3G spectrum and standalone 3G operator, will be charged after a period of one year.

iv) **Alternate Recommendation in Case the Revised Spectrum Charges Proposed by DoT are Implemented:**

The Department of Telecom is considering rationalizing the 2G annual spectrum charges and increasing them by about 1% for different slabs as follows:

Spectrum in MHz in 2G	Charges as % of AGR		
	Existing	Proposed by TRAI	Proposed by DoT
Upto 4.4/2.5	2	No change	3
Upto 6.2/5	3	No Change	4
Upto 8	4	No Change	5
Upto 10	4	5	6
Upto 12.5	5	6	7
Upto 15		7	8

In case the increased rate are accepted by the Competent Authority, the Committee recommends that the new revised slab rates applicable to an operator with 2G spectrum should be applicable to the 2G+3G spectrum holder on their total AGR. In this case, 1% incremental increase in the slab rate as proposed in para 8.2 above will not be applicable as it will amount to

*doubling of annual spectrum charges in the lowest slab (from the existing 2% to 4%). This will have an adverse bearing on the auction price. Thus, in case the revised rate proposed by the DoT are accepted, the Committee recommends that the annual spectrum charges for an operator holding 2G + 3G spectrum will be the same as being paid by the 2G spectrum holder for the corresponding slab. Further, the recommendation of para 8.3 above regarding moratorium will also not be applicable for operators holding 2G + 3G spectrum.*

*For a standalone 3G operator, the rate shall be 3%, the lowest slab for 2G spectrum under the revised proposal of DoT, with one year moratorium.*

*The report of the Committee is enclosed.*

*5. The report of the Committee has been accepted by the Full Telecom Commission. Since the revised spectrum charges proposed by DoT, which has also been agreed to by TRAI vide their letter No. 101-19/2007-MN (Vol.III) dated 16th July, 2008, were also accepted by the Full Telecom Commission, it approved the annual spectrum charges recommended by the Committee in para 8.4. The decision of the DoT is in variance with the TRAI recommendations.*

*6. It is worth pointing out that the Department of Telecom has taken a decision to auction 3G spectrum. Thus the price discovery for spectrum will be through the market mechanism. Hence, as long as annual spectrum charges proposed to be levied are notified in advance, the market will factor in this annual outflow in the auction bids. If higher annual spectrum charges are kept, the auction bids are likely to be lower and vice versa. Annual spectrum charges for 3G spectrum therefore, can be considered to be in the nature of administrative*

charges for management of spectrum being auctioned. By doubling the minimum reserve price of 3G spectrum recommended by TRAI, it has been ensured that a substantial upfront price will be drawn from the auction which will protect the realizable revenue of the Government.

**7. When TRAI made its recommendation for levying annual spectrum charges for 3G spectrum at an incremental rate of 1% of AGR in September 2006, there was no proposal to increase the AGR for 2G spectrum. TRAI made a recommendation for increasing annual spectrum charges on 2G spectrum subsequently in 2007. Thus, it is reasonable to subsume the 1% annual spectrum charge on 3G revenue proposed by TRAI in the increase of annual spectrum charge for 2G revenue subsequently proposed by TRAI. This was also the view of the Inter-ministerial Committee which felt that in case this was not done, the annual spectrum charge in the lowest slab would double from 2 to 4%. Further, many existing operators would have to pay rates in excess of 5%. This would have an adverse bearing on the auction price.**”(Emphasis added)

5. Thus the above proposal of the Department read with the recommendations of inter-ministerial committee highlights the following:

5.1 The revised spectrum charges for 2G spectrum as proposed by DoT and endorsed by Authority is as follows:

<b>Spectrum in MHz in 2G</b>	<b>Proposed Charges as % of AGR</b>
upto 4.4/2.5	3
upto 6.2/5	4
upto 8	5
upto 10	6
upto 12.5	7
upto 15	8

5.2 The new revised slab rates applicable to an operator with 2G spectrum should be applicable to the 2G + 3G spectrum holder on their total AGR.

5.3 Stand alone 3G operator will pay 3% of AGR which corresponds to the lowest slab for 2G spectrum.

5.4 3G spectrum to be allocated based on auction shall not be counted for calculating the slab of the total spectrum holding by 2G licensee for levy of spectrum usage charges.

5.5 The spectrum charge shall be payable on total Adjusted Gross Revenue (AGR) of 2G and 3G services taken together.

5.6 There will be moratorium of one year on the payment of annual spectrum charges for the stand alone 3G operator only. However, Moratorium of one year will not be applicable to operators holding 2G +3G spectrum i.e. the existing licensees.

## **6 ELIGIBILITY FOR 3G SPECTRUM**

DoT has decided that:

any person

(i) who holds a UAS/CMTS licence or

(ii) (a) who has previous experience of running 3G Telecom Services; and

(b) gives an undertaking to obtain Unified Access Services Licence (UASL) as per Department of Telecommunications guidelines dated 14.12.2005 before starting telecom operations,

shall be eligible to bid for 3G spectrum.

## EXISTING RECOMMENDATIONS OF TRAI ON THE SUBJECT

7 In the recommendation on “Allocation and pricing of spectrum for 3G and BWA services” dated 27<sup>th</sup> September, 2006 the Authority envisaged that only existing operators shall be eligible to participate in the auction for 3G spectrum. Accordingly, the Authority had recommended *“that the DoT should have 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 operator’s an additional annual spectrum charge of 1 per cent of the operator’s total adjusted gross revenue (AGR)”*.(Para 4.91)

8 The rationale for making the recommendation for permitting only existing operators to bid for 3G spectrum and reiterating the same in its letter dated 25<sup>th</sup> April’08 (**Annex.-I**) was following: -

a. The existing licensees due to their available infrastructure are in a better position to deliver 3G services efficiently, quickly and at low incremental cost in the Indian price sensitive market.

b. In view of existence of about 12-13 licensees in each service area, there is sufficient competition in the market to ensure that the spectrum is priced competitively, discourage cartelization and offer services that are acceptable in terms of quality and price.

c. 2x5 MHz is a viable and technologically acceptable quantum for the existing licensees who are either offering or planning to offer 2G services. With 2x25 MHz to 2x30 MHz of available spectrum in 2.1 GHz band, the Authority had recommended allocation of 2x5 MHz of spectrum so as to accommodate

maximum number of existing licensees and also to avoid any possible legal challenge.

d. By deploying the 3G technologies, the existing licensees can migrate their high-end subscribers to 3G technology and will be able to partially ease 2G spectrum availability, which can be utilised for achieving Govt. target of 500 million subscribers by 2010.

e. If the new entity is allowed to bid for the spectrum for 3G and if becomes successful in bidding then it will get an automatic right to get UAS license. This will create legal complications and litigations as it will be construed as an indirect backdoor entry. In case the entity is given only license and not spectrum (2G) than it will tantamount to creation of new license category which will be against the NTP 99.

**However, the decision of DoT is as mentioned above in Para 6.**

## **AGGREGATION VS SEGREGATION OF REVENUE FROM WIRELESS ACCESS SERVICES**

9 The Authority in its recommendation on “Allocation and pricing for 3G and broadband wireless services” dated 27<sup>th</sup> September 2006 had observed “....*the Authority also notes that it will be difficult to charge two different annual spectrum fees for 2G and 3G operations because it opens the possibility of arbitrage between two possible indistinguishable revenue streams. Hence, the annual fee should remain as a percentage of the total AGR of the operator*”. The Authority reiterated its recommendation vide letter No. 103-5-MN/2008 Dated 22<sup>nd</sup> September, 2008 to DoT “.....*the Authority was of the opinion that in case of the service provider having both 2G and 3G spectrum, separation of the revenue between 2G and 3G services*



*will not be possible. Both of these services are capable for providing triple play services except for the fact that 3G technologies can provide faster data speeds. Moreover, there will be many common control equipments for 2G and 3G and apportioning the cost / revenue to these two services will be very complex and cumbersome exercise. There is also the apprehension that such bifurcation of the revenue may lead to wrong booking of the revenue by some of the service providers and pay lower spectrum charges.”*

10 The DoT vide its letter dated P-11014/02/2008-PP dated 24<sup>th</sup> November, 2008 has also informed that the inter-ministerial committee has also recommended that *“Due to complexity of a system of segregating 2G & 3G revenues, and huge difficulties in verification and audit to prevent creative accounting and arbitrage, and other difficulties, the segregation of 2G and 3G revenues is ruled out.”* Therefore if an existing 2G licensee gets 3G spectrum then the revenues from both 2G & 3G services should be taken for determining total AGR. It is presumed that this issue is settled now.

11 The present auction of 3G spectrum is in 2.1GHz band. It is therefore presumed that the annual spectrum charges will be on the basis of total AGR estimated i.e. AGR of 2G and 3G services. In this context attention is also drawn to paras 4.30 & 4.31 of Authority’s recommendations on “Review of license terms and conditions and capping of number of access providers” dated 28<sup>th</sup> August, 2007. DoT at their level had decided that the AGR in case of dual technology i.e. GSM and CDMA will have separate streams for calculation of spectrum charges for the two technologies.

## ISSUES TO BE ADDRESSED

12. In view of DoT's decision to permit new entities i.e. Non-licensees also to bid for 3G spectrum, TRAI's present recommendations should be evaluated in the background of following key issues:-

**a) Grant of UAS Licence to new stand alone 3G operators.** In view of the proposed undertaking to be obtained from the non licensees bidding for 3G spectrum, it is implicit that the DoT would grant UAS license in case the winner is a non licensee. TRAI has already expressed its apprehension as mentioned in para 8(e) above which need to be addressed in a fair and just manner. As would be recalled, the Authority in its earlier recommendation on "Review of license terms and conditions and capping of number of access providers" dated 28<sup>th</sup> August 2007 had reiterated that the number of UAS licenses in any circle should be determined by market mechanism. However, it was subject to following key considerations.

- i. Availability of adequate spectrum to existing operators, growth path for existing and future licensees.
- ii. Predictability, stability and transparency in the allocation of spectrum.
- iii. Knowledge of spectrum availability in the public domain.

It is expected that the DoT will take into consideration the above pre requisites while granting UAS licenses. It is being re-emphasized that any other consideration may lead to hoarding of spectrum, attempts of acquisition and inefficient usage of spectrum.

**b) Entry fee for UAS license:** With regard to UAS Licence, it was recommended by TRAI in its recommendations on "Review of license Terms & Conditions and capping of number of access providers, August 28, 2007" at para 2.73 that "*The allocation of spectrum is after the payment of entry fee and grant of license. The*

*entry fee as it exists today is, in fact, a result of the price discovered through a markets based mechanism applicable for the grant of license to the 4<sup>th</sup> cellular operator. In today's dynamism and unprecedented growth of telecom sector, the entry fee determined then is also not the realistic price for obtaining a license. Perhaps, it needs to be reassessed through a market mechanism..."*

The above is in line with the recommendations made by the Authority in 27<sup>th</sup> October 2003. *.."Induction of additional mobile service providers in various service areas can be considered if there is adequate availability of spectrum as the existing players have to improve the efficiency of utilization of spectrum and if Government ensures availability of additional spectrum then in the existing licensing regime, they may introduce additional players through a multi-stage bidding process as was followed for 4<sup>th</sup> cellular operator."* (para 7.39)

**c) Prioritization of 2G start-up spectrum to new standalone 3G operator.**

Inter-se priority should be decided for allotment of 2G spectrum after considering the claims of the following:-

- i.existing 2G operators who have become eligible for additional spectrum on account of meeting the spectrum allocation criteria;
- ii.the existing UAS licensees who are yet to be allotted start-up spectrum of 4.4 MHz;
- iii.the operators deploying dual technologies.

### **13. RECOMMENDATIONS**

13.1 The Authority presumes that the issues mentioned above will receive highest consideration by DoT. It is also the presumption of the Authority that the revised proposal of DoT endorsed by TRAI for spectrum usage charges will be implemented. As stated earlier the estimation of AGR will be based on total of 2G

and 3G services taken together, is in line with the recommendation of the Authority.

In this background the Authority had internal meetings to take a holistic view so as to address the following objectives:

- a) Interest of consumer including affordability issues;
- b) Just and fair allocation of spectrum;
- c) Efficient usage of spectrum and also the financial viability of the licensees;
- d) Fair revenue to the national exchequer

13.2 It was not felt necessary to go for consultation as these issues have been visited while giving original recommendations and the present recommendations now being made are only reconsideration in the background of decisions taken by the DoT.

13.3 The Authority has recommended for de-linking of the spectrum allocation from the Licence in its earlier recommendations. The auction of the spectrum is the first step in that direction. This besides helping to get the market value of the spectrum for the government is the most transparent method of allocation of scarce resource. The auction amount would determine the up-front charges that would be paid for allocation of spectrum. The key issue remains regarding determination of annual spectrum usage charges for licensees using 3G spectrum. It is partly being captured as the AGR will be determined on the combined total revenue for both 2G and 3G services. However, there is a clear case for levy of administrative charges from those who have been allocated 3G spectrum. It is particularly justified because the spectrum allocated for 3G is not added to total spectrum for determination of the spectrum slab for charges. The Authority considered various options to evolve a framework which has virtues of fair and just

coupled with simplicity, negates possible accounting manipulation and offers easy base for estimation. It is considered appropriate by the Authority to link such administrative charges with the highest bid amount which reflects the market price of the spectrum. As we move towards auction as the means to allocate future spectrum, the slab system for determining the spectrum charges are not implementable particularly when the market determined spectrum price is being realized. Moreover there will be auction for spectrum earmarked for BWA and a simple arithmetical aggregation to identify a slab relevant to spectrum charges will not serve the purpose. It will undermine the effectiveness and efficiency of the auction as different winners in auction would pay different rates of spectrum charges. This will be contrary to the principle of equity. It will also compound the anomalies, further aggravating the non level playing field. In the long run the Authority feels that levying of administrative charges at flat rate will be simple and easy to implement.

13.4 The Authority recommends two percent (**2%**) of the highest bid amount as annual administrative charge during the validity period of 3G spectrum. As the operators will take time to roll-out their services after the allocation of spectrum, therefore the Authority recommends a moratorium of one year from the date of allocation of spectrum in respect of payment of administrative charge. It is being recommended as a transparent, just and fair and equitable criterion, specific to owners of the 3G spectrum.

13.5 It is possible to give 2G services also using the 3G spectrum and it is difficult to segregate between 2G and 3G services that can be provided using 3G spectrum. Therefore the standalone 3G operator who does not have any allotment of 2G spectrum should also pay an annual spectrum charge of 3% of Annual AGR, which is equivalent to the lowest slab of 2G operator. It is clarified that this is besides the administrative charges.

13.6 The annual spectrum usage charges as mentioned in Para 5.1 of these recommendations hold good and are applicable.

13.7 It is extremely critical that all available spectrum in 2.1GHz including anticipated availability within the next one year is put to auction so as to maximize the number of 3G service providers. In this context the availability of 3G spectrum including anticipated as discussed should be put in public domain for the knowledge of bidders. It becomes particularly relevant as DoT has already decided to allocate spectrum to BSNL and MTNL. DoT must have had justifiable reasons for this decision. Therefore, it is essential that the principle of level playing field is urgently restored by putting all available spectrum for auction.

13.8 The Authority would like to reiterate that its recommendations are inexplicably inter-twined and the desired objectives can only be achieved if the recommendations are accepted in totality.

-----End-----



# **Telecom Regulatory Authority of India**

## **Recommendations**

**on**

## **Permitting New Entity for Allocation of 3G Spectrum**

**April 25<sup>th</sup> , 2008**

(In response to DoT's Letter No. P-11014/02/2008-PP(pt-1) dated April 10<sup>th</sup> 2008)

The Telecom Regulatory Authority of India (TRAI) had submitted its recommendation to DOT on “Allocation and pricing of spectrum for 3G and BWA services” vide letter No. 101-36/2006 dated 27<sup>th</sup> September, 2006. In the said recommendation amongst others, the Authority had recommended that *“Spectrum allocations in the 2.1 GHz band thus should be done to all eligible UASL and CMSP licensees using fair and equitable norms as explained subsequently, and should bear no relationship to their current spectrum allocations or subscriber base”*. (para 4.32)

2. The DoT vide letter No.11014/02/2008-PP (Pt.I) dated 10<sup>th</sup> April 2008 (Annex-I) had conveyed the Ministry’s view on paras no. S.16 to S.25 (given in the executive summary of the recommendations). The Authority’s recommendation regarding allocation of spectrum for 3G to the existing operators only (para 4.32) was summarized in para S.18 and S.19 of the executive summary and the same was agreed by DoT as per the annexure to above referred letter. However, the DOT, vide above referred letter, has also conveyed in para 2.1 “The Ministry is considering to include other Indian / foreign prospective operators also who fulfill the criterion in Para 2.2 below and fulfill the conditions for getting UAS license. In case of a foreign operator, he would have to enter into joint venture with an Indian Company as per existing norms and policy of the Government for getting a UAS license.

Para 2.2. In this regard such new prospective service providers should have minimum one year experience in Telecom Sector in India or abroad, of providing at least 5 lakhs (500000) wireless access lines (2G, 3G services etc.)”

3. The DoT has requested TRAI for its considered views / comments on the participation of new prospective service providers within a



fortnight, as per the proviso under 9 (a) (1) of TRAI Act 2000.\* The Authority has deliberated on the DoT's reference with reference to eligibility of non-licensees for the 3G auction and its views are specific to the reference as summarized below:

4. The Authority while framing its earlier recommendation dated 27<sup>th</sup> September 2006 for restricting the allocation of spectrum for 3G to only existing UASL / CMTS licensee had also deliberated on the option that the existing UAS / CMTS licensee as well as non telecom companies whether Indian or foreign may be recognized as potential candidates for offering 3G services in India. The key arguments for such an option were that the wider participation of service operators might bring about convergence, technological innovation, in voice and data services and investment in the sector. However, it was not considered appropriate, feasible and viable option and the Authority preferred the eligibility for participation in the auction and consequent allocation to the existing licensees in view of the following reasons.

- a) Being a highly price sensitive country, affordability of new services to the subscribers is of prime importance while also contributing towards the growth of the service providers.
- b) As the existing licensees have already made huge investment in the infrastructure and their systems are in place, therefore, they will be in a better position to deliver 3G services efficiently at low incremental cost.
- c) The existing licensees will be able to roll out the services faster than the non-licensed bidders, not yet operating in the country.
- d) As per the data available for various countries, the number of telecom operators varies from 3 to six. However, in India, at the time of the framing of the recommendations, there were already

---

\* Perhaps a typographical error. The Authority is forwarding its recommendations under the provisions contained in fifth proviso to sub section (1) of section 11 of the TRAI Act 1997

4-7 service providers in each service area. Now with the grant of new licenses, the number of service providers in each service area has increased to 13-14. Many telecom analysts already believe that it is not a sustainable model. Thus, the Authority believes there will be sufficient competition to ensure that the spectrum is priced competitively, discourage cartelization and offer services that are acceptable in terms of quality and price. Thus, the need for fair and healthy competition is fully met and it is not restrictive.

- e) The Authority in its earlier recommendations from 2002-03 onwards had always pleaded that the grant of license should be only after ascertaining the adequacy of spectrum. It has also advocated that the process of spectrum allocation should ensure level playing field and a growth path for the existing incumbents/licensees. This is particularly critical when the allocation of spectrum will be determined by the auction mode. **It is conceivable that the total quantum of spectrum required for the existing licensees may not be available in one lot. It was in this context that the Authority had recommended that those who do not get accommodated in the first phase will be placed in the queue and will be allotted spectrum as and when available on the same terms and condition as granted to the licensees in the first phase.** It is being reiterated. This is critical so that the existing licensees do not face any uncertainty and have a predictable path for investment. The requirement of level playing field and competition will also get satisfactorily addressed once the information regarding the availability of spectrum in the first phase and subsequent phases is available at the time of auction.

- f) Information available to the Authority regarding quantum of spectrum for 3G in 2.1 GHz bands is approximately 2X25 to 2X30 MHz. It was in this context that the Authority had recommended that the auction may be made in the lots of 2X5 MHz spectrum for the existing licensees only. It is not disputed that 2X5 MHz is a viable and technologically acceptable quantum for the licensees who are either offering or planning to offer 2G services. In such a scenario, the deployment of 3G can be expeditious through overlay network. This initial quantum of spectrum for the auction was recommended to accommodate maximum number of licensees and to avoid any possible legal challenge on grounds of equity. It was for this reason that para 4.6 reproduced below was made part of the earlier recommendation on Allocation and Pricing of Spectrum for 3G and Broadband Wireless Access Services dated 27<sup>th</sup> September 2006.

**“Para 4.6**

*The key issue is that only 2 x 25 MHz of spectrum availability is presently indicated in the 2.1 GHz band. This quantum of spectrum is significantly lower than allocations elsewhere around the world. In order to enable future growth of 3G services, **it is essential that DoT has time bound road map for making available additional and sufficient spectrum.** As the spectrum is limited, some operators may have to wait until additional spectrum is identified in these bands. The Authority therefore has to determine the allocation criterion and the order of allocation for 3G service providers based on spectrum availability and the quantum of spectrum allocation to such operators. The exercise is to identify the first lot of telecom service operators and then gradual entry of the remaining as and when additional spectrum is available.”*

**The Authority wishes to reiterate that there should be no compromise with this criteria.**

5. The Authority has recommended auction mechanism for the allotment of spectrum for 3G services at “Annex N of Allocation and Pricing of Spectrum for 3G and Broadband Wireless Access Services”. These rules should be followed for the auction. In regard, to identifying the first lot of telecom service providers and the gradual entry of the remaining as and when additional spectrum is available, the Authority wishes to reiterate that after the auction process is complete, the various bidders are placed in the waiting list as per the descending order of their bid amount. The allocation of spectrum is done on the basis of this waiting list. The price to be paid by each bidder will be the highest bid amount finalized during the auction process. The top five bidders (assuming 25 MHz spectrum is available at first instance) are called in decreasing order of their bids to choose which block of spectrum they wish. Whenever further spectrum will become available, the waitlisted bidders in decreasing order of their bids shall be allocated spectrum at the price already determined for the first five bidders.

6. There are few who may advocate and highlight the need of a minimum quantum of 2X10 MHz spectrum for 3G services. As explained earlier this idea suffers from many negatives. Firstly, it violates the principle of level playing field in the Indian context, as it will restrict the initial allocation to two or three operators including BSNL/MTNL. The situation will further worsen if non-licensees enter as a winner in this auction mode. It will lead to high tariff and may give way to monopoly practices. Such an entity will also suffer for want of viable network and interconnection arrangements with other incumbents. This will only delay the deployment of 3G services and thus deprive the subscribers to enjoy its legitimate right of triple play. Perhaps it has also to be kept in

mind that the introduction of 3G in the country has already been delayed.

7 The Authority had examined the growth of 3G services around the world and had concluded that still the growth is concentrated in 2G i.e. Voice Centric applications. It had noted in its recommendations that *“voice telephony is still the key application in mobile telecommunications today. While 3G usage is growing, perhaps it is more for enhanced voice capacity than data applications. Data applications as a significant driving force behind 3G will take some time. This observation is particularly relevant in the Indian marketplace. With a current monthly addition of around 5 million subscribers in India, it is evident that there is still unmet demand for voice service”*. (para 4.11). The Authority believes that though the Indian market place is growing at a very fast pace, but it is primarily voice centric and is likely to remain unchanged for some time. As the efficiency of 3G technologies is at least two to three times that of 2G, and in view of the Government’s target of 250 million telephone subscribers by 2007 and 500 million by 2010, the usage of 3 G technologies will allow the telecom operators to reduce the cost of infrastructure substantially. More importantly, by deploying the 3G technologies, the existing licensees can migrate their high-end subscribers to 3G technology and will be able to partially ease 2G spectrum availability. From the data, it is abundantly clear that networks will need minimum technologically feasible additional spectrum at present to support the demand for data applications. Hence, 2x5 MHz should be sufficient in the medium term.

8 In response to the Authority’s recommendation for specifying appropriate license fee for UAS licensees, who do not wish to utilize the spectrum, given in ‘Review of license terms and conditions and capping of number of access providers’, the DoT vide letter dated 8<sup>th</sup> November 2007 had conveyed that the recommendation is not accepted as

proposing a new category of license i.e. “UAS licensee who do not wish to utilize the spectrum” would be out of purview of NTP’99. Now in the instant case, if the new entity is allowed to bid for spectrum for 3G and incase it is successful, then it will have to apply for an UAS license. Presently the UAS license for a service area has a certain specified entry fee and the applicant is entitled to get certain amount of spectrum for starting its service subject to availability. If the new entity, after being successful in the bidding gets an automatic right to get UAS license then it will create legal complications and litigations as it will be construed as an indirect backdoor entry. In case the entity is given only license and not spectrum (2G) than it will tantamount to creation of new license category which will be against the NTP 99, as per the DoT decision quoted above. *More importantly, being a new category of license, DoT is required to refer it to the Authority for its recommendation under the clause 11 (a) (i) & (ii) of the TRAI Act 1997 as amended.*

9 It is a known fact that today the Indian telecom market is the most sought after market by all the international telecom companies. The large number of applicants for the UAS license is a testimony to this fact. Therefore, the Authority is also apprehensive that in case an outsider entity is allowed to bid for the 3G spectrum then in order to get into the Indian market, some of these companies waiting to get the UAS license may bid very high for the 3G spectrum. This will result in a) High tariffs for the 3G services and b) deprive the existing operators from providing the 3G services. **The Authority firmly believes that in the interest of the growth of the Indian telecom sector, entry of this kind must be strongly discouraged.**

10 The DoT in its letter dated April 10 has proposed the following criteria for a new entity for allocation of spectrum for 3G services.

“In this regard, such new prospective service providers should have minimum one year experience in Telecom Sector in India or abroad of

providing at least 5 lakhs (500000) wireless access lines (2G, 3G services)”

Presently, in UAS license, there is no eligibility condition concerning minimum experience. It is apprehended that in case this condition is applied only to the new entity then it will be against the principle of level playing field and if all the bidders for 3G spectrum are required to fulfill this condition then it may disqualify all those service providers who have been granted UAS license recently.

11 Presently, the UAS license permits a foreign company 74% Foreign Direct Investment. With 13-14 licensees in each service area, the Authority believes that any new aspirant can join hands with the existing licensees. The Authority is conscious that a number of rapid technological advancements are taking place in the telecom sector and these needs to be taken into consideration in the future. In view of this, the Authority recommends to review the scenario after three years.

12 In view of the above the Authority reiterates the following :-

- **The auction for 3G licensees should be restricted to existing UASL/CMTS licensees.**
- **The spectrum module for auction should be 2X5 MHz.**
- **The auction mode as recommended earlier may be accepted.**
- **The total availability of spectrum should be made public at the stage of the auction so that the bidders are fully aware regarding the first and subsequent phase of allocation on the price determined by the auction. It is conceivable that the total quantum of spectrum required for the existing licensees may not be available in one lot. It was in this context that the Authority had recommended that those who do not get accommodated in the first phase will be placed in the queue and will be**

**allotted spectrum as and when available on the same terms and condition as granted to the licensees in the first phase.**

- **In view of the future technological advancements, the Authority recommends a review after three years.**



**No. P-1104/02/2008-PP (pt-1)  
Government of India  
Ministry of Communications & I T  
Department of Telecommunications**

Sanchar Bhawan,  
Ashok Road, New Delhi-10001,  
Dated : April 10<sup>th</sup> 2008,

To

The Secretary,  
Telecom Regulatory Authority of India,  
MTNL Bhawan, Jawahar Lal Nehru Marg,  
New Delhi – 110002.

**Subject :- TRAI Recommendation on 3G Services.**

Sir,

This has reference to the TRAI Recommendation/Report of September, 2006 on “Allocation and Pricing of Spectrum for 3G and Broadband Wireless Access Services”. The relevant extracts from the Executive Summary of the TRAI Recommendations and Ministry’s views thereupon are annexed.

2. It was also recommended (Para 4.32 of Report) that Spectrum Allocation for 3G services shall be made to the “eligible UAS, Cellular Mobile and Basic Service Providers”.

2.1 The Ministry is considering to include other Indian foreign prospective operators also who fulfill the criterion in Para 2.2 below and fulfill the conditions for getting the UAS licenses. In cases of a foreign operator, he would have to enter into a join venture with an Indian company as per existing norms and policy of the government for getting a UAS license.

2.2. In this regard, such new prospective service providers should have minimum one year experience in Telecom Sector in India or abroad, of providing at least 5 lakhs (5,00,000) wireless access lines. (2G, 3G services etc.)

3. Considering the above, TRAI is requested to kindly provide their considered views/comments on the participation of new prospective service providers within a fortnight, as per the provisio under 9 (a) (1) of TRAI ACT 2000 (reproduced below).

“Provided also that if the Central Government having considered that recommendation of the Authority, comes to a prima facie conclusion that such recommendation cannot be accepted or needs modification, it shall, refer the recommendation back to the Authority for its reconsideration, and the Authority may, within 15 days from the date of receipt of such reference, forward to the Central Government its recommendation after considering the reference made by the Government. After receipt of further recommendation, if any, the Central Government shall take a final decision”

Yours faithfully,  
Sd-  
**(S. Chandrashekhar)**

**Deputy Secretary (TC)**  
**Annexure to No. P-11014/02/2008-PP (Part-I)**

TRAI Report Executive Summary Para No.	Executive Summary	Views of Ministry
<b>Allocation methodology and pricing of 3G spectrum</b>		
S.16.	In order to enable future growth of 3G services, it is essential that the DoT has a time bound road map for making available additional and sufficient spectrum.	Accepted.
S.17.	2 x 32.5 MHz of spectrum will be available in a time scenario of 6-9 months for 3G services.	Agreed. For 450 MHz band, please see S.20 below.
S.18.	With the current availability of 2 x 25 MHz of spectrum in the 2.1 GHz band, five operators should be accommodated in blocks of 2 x 5 MHz in this band in the first lot. Remaining operators should be allocated spectrum as and when it is available. Since the quantum of spectrum in the 800 MHz band is limited, the Authority recommended that this band be allocated among the UASL CDMA operators. DoT should also allocate 2 x 5 MHz in the 450 MHz band to one of the existing UASL CDMA operators based on the specified allocation process.	Agreed. For 450 MHz band, please see S.20 below.
S.19.	An UASL CDMA operator will have the option to seek 2 x 1.25 MHz in the 800 MHz band at a determined price. Additionally, it will have the option of taking spectrum in either the 2.1 GHz or 450 MHz bands. In case it opts for the 2.1 GHz band, the UASL CDMA operator will have to bid along with the other operators. In case it is among the successful bidder, he will have an option of either retaining 2 x 1.25 MHz in the 800 MHz and getting an additional 2 x 3.75 MHz in the 2.1 GHz band, or giving up the option on 2 x 1.25 MHz in the 800 MHz band and getting 2 x 5 MHz in the 2.1 GHz band.	Agreed. For 450 MHz band, please see S.20 below.

S.20.	In the 450 MHz band, if more than one operator opts for 2 x 5 MHz, the Authority recommended that a single stage bidding process be conducted. The reserve price for 2 x 5 MHz in the 450 MHz band will be half of the reserve price set for 2.1 GHz band for that service area.	Paired spectrum not available in 450 MHz band.
<b>Spectrum Pricing</b>		
S.21.	The Government should charge a spectrum acquisition fee from all operators wishing to provide services using the 800 MHz band and/or 450 MHz band. The allocation criteria followed for the identified carriers in 800 MHz should also be a spectrum acquisition fee.	Agreed. For 450 MHz band, please see S.20 above.
S.22.	The Government may allocate spectrum blocks in the 2.1 GHz band using a simultaneous ascending auction system. If there are more operators interested in the 450 MHz or 800 MHz bands than the amount of available spectrum, then a one-stage bidding process should be organized to decide the winners.	Agreed. For 450 MHz band, please see S.20 above.
S.23.	Ascending auctions have a reserve price, a minimum price above which bidders must place their bids. The Authority has recommended a specific reserve price for the 2.1 GHz and 450 MHz bands. For the 800 MHz band 3G carriers, the Authority recommended that the second-highest winning bid in the 2.1 GHz auction should be pro-rated to a per-2 x 1.25 MHz price.	Agreed. For 450 MHz band, please see S.20 above.
S.24.	DoT should have 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 adjusted gross revenue (AGR).	Agreed. However, only for second year, 0.5% of AGR is proposed as annual spectrum usage charge/fee.
S.25.	There are specific roll out obligations and conditions to be enforced for the 2.1 MHz and 450 MHz bands.	Agreed. For 450 MHz band, please see S.20 above. In case of Metro Areas, 40% coverage at the end of 3 years is proposed.

No.P-14047/09/2005/NTG(Pt. I)  
Government of India  
Ministry of Communications & IT  
Department of Telecommunications

Sanchar Bhavan  
Ashoka Road, New Delhi 110 001  
Dated 1<sup>st</sup> July 2008

To

The Secretary,  
Telecom Regulatory Authority of India,  
MTNL Bhavan, Jawahar Lal Nehru Marg,  
New Delhi 110002.

Subject: TRAI Recommendation on 3G Services.

Please refer to TRAI Recommendations of 27 September 2006 on 'Allocation and Pricing of Spectrum for 3G and Broadband Wireless Access Services'. The Government feels that the following modifications are necessary.

2. Amount of Spectrum to be Allocated:

One of the recommendations (Para 4.24) was that spectrum should be allocated as follows:

Band	Block	Designation
450 MHz (2 x 5 MHz)	2 x 5 MHz	Block A
800 MHz (15 carriers in 2 x 20 MHz)	2 x 2.5 MHz	Block B
2.1 GHz (2 x 5 MHz)	2 x 5 MHz	Block C
	2 x 5 MHz	Block D
	2 x 5 MHz	Block E
	2 x 5 MHz	Block F
	2 x 5 MHz	Block G

Due to non-availability of spectrum in 450 MHz and 800 MHz bands it is proposed that spectrum will be allocated only in 2.1 GHz band. Blocks of 2 x 5 MHz in this band will be auctioned telecom service area-wise. Each bidder shall be allocated only one block in each telecom service area.

3. Reserve Price for Spectrum Auction:

TRAI has recommended (Para 4.74) that reserve price for spectrum auction in the 2.1 GHz band for 2 x 5 MHz blocks of spectrum should be:

Circle	Reserve Price (Rs.Crore)
Mumbai, Delhi & Category 'A'	80.00
Chennai, Kolkata & Category 'B'	40.00
Category 'C'	15.00



Based on the experience of successful 3G auctions in certain countries, it is proposed that the reserve price for a block of 2 x 5 MHz in the 2.1 GHz band should be 0.5% of GDP, which in the case of India, would come to US\$ 0.5 billion or about Rs. 2,100 crores, which is twice that recommended by TRAI. Thus the reserve price should be as follows:

Circle	Reserve Price (Rs.Crore)
Mumbai, Delhi & Category 'A'	160.00
Chennai, Kolkatta & Category 'B'	80.00
Category 'C'	30.00

4. Auction Process:

TRAI has recommended (Para 4.59 & point 8 of Annexure 'N') that once the number of bidders left in the e-auction is equal to the number of blocks on auction, the blocks should be allocated at the bid price of the respective bidders provided the bids are more than 75% of the winning bid.

In place of the above, it is proposed that when the number of bidders left is equal to the number of blocks of spectrum being auctioned, in any service area, the auction will end. All the bidders will have to match the bid of the highest bidder, H1. In case they do not match, then that block would be offered to the next highest bidder at the highest bid price, H1. If any block is left vacant, then the block would be re-auctioned. This would ensure that all successful bidders pay the same amount for the same 3G spectrum blocks.

5. TRAI is requested to kindly provide their considered recommendations/comments on the above proposed changes within 15 days, as per the proviso under section 11(1) of TRAI Act 1997, as amended in 2000 (reproduced below):

" Provided also that if the Central Government, having considered that recommendation of the Authority, comes to prima facie conclusion that such recommendation cannot be accepted or needs modification, it shall refer the recommendation back to the Authority for its reconsideration, and the Authority may, within 15 days from the date of receipt of such reference, forward to the Central Government its recommendation after considering the reference made by that Government. After receipt of further recommendation, if any, the Central Government shall take a final decision"

Yours faithfully,

(S. Chandrasekhar)

Deputy Secretary to the Government of India

Annex-III

DO. No. 103-5/2008-MN

Date: 12<sup>th</sup> July 2008

Dear

The Telecom Regulatory Authority of India (TRAI) had submitted its recommendation to DoT on "Allocation and pricing of spectrum for 3G and BWA services" vide letter No. 101-36/2006-MN dated 27<sup>th</sup> September 2006. DoT's first reference on these recommendations was made vide their letter dated 10<sup>th</sup> April 2008. The Authority sent its recommendations on the reference vide letter of even No. dated 25th April 2008 (**Annex**).

2. Now DoT vide its letter No. P-14047/09/2005-NTG (Pt.I) dated 1<sup>st</sup> July 2008 has proposed certain additional modifications in the above referred recommendations (Allocation and pricing of spectrum for 3G and BWA services dated 27<sup>th</sup> Sep 2006) with regard to 3G services and has requested TRAI for its considered recommendations / comments on proposed modifications as per the proviso under section 11(1) of TRAI Act 1997 as amended from time to time.

**The recommendations of the Authority on the proposed modifications are as below:**

**3. Amount of Spectrum to be allocated**

3.1 With reference to para 4.24 of TRAI's recommendations, DoT has proposed that *"Due to non-availability of spectrum in 450 MHz and 800 MHz bands it is proposed that spectrum will be allocated only in 2.1 GHz band. Blocks of 2 x 5 MHz in this band will be auctioned telecom service area wise. Each bidder shall be allocated only one block in each telecom service area"*.

3.2 The above proposal for allocation of spectrum in 2.1 GHz band is in line with the Authority's recommendations.

3.3 In regard to spectrum allocation in 800 MHz and 450 MHz bands, the Authority had earlier given the following recommendations:

"3.40 Government should conduct trials to verify practical feasibility of coexistence of mixed band allocations at the earliest. In case the coexistence is found feasible and economically practicable, then it should work towards re-farming of the PCS 1900 band, specifically 2x10 MHz in the near future in order to allow the expansion of both 2G and 3G cellular services in India."

"3.41 The Authority recommends that the Government work with operators to alter the existing 800 MHz band plan, adjusting guard bands to add one additional 1.25 MHz carrier. At least two carriers, i.e. 2 x 2.5 MHz, can still be dedicated for EVDO services in the 800 MHz band even in these circles."

"3.42 Keeping the long term requirements and possible growth of CDMA services in mind, the Authority recommends that the Government should look into vacating 2x5 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."

"3.43 The Authority recommends that 450 MHz band should also be identified for CDMA operators on a separate plank with rural roll out commitment. The chapter on pricing has discussed in detail the allocative criterion for 2x 5 MHz spectrum in the 450 MHz band for EVDO operations".

3.4 DoT in its letter has conveyed non availability of spectrum in 450 MHz and 800 MHz bands. However, the Authority is not aware of the actions / decisions taken by DoT on its recommendations quoted above. It is also learnt that the DoT has formed a committee to finalize the spectrum allocation policy. The exact availability of spectrum in 800 MHz shall be known after the finalization of the spectrum allocation policy. The Authority recommends that after the implementation

of spectrum allocation policy, if extra spectrum is available in 800 MHz spectrum band, then it should be allocated for 3G services at appropriate price through auction.

3.5 In the 1900 MHz band, the Authority had earlier recommended for a mixed band trial. It is learnt that the trial has been conducted a few months back. The Authority recommends that the DoT should analyse the results of the trial and if it is satisfied regarding the feasibility of mixed band operation, then it should explore the possibility of allocating spectrum in this band.

3.6 It is mentioned in DoT's letter ".....Due to non-availability of spectrum in 450 MHz and 800 MHz bands it is proposed that spectrum will be allocated in 2.1GHz band. Blocks of 2 x 5 MHz in his band will be auctioned telecom service area-wise. Each bidder shall be allocated only one block in each telecom service area." In the above referred para, it is suggested that **the last sentence may be modified as ".... Each successful bidder shall be allocated only one block in each telecom service area."**

#### **4. Reserve Price for Spectrum Auction**

4.1 With reference to para 4.74 of TRAI's recommendation, DoT has proposed that *"Based on the experience of successful 3G auctions in certain countries, it is proposed that the reserve price for a block of 2 x 5 MHz in the 2.1 GHz band should be 0.5% of GDP, which in the case of India, would come to US\$ 0.5 billion or about Rs. 2,100 crores, which is twice that recommended by TRAI. Thus the reserve price should be as follows:*

<b>Circle</b>	<b>Reserve Price (Rs. Crore)</b>
<i>Mumbai, Delhi &amp; Category 'A'</i>	<i>160.00</i>
<i>Chennai, Kolkatta &amp; Category 'B'</i>	<i>80.00</i>
<i>Category 'C'</i>	<i>30.00</i>



4.2 The above proposal of DoT is based on the estimate that the reserve price for a 2 x 5 MHz block in 2.1 GHz band, should be 0.5% of GDP which in case of India will be about Rs.2,100 crores. As per the Economic Survey 2007-2008, the GDP at current price is Rs. 42,83,000 crores. Taking 0.5% of GDP as the reserve price for a block of 2x 5 MHz, the amount will be around Rs. 21,415 crores. DOT may like to revisit this assertion.

4.3 The reserve price proposed by DoT in its letter is double the amount recommended by the TRAI in its recommendations dated 27<sup>th</sup> Sep 2006. The Authority feels that between GDP and growth of telecom, it is very difficult to specify “which is the cause and which is the effect”. Growth of telecom should be treated as vehicle for transformation of economy and society as a whole and therefore is complementary and cannot be estimated as standalone contribution. The Authority is of the view that incidence of financial burden should be estimated in totality and isolated or piecemeal hikes with a view to mopping up additional revenue may hurt the growth of infrastructure and in the long run the telecom sector itself. However, as the reserve prices are only to fix the minimum price and the final price is determined through the auction process, therefore, the Authority in order not to further delay the process of roll out of 3G services in India agrees with the reserve price proposed by DoT.

## **5. Auction Process**

5.1 With reference to para 4.59 & point 8 of Annexure ‘N’ of TRAI’s Recommendation, DoT has proposed that “ *in place of the above, it is proposed that when the number of bidders left is equal to the number of blocks of spectrum being auctioned, in any service area, the action will end. All the bidders will have to match the bid of the highest bidder, H1. In case they do not match, then that block would be offered to the next highest bidder at the highest bid price, H1. If any block is left vacant, then the block would be re-auctioned. This would ensure*

*that all successful bidders pay the same amount for the same 3G spectrum blocks”.*

5.2 TRAI, in principle, agree with the DoT on the proposed auction process. However, the Authority suggests that DoT should maintain a waitlist of the operators, who are eliminated in the previous rounds. In case successful bidders (H2-H5) do not match the bid of the highest bidder (H1), and if any block is left vacant, then, instead of repeating the whole process, which may take time and effort, this H1 amount, be offered to remaining bidders as per the priority in the waitlist.

This letter is also being placed on TRAI's website [www.trai.gov.in](http://www.trai.gov.in) as required in terms of transparency under TRAI act.

Yours sincerely,

**(Nripendra Misra)**

**Shri Siddhartha Behura,  
Secretary,  
Department of telecommunications,  
Sanchar Bhawan,  
New Delhi- 110 001**

## Annex-IV

**D.O. No. 101-19/2007-MN (Vol.III)**

**Dated 16<sup>th</sup> July 2008**

Dear

TRAI had submitted its recommendations to DoT on “Review of license terms and conditions and capping of number of access providers” dated 28<sup>th</sup> August 2007. Now DOT vide its letter No. P-11017/02/2008-PP dated 9<sup>th</sup> July 2008 (copy enclosed at **Annex-I**) has proposed certain modifications in the above referred recommendations with regard to annual spectrum usage charges and one time spectrum enhancement charges (referred letter of DoT has mentioned the date of TRAI’s recommendations as 28<sup>th</sup> August 2008 which need to be read as ‘28<sup>th</sup> August 2007’). DOT has requested TRAI for its considered views / comments on proposed modifications as per the proviso under section 11(1) of TRAI Act 1997.

The recommendations of the Authority on the proposed modifications are as below:

### **Annual Spectrum usage charges**

2. With reference to para 6.8 of TRAI’s recommendations, DoT has proposed *“an increase of 1% of AGR across the board, and minor change in the spectrum slab as outlined in the table below.*

TRAI recommendations		DOT Proposal	
Amount of Spectrum	AGR	Amount of Spectrum	AGR Proposed
Upto 2x4.4 MHz/2x5MHz	2%	Upto 2x4.4 MHz/2 x5MHz	3%
Upto 2 x 6.2 MHz	3%	Upto 2 x6.2 MHz	4%
Upto 2 x 8 MHz	4%	Upto 2x8.2 MHz	5%
Upto 2 x 10 MHz	5%	Upto 2x10.2 MHz	6%
Upto 2 x 12.5 MHz	6%	Upto 2x12.5 MHz	7%
Upto 2 x 15 MHz	7%	Upto 2x15 MHz	8%
Beyond 15 MHz	8%	Beyond 15 MHz	9%

The reason given in the above referred letter of DoT is *“the rate revision in the past did not address the spectrum range of 4.4-8 MHz which contributes to the bulk of the customer reference. Hence there was a need to rationalize the tariff in this range. The proposed option is unlikely to burden the service providers”*.

3. The Authority in its above referred recommendations dated 28<sup>th</sup> August 2007 had revised the subscriber base criteria for spectrum allocation. The DoT vide its letter No. J-1025/200 (17)/2004-NT dated 17<sup>th</sup> January 2008 had included additional slabs of 1 MHz increment beyond 2x6.2 MHz of GSM spectrum. In the proposed modifications also, in place of earlier slabs of 2x 8 MHz and 2 x10 MHz, the DoT has proposed spectrum usage charges for 2x8.2 MHz and 2 x 10.2 MHz. However, DoT’s attention is invited to the TRAI’s letter of even no. dated 19<sup>th</sup> June 2008, wherein the Authority has mentioned 2x6.25 MHz of CDMA spectrum and 2 x 6.2 MHz of GSM spectrum for the same slab of 3% of AGR as spectrum charge. Accordingly, the Authority recommends that in this DoT proposal, the slab should be modified from “upto 2x6.2 MHz” to “upto 2x6.25MHz”.

4. The rationale behind Authority’s recommendation to revise, spectrum charges beyond 2 x 8 MHz was that in the spectrum slab of 2x4.4 MHz to 2x8 MHz, the spectrum usage charges are increasing in the steps of 1% i.e. from 2% - 4%. However, the upward slab from 2x8 MHz to 2x10 MHz, the prevailing spectrum usage charges, remains same as 4%. With a view to rationalize the spectrum usage charges across all slabs, the Authority while correcting this anomaly, recommended levying 5% of AGR as spectrum usage charges for 2x10 MHz. For further spectrum slabs, it accordingly revised the charges with an increment of 1% per slab.

5. The DoT has proposed a 1% increase in the spectrum charge across the board after modifying the spectrum usage charges as recommended by the Authority. This amounts to increase in spectrum usage charge by 2% in the slab of 2X10 MHz and above. The justification given by DoT in the above referred

letter for this modification is “the rate revision in the past did not address the spectrum range of 4.4-8 MHz which contributes to the bulk of the customer reference. Hence there was a need to rationalize the tariff in this range. The proposed option is unlikely to burden the service providers”. Perhaps ‘tariff’ referred in DOT letter is spectrum charge. The Authority is of the view that the proposed option is likely to burden the service providers, as in view of the Authority, the proposed changes would amount to around Rs. 1000 crores as additional payment of spectrum charges by the service providers. As conveyed in our DO letter No. 103-5/2008-MN dated 12<sup>th</sup> July 2008, “the Authority is of the view that incidence of financial burden should be estimated in totality and isolated or piecemeal hikes with a view to mopping up additional revenue may hurt the growth of infrastructure and in the long run the telecom sector itself”.

**However, the Authority has decided to go along with the proposal of enhancement of spectrum charges along with the amendment in spectrum slabs as mentioned in the letter of DoT taking into consideration the broader picture of telecom sector.**

**Spectrum enhancement charges beyond 6.2 MHz:**

6. With reference to para 6.6 of TRAI’s recommendations, the DoT has proposed that “while agreeing with TRAI on the need for one time spectrum enhancement charges, however proposes to levy suitable one time charge for additional spectrum beyond 6.2 MHz”. The Authority in its recommendations dated 28<sup>th</sup> August 2007 has recommended

“

<b><i>Service Areas</i></b>	<b><i>Price (Rs. In million) for 2x5 MHz</i></b>
<i>Mumbai, Delhi and Category A</i>	<i>800</i>
<i>Chennai, Kolkatta and Category B</i>	<i>400</i>
<i>Category C</i>	<i>150</i>

*any licensee who seeks to get additional spectrum beyond 10MHz in the existing 2G bands i.e. 800, 900 and 1800 MHz after reaching the specified subscriber numbers shall have to pay a onetime spectrum charge at the above mentioned rate on prorata basis for allotment of each MHz or part thereof of spectrum beyond 10 MHz.*

*For one MHz allotment in Mumbai, Delhi and Category A service areas, the service provider will have to pay Rs. 160 million as one time spectrum acquisition charge.” The reasons for levying one time spectrum enhancement charges beyond 10 MHz have been given in paras 2.74, 2.75 and 2.76 of its recommendations (extract enclosed at **Annex-II**).*

Now the DoT has proposed levying of one time charge for additional spectrum beyond 6.2 MHz. As mentioned above, in para 2.75 of its recommendation, TRAI has dealt in details for one time charge beyond 10 MHz. **However, in order to reconsider the issue, the Authority request DoT to clarify what will be the “suitable one time charge”. The details of this scheme “one time charge” would be very necessary for examining the proposal from legal and financial point of view. After receipt of the details of scheme of one time charge, the Authority shall send its recommendations to DoT.**

7. Presently, the entry fee for the UAS license in a service area varies from Rs.233 Crores for Tamilnadu to Rs. 1Crore for West Bengal. These entry fees have been determined on the basis of the price discovered in the bidding of the 4<sup>th</sup> CMSP license in 2001. On the issue of entry fee, the Authority in its recommendation dated 28<sup>th</sup> August 2007 has noted “the allocation of spectrum is after the payment of entry fee and grant of license. The entry fee as it exists today is, in fact, a result of the price discovered through a market based mechanism applicable for the grant of license to the 4<sup>th</sup> cellular operator. In today’s dynamism and unprecedented growth of telecom sector, the entry fee determined then is also not be realistic price for obtaining a license. Perhaps, it needs to be reassessed through a market mechanism” (¶ 2.73).

The Authority feels that as the DoT is revisiting the various levies being charged from the UASLs, therefore it is appropriate time for the DoT to revise the entry fees of the different service areas also, so as to bring them in line with the present market realities.

The letter is also being placed on TRAI's website [www.trai.gov.in](http://www.trai.gov.in) as required in terms of transparency under TRAI Act.

Yours sincerely,

**(Nripendra Misra)**

**Shri Siddhartha Behura,  
Secretary,  
Department of Telecommunications,  
Sanchar Bhawan,  
New Delhi.**

File No. P-11017/02/2008-PP  
Government of India  
Ministry of Communications & IT  
Department of Telecommunications

Sanchar Bhawan,  
Ashok Road, New Delhi -10001  
Dated: 9 July 2008

To,

The Secretary,  
Telecom Regulatory Authority of India  
MTNL Bhawan, Jawahar Lal Nehru Marg  
New Delhi - 110002

Subject: - TRAI Recommendation on Adjusted Gross Revenue (AGR) in  
respect of GSM & CDMA Service Providers.

Sir,

This has reference to the TRAI Recommendations of 28<sup>th</sup> August 2008 on  
"Review of Licence terms and conditions and capping of number of access  
providers".

2. The present rates of recurring spectrum usage charges as percentage of  
revenue share being levied on GSM and CDMA service providers and  
recommended by TRAI (Para 6.8) are given in table below:

Amount of Spectrum	Current rate of AGR	TRAI Recommendation
Upto 2X 4.4 MHz/ 2X 5MHz	2% Fixed in 2002	2% (No Change)
Upto 2X 6.2 MHz	3% Fixed in 2002	3% (No Change)
Upto 2X 8 MHz	4% Fixed in 2002	4% (No Change)
Upto 2X 10 MHz	4% Fixed in 2002	5%
Upto 2X 12.5 MHz	5% Fixed in 2004	6%
Upto 2X 15 MHz	6% Fixed in 2004	7%
Beyond 2X15 MHz	-	8% ( New Slab)

3. The DOT proposes an increase of 1% of AGR, across the board, and  
minor change in the spectrum slab as outlined in the table below.

TRAI Recommendations		DOT Proposal	
Amount of Spectrum	AGR	Amount of Spectrum	AGR Proposed
Upto 2X4.4 MHz/ 2X 5MHz	2%	Upto 2X 4.4 MHz/2X 5MHz	3%
Upto 2X 6.2 MHz	3%	Upto 2X 6.2MHz	4%
Upto 2X 8 MHz	4%	Upto 2X8.2 MHz	5%
Upto 2X 10 MHz	5%	Upto 2X10.2 MHz	6%
Upto 2X 12.5 MHz	6%	Upto 2X 12.5 MHz	7%
Upto 2X 15 MHz	7%	Upto 2X 15 MHz	8%
Beyond 15 MHz	8%	Beyond 15 MHz	9%



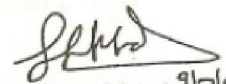
4. The rate revision in the past did not address the spectrum range of 4.4 - 8 MHz which contributes to the bulk of the customer revenue. Hence there was a need to rationalize the tariff in this range. The proposed option is unlikely to burden the service providers.

5. **Spectrum enhancement Charges beyond 6.2 MHz:** The DoT, while agreeing with TRAI (Para 6.6) on the need for one time spectrum enhancement charges, however proposes to levy suitable one time charge for additional spectrum beyond 6.2 MHz.

6. Considering the above, TRAI is requested to kindly provide their considered views/comments on the above proposal as per the proviso under section 11(1) of TRAI ACT 1997 (reproduced below).

"Provided also that if the Central Government, having considered that recommendation of the Authority, comes to a prima facie conclusion that such recommendation can not be accepted or needs modifications, it shall refer the recommendation back to the Authority for its reconsideration, and the Authority may, within fifteen days from the date of receipt of such reference, forward to the Central Government its recommendation after considering the reference made by the Government. After receipt of further recommendation, if any, the Central Government shall take a final decision".

Yours faithfully



(S. Chandrasekhar) 9/7/06

Deputy Secretary to the Government of India

**Extract of Paras 2.74, 2.75 and 2.76 of Recommendations**

“2.74 Some of the existing service providers have already been allocated spectrum beyond 6.2 MHz in GSM and 5 MHz in CDMA as specified in the license agreements without charging any extra one time spectrum charges. The maximum spectrum allocated to a service provider is 10 MHz so far. However, the spectrum usage charge is being increased with increased allocation of spectrum. The details are available at Table 8.

Spectrum	Current	Proposed
Upto 2X4.4 MHz/ 2x5 MHz(CDMA)	2%	No Change
Upto2X6.2MHz/ 2x6.25 MHz(CDMA)	3%	No Change
Upto 2X8MHz	4%	No Change
Upto 2X10MHz	4%	5.00%
Upto 2X12.5MHz	5%	6.00%
Upto 2X15 MHz	6%	7.00%
Beyond 2X15 MHz	-	8.00%

**Table 8: Revised Spectrum Charges”**

“2.75 The Authority has noted that the allocation beyond 6.2 MHz for GSM and 5 MHz for CDMA at enhanced spectrum usage charge has already been implemented. Different licensees are at different levels of operations in terms of the quantum beyond these thresholds may not be legally feasible in view of the fact that higher levels of usage charges have been agreed to and are being collected by the Government. Further, the Authority is conscious of the fact that further penetration of wireless services is to happen in semi-urban and

rural areas where affordability of services to the common man is the key to further expansion”.

“2.76 However, the Authority is of the view that the approach needs to be different for allocating and pricing spectrum beyond 10 MHz in these bands i.e. 800, 900 and 1800 MHz. In this matter, the Authority is guided by the need to ensure sustainable competition in the market keeping in view the fact that there are new entrants whose subscriber acquisition costs will be far higher than the incumbent wireless operators. Further, the technological progress enables the operators to adopt a number of technological solutions towards improving the efficiency of the radio spectrum assigned to them. A cost- benefit analysis of allocating additional spectrum beyond 10 MHz to existing wireless operators and the cost of deploying additional CAPEX towards technical improvements in the networks would show that there is either a need to place a cap on the maximum allocable spectrum at 10 MHz or to impose framework of pricing through additional acquisition fee beyond 10 MHz. The Authority feels it appropriate to go in for additional acquisition fee of spectrum instead of placing a cap on the amount of spectrum that can be allocated to any wireless operator. In any case, the Authority is recommending a far stricter norm of subscriber base for allocation of additional spectrum beyond the initial allotment of spectrum. The additional acquisition fee beyond 10 MHz could be decided either administratively or through an auction method from amongst the eligible wireless service providers. In this matter, the Authority has taken note of submissions of a number of stakeholders who have cited evidences of the fulfillment of the quality of service benchmarks of the existing wireless operators at 10 MHz and even below in almost all the licensed service areas. Such an approach would also be consistent with the Recommendation of the Authority in keeping the door open for new entrant without putting a limit on the number of access service providers”.

Annex - V

No. P-11014/02/2008-PP  
Government of India  
Ministry of Communications & IT  
Department of Telecommunications

Sanchar Bhawan,  
Ashoka Road, New Delhi - 10001  
Dated: 24 November 2008

To

The Secretary  
Telecom Regulatory Authority of India  
MTNL Bhawan, Jawahar Lal Nehru Marg  
New Delhi - 110002

**Subject:- TRAI Recommendations on the Spectrum Charging for 3G Services.**

Sir,

This has reference to the TRAI Recommendation/Report of September 2006 on "Allocation and pricing of spectrum for 3G and broadband wireless access services".

**2. Annual Spectrum Charge for 3G Services**

TRAI has made the following recommendation for annual spectrum charge of 3G spectrum:

"The DOT should have 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 adjusted gross revenue (AGR)".

The aforementioned recommendation of TRAI was in the context of only existing telecom service providers being eligible for bidding in the auction for 3G spectrum. It did not envisage a situation where new players would also be eligible to participate in the auction of 3G spectrum. The Department of Telecom, however, after mandatory consultation with TRAI, decided that any person

- (i) who holds a UAS/CMTS licence or
- (ii) (a) who has previous experience of running 3G Telecom Services; and  
(b) gives an undertaking to obtain Unified Access Services Licence (UASL) as per Department of Telecommunications guidelines dated 14.12.2005 before starting telecom operations

shall be eligible to bid for 3G spectrum.



3. In this scenario there could be two categories of bidders, viz. existing 2G telecom service providers and new operators and accepting the recommendation of TRAI of charging an additional annual spectrum charge of 1 per cent of the operator's total adjusted gross revenue (AGR) would affect the level playing field between existing and new operators as existing operators would have to pay between 3% and 5% of AGR as annual spectrum charges while new 3G operators would have to pay only 1% of their AGR as annual spectrum charges. To overcome this problem, the Department of Telecom set up an Inter-ministerial Committee, with an outside expert, with the following terms of reference:

- (i) After 3G comes into operation, whether there can be some mechanism to segregate revenues of 2G and 3G for a service provider; and
- (ii) What components like voice, data, roaming etc. will form part of 3G for revenue.
- (iii) The Committee should give its recommendation on how to handle the incremental revenue on 3G. If it is not possible to segregate 2G and 3G revenues, then how should the Government ensure its revenue as accrued from 3G.
- (iv) TRAI has recommended charges of 1% on total revenues. It would amount to 1% of revenues of a stand alone 3G operators but 5% of revenues of a 2G + 3G operator. The Committee should deliberate on it and should come out with a solution.
- (v) The Committee should give its report in a maximum period of 4 weeks.

4. The Inter-ministerial Committee has given the following recommendation:

- (i) Due to the complexity of a system of segregating 2G and 3G revenues, and huge difficulties in verification and audit to prevent creative accounting and arbitrage, and other practical difficulties, the segregation of 2G and 3G revenues is ruled out.
- (ii) GSM 2G operators at present pay from 2% to 5% of AGR as annual spectrum charges and CDMA 2G operators pay 2% of AGR as annual spectrum charges. Due to efficiency in capital expenditure and synergy in operations, the existing operator having 2G spectrum and acquiring 5MHz of 3G spectrum should pay a slightly enhanced rate for the combined 2G+3G spectrum. The committee recommends that an existing operator having 2G spectrum and acquiring 3G spectrum should pay an incremental 1% over and above the applicable slab rate of 2G spectrum. For a stand alone 3G operator, the rate shall be the corresponding rate applicable to the 5MHz slab rate of 2G spectrum i.e. 3%.
- (iii) The committee recommends that annual spectrum charges on 3G spectrum, both for existing operator with 2G+3G spectrum and standalone 3G operator, will be charged after a period of one year.
- (iv) **Alternate Recommendation in Case the Revised Spectrum Charges Proposed by DoT are Implemented:**



The Department of Telecom is considering rationalizing the 2G annual spectrum charges and increasing them by about 1% for different slabs as follows:

Spectrum in MHz in 2G	Charges as % of AGR		
	Existing	Proposed by TRAI	Proposed by DOT
Upto 4.4/2.5	2	No change	3
Upto 6.2/5	3	No change	4
Upto 8	4	No change	5
Upto 10	4	5	6
Upto 12.5	5	6	7
Upto 15		7	8

In case the increased rates are accepted by the Competent Authority, the Committee recommends that the new revised slab rates applicable to an operator with 2G spectrum should be applicable to the 2G+3G spectrum holder on their total AGR. In this case, 1% incremental increase in the slab rate as proposed in para 8.2 above will not be applicable as it will amount to doubling of annual spectrum charges in the lowest slab (from the existing 2% to 4%). This will have an adverse bearing on the auction price. Thus, in case the revised rates proposed by DoT are accepted, the Committee recommends that the annual spectrum charges for an operator holding 2G +3G spectrum will be the same as being paid by the 2G spectrum holder for the corresponding slab. Further, the recommendation of para 8.3 above regarding moratorium will also not be applicable for operators holding 2G+3G spectrum.

For a standalone 3G operator, the rate shall be 3%, the lowest slab for 2G spectrum under the revised proposal of DoT, with one year moratorium.

The report of the Committee is enclosed.

5. The report of the Committee has been accepted by the Full Telecom Commission. Since the revised spectrum charges proposed by DoT, which has also been agreed to by TRAI vide their letter No.101-19/2007-MN(Vol.III) dated 16<sup>th</sup> July 2008, were also accepted by the Full Telecom Commission, it approved the annual spectrum charges recommended by the Committee in para 8.4. The decision of the DOT is in variance with the TRAI recommendations.

6. It is worth pointing out that the Department of Telecom has taken a decision to auction 3G spectrum. Thus the price discovery for spectrum will be through the market mechanism. Hence as long as annual spectrum charges proposed to be levied are notified in advance, the market will factor in this annual outflow in the auction bids. If higher annual spectrum charges are kept, the auction bids are likely to be lower and vice versa. Annual spectrum charges for 3G spectrum therefore can be considered to be in the nature of administrative charges for management of spectrum being auctioned. By doubling the minimum reserve price of 3G spectrum recommended by TRAI, it has been ensured that a substantial upfront price will be drawn from the auction which will protect the realizable revenue of the Government.

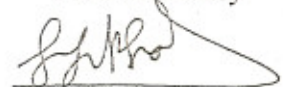
7. When TRAI made its recommendation for levying annual spectrum charge for 3G spectrum at an incremental rate of 1% of AGR in September 2006, there was no proposal to increase the AGR for 2G spectrum. TRAI made a recommendation for increasing annual spectrum charges on 2G spectrum subsequently in 2007. Thus it is reasonable to subsume the 1% annual spectrum charge on 3G revenue proposed by TRAI in the increase of annual spectrum charge for 2G revenue subsequently proposed by TRAI. This was also the view of the Inter-ministerial Committee which felt that in case this was not done, the annual spectrum charge in the lowest slab would double from 2 to 4%. Further, many existing operators would have to pay rates in excess of 5%. This would have an adverse bearing on the auction price.

8. Considering the above and the various legacy issues involved, TRAI is requested to kindly provide their considered views/comments on the annual spectrum charges for 3G services within a fortnight, as per the provision under 9 (a) (i) of TRAI ACT 2000 (reproduced below).

"Provided also that if the Central Government having considered that recommendation of the Authority, comes to a prima facie conclusion that such recommendation can not be accepted or needs modifications, it shall, refer the recommendation back to the Authority for its reconsideration, and the Authority may, within fifteen days from the date of receipt of such reference, forward to the Central Government its recommendation after considering the reference made by the Government. After receipt of further recommendation, if any, the Central Government shall take a final decision".

✓ 9. Since the auction for 3G spectrum is to be held in December 2008 and the bid documents has to be finalized immediately, it is requested that the views of TRAI on this issue may be conveyed to the Government expeditiously.

Yours faithfully



(S. Chandrashekhar)

Deputy Secretary to the Government of India





सत्यमेव जयते

Report of the Inter-Ministerial Committee  
for  
Segregation of 2G and 3G Revenue and Suggesting  
Annual Spectrum Charges on 3G Spectrum

Government of India  
Department of Telecom  
Ministry of Communications and Information Technology  
(November 2008)



Report of the Inter-Ministerial Committee for Segregation of 2G and 3G Revenue and for Suggesting Annual Spectrum Charges for 3G Spectrum

1.0 Introduction:

Government of India, Department of Telecommunications vide order No.L-14047/12/2006-NTG (Pt.), dated 30<sup>th</sup> September 2008 constituted the following Committee to look into the possibility of segregation of revenues of 2G and 3G and for suggesting annual spectrum charges for 3G spectrum:-

1. Shri J.S. Deepak, Joint Secretary (Telecom), Government of India - Chairman
2. Dr. Ashok Chandra, Joint Wireless Advisor, , Department of Telecom.
3. Shri Manish Sinha, Deputy Director General (LF) Department of Telecom
4. Shri Ashok Kumar, Deputy Director General (R), TEC
5. Prof. Bhaskar Ramamurthy, Dean Planning, Indian Institute of Technology, Chennai.

Shri Govind Mohan, Director Department of Economic Affairs, was co-opted as a member of this Committee as a representative of the Ministry of Finance.

2.0. Terms of Reference

- (i) After 3G comes into operation, whether there can be some mechanism to segregate revenues of 2G and 3G for a service provider; and
- (ii) What components like voice, data, roaming etc. will form part of 3G for revenue.
- (iii) The Committee should give its recommendation on how to handle the incremental revenue on 3G. If it is not possible to segregate 2G and 3G revenues, then how should the Government ensure its revenue as accrued from 3G.
- (iv) TRAI has recommended charges of 1% on total revenues. It would amount to 1% of revenues of a stand alone 3G operators but 5% of revenues of a 2G + 3G operator. The Committee should deliberate on it and should come out with a solution.

- (v) The Committee should give its report in a maximum period of 4 weeks.

### 3.0 TRAI Recommendations:

Extract of TRAI as contained in Para 4.84 – 4.91 of its recommendations on "Allocation and Pricing of Spectrum for 3G and Broadband Wireless Access Service" dated 27<sup>th</sup> September 2006 are as under:

" Operators pay an annual spectrum charge that depends on the quantum of spectrum assigned to them in the 800, 900, and 1800 MHz bands. In case of GSM operators, the annual charge varies from 2 to 6 per cent and in case of CDMA services, the annual charge varies from 2 to 4 per cent. The revenues of the mobile sector are increasing at a very fast pace and even with these current annual fees, the spectrum charges collected from the operators on annual basis is approximately Rs. 3000 crores (substantial).

Many respondents have suggested that the Government should consider modifying the revenue share-based annual spectrum-charging scheme. For example, some comments suggested having an auction based on the annual charge, reducing the AGR share to cover the costs of administration and monitoring spectrum use, or reducing or setting a cap on the fee. Some comments suggested continuing with the AGR-based fee.

The overall response suggests that most stakeholders are in favour of some type of AGR-based revenue sharing arrangement for annual spectrum charges. However, there is also a feeling that there should be some modification or reduction in the current scheme.

In its draft strategy paper on the telecom sector, the Union Ministry of Finance emphasized the need of reducing the licensing fees burden from the present level. The paper mentioned that telecom services face multiple taxes and levies and these levies and duties on the sector are one of the highest in the world. A reduction in the absolute amount of these duties and levies will allow telecom service providers to plough-back profits into enhancement of networks and services.

The Authority believes that it is necessary to reduce the WPC fees based on AGR for all operators, irrespective of the band of spectrum in which they operate. The authority thus recommends that the annual spectrum fee should be reduced to allow operators to reinvest a larger portion of their revenue in infrastructure development, and yet allowing the licensor to cover the costs of spectrum



management and administration. This will be especially useful if there will be a substantial up front fee for acquisition of 3G spectrum.

It is important to note that there is still some uncertainty about the possible penetration of 3G services in India. Even globally, the 3G-subscriber base is below 5 per cent of the total mobile phone subscriber population. A high annual spectrum fee might lead to a situation where 3G operators run into losses. Another argument against charging an annual fee is that allocating spectrum via an auction will realize the full value of the resource, and hence an additional tax will only act as a drag on the sector.

However, the Authority also notes that it will be difficult to charge two different annual spectrum fees for 2G and 3G operations because it opens the possibility of arbitrage between two possibly indistinguishable revenue streams. Hence, the annual fee should remain as a percentage of the total AGR of the operator.

Keeping these factors in mind, the Authority recommends that the DoT should have 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 adjusted gross revenue (AGR)."

#### 4.0 Department of Telecom Guidelines for Auction and Allotment of Spectrum for 3G Telecom Services

(a) Para 10 of Guidelines dated 1 August 2008 regarding spectrum use charges states:

"No annual spectrum charge shall be payable for 3 G Telecom services in the first year from the date of allotment of spectrum.

The licensee will have to pay annual spectrum charge of 1% of AGR after a period of one year".

(b) Para 10 of the above guidelines was amended on 11 September 2008 as follows:

"No annual spectrum charge shall be payable for 3 G Telecom services in the first year from the date of allotment of spectrum. The licensee will have to pay annual spectrum charge of 1% of AGR after a period of one year.

The licensee shall pay annual spectrum charge of 1% on the incremental revenue due to 3G services after a period of one year. The method of calculation shall be notified separately. "

5.0 Views of Service Providers – Submission by Cellular Operators Association of India (COAI) and Association of Unified Service Providers of India (AUSPI)

In order to obtain the views of the service providers, the Committee invited their associations viz. COAI and AUSPI to make their presentations giving their views and suggestions on the terms of reference of the Committee as outlined in Para 2.0 above.

5.1 Submission by COAI

5.1.1 COAI in its presentation to the Committee referred to the DOT clarification on 3G spectrum auction guidelines dated 11 September 2008, which says "....The licensee shall pay annual spectrum charge of 1% on the incremental revenue due to 3G services after a period of one year. The method of calculation shall be notified separately.....".

5.1.2 On the basis of the above, COAI submitted that

- Policy envisages segregation of revenues
- Prescribes that usage charge @ 1% of AGR will be payable only on incremental revenues arising from 3G services
- Only issue is the method of calculation

5.1.3 In its submission COAI pointed out that segregation of 2G and 3G revenues is desirable, necessary and possible. In support of its contention, pointed out that technology wise segregation was already followed Government, under dual allocation policy, which requires GSM and CDMA revenues to be reported separately. COAI argued that if it is possible to separate GSM and CDMA revenues, it should be possible to segregate GSM (2G) and WCDMA (GSM 3G) revenues.

5.1.4 Further, the COAI suggested the following three models for segregation of revenue:

(A) On the Basis of Number of 2G and 3G Cell Sites

Since cell sites are registered with WPC/SACFA, segregating the revenue earned in the proportion of 2G and 3G sites set up by the operator is possible. The key features of this method would be:



- 3G cells are distinctly separate & identifiable from 2G cell sites, Government may simply count the number of 2G and 3G cell sites set up by the services provider and segregate revenues earned in the proportion of 2G and 3G sites set up by the operator.
- A 3G stand alone operator will have all 3G sites and therefore will have to pay as per 3G usage charges for his entire revenues.
- A 2G only operator will pay as per the applicable rate for 2G
- A 2G + 3G operator with say, 100 3G cell sites and 1,000 2G cell sites (& 10 MHz of 2G spectrum) and with total AGR of say Rs. 11 crores, will pay the usage charges at 4% of 10 crores and 1% of Rs. 1 crores, i.e. Rs. 0.41 crores.

#### (B) Proportionate Traffic Method

Since 2G and 3G BTS are clearly different and distinctly identifiable in the network, the traffic generated by 2G and 3G cells can be easily segregated. The key features of this method would be:

- Easily possible for operator to segregate traffic generated by 2G and 3G cells respectively over a pre defined period, say quarterly.
- Traffic can be segregated for various service activities such as outgoing voice, incoming voice, data, SMS and MMS, etc.
- From the financial statements / balance sheet, easy to determine the revenues that have accrued on account of each service activity over corresponding period.
- The 2G/3G traffic ratio can then be simply applied to various service revenues, to get a correct, logical & relevant split of 2G and 3G revenues.
- Fixed revenues e.g. rentals can be segregated based on same ratio
- Operators can submit audited traffic certificates just like AGR certificates are being submitted.
- Government can carry out external, independent audit at any time
- Proportionate Traffic Method will capture and reflect 2G and 3G usage. For instance any time a 3G subscriber originates a call from a 2G cell site, that usage will show up in the 2G cell & the usage charge will be as applicable for 2G services.
- Proportionate Traffic Method is easy to implement & audit and will prevent any manipulation /arbitrage by the operator.

### (C) CDR Based Method

Technically all voice calls, SMS, MMS, data usage etc. can be identified as 3G or 2G by flagging of Call Data Records (CDR) with field identifier like Trunk Group (TG), Radio Frequency Identifier (RFI), MO/MT etc. All these three approaches are conceptually similar, based as they are, on identifying, proportioning and labeling traffic as 2G or 3G, with increasing complexity and better accuracy from (A) to (C). Thus the segregation of revenue on the basis of cell sites is the simplest but least accurate of the three methods while the CDR based method is the most complicated but the most accurate of the three.

### 5.2 Submission by AUSPI

AUSPI in its submissions felt that it was not possible to segregate 2G and 3G revenues in a fool proof manner and any bifurcation of revenue will lead to arbitrage by enabling operators to lower their 2G spectrum charges. AUSPI was in agreement with TRAI recommendation that it will be difficult to charge two different spectrum charges for 2G and 3G spectrum. The following reasons were advanced by AUSPI for non segregation of 2G and 3G revenue.

- All elements except the radio access network are common in 2G and 3G operations and operators having licenses for both these services will have the full potential of using the arbitrage if there is a difference in spectrum charges between 2G services and proposed 3G services. Even the 3G handsets are fully backward compatible.
- Studies of 3G operations worldwide indicate that no Regulator/Government in the world has levied different spectrum charges for 2G and 3G services and every administration has followed a uniform spectrum charge for 2G and 3G operations.
- The issue of differential charging was also faced by other administrations like France, Greece and Hong Kong and ultimately all these administrations preferred to implement a uniform spectrum charge for 2G and 3G services as it was technically impossible for them to segregate the revenues for these two services.
- In Hong Kong too the methodology of different spectrum charges for 2G and 3G services was once thought of but later was dropped because



it was too complex and not practical and a uniform spectrum charge is being levied on 2G and 3G services.

#### 6.0 Possibility of Segregating 2G and 3G Revenues -

From the presentations of COAI and AUSPI, it is apparent that there is a difference of opinion amongst service providers on the feasibility of segregation of 2G and 3G revenues. Many of the separation measures suggested use 2G and 3G traffic as a surrogate for 2G and 3G revenues, which is inaccurate.

When the new 3G system is deployed by an existing 2G operator, the 3G system will not operate in isolation. Rather, the 2G and 3G systems will work seamlessly together from the subscribers' point of view. If a subscriber has a 3G phone, the phone will continue to work with the 2G network wherever the operator does not have 3G coverage. This is true even during a call, if the subscriber moves between areas with and without 3G coverage. The call will be maintained, and it will be seamlessly handed over from the 3G to the 2G network and vice versa, as needed.

The billing system of an operator maintains what are called Call Data Records (CDR) for every use of the mobile network by a subscriber. This includes voice calls, SMS, data calls, etc. The CDR contains comprehensive information regarding the calling and called numbers, call start-time and duration. These details will be available even when there is a 2G-cum-3G network.

It is technically possible to employ complex software tools and extract from the CDR database information regarding how much traffic was carried by the 3G base stations (on spectrum meant for 3G services) and how much traffic was carried by the 2G base stations (on spectrum meant for 2G services). It must be pointed out that validation and audit of the data thus extracted will be difficult, since the structure of CDRs and process of extracting information from them will be complex, and the database would be highly voluminous. Even if such information is extracted, ascribing revenue flows to 2G and 3G traffic flow cannot be done in a clear-cut manner. Subscriber payment plans are not directly based on traffic flows. Thus, segregation of revenue into 2G and 3G flows will be arbitrary to some degree. Even if we somehow attribute these traffic flows to fractions of revenue accruing from 3G services and 2G services respectively, the computation will be very complex to verify and audit.

What we need instead, going forward, is a simple, comprehensive, verifiable and fair mechanism that does not result in lost income to the government

through creative accounting and arbitrage. Segregation of 2G and 3G revenues is thus ruled out on practical grounds.

#### 7.0. Alternatives Considered by the Committee

After arriving at the conclusion that it is not practical to segregate 2G and 3G revenues, the Committee deliberated on the possible methods of applying fair and equitable annual spectrum charges to get revenue assurance from the use of 3G spectrum.

As per decision of the Government 3G spectrum is to be auctioned. Thus the price discovery for spectrum will be to be through the market mechanism. Hence as long as annual spectrum charges proposed to be levied are notified in advance, the market will factor in this annual outflow in the auction bids. If higher annual spectrum charges are kept, the auction bids are likely to be lower and vice versa. Annual spectrum charges of 3G spectrum, therefore, can be considered to be in the nature of administrative charges for management of spectrum being auctioned. An auction has the potential to draw the full value of this scarce resource and therefore there may not be a need for imposing an additional spectrum charge exclusively for the use of 3G spectrum. The escalation of minimum reserve price of the 3G spectrum has already ensured that a substantial upfront price will be drawn from the auction which will protect the realizable revenue of the Government. Thus, theoretically it is immaterial if annual spectrum charges are kept at any level, high or low (or even zero), as long as there is a level playing field between different category of operators

The Committee considered the following alternatives for levying annual spectrum charges:

#### 7.1 TRAI Recommended Approach of Additional Annual Spectrum Charge of 1% Per Annum After a Moratorium of one year.

This would mean that new operators providing only 3G services would have to pay 1% of AGR from 3G services as annual spectrum charges whereas existing operators would have to pay 1% additional annual spectrum charges (above their applicable 2G rates) both on 2G and 3G revenue.

TRAI's recommendation was made in the context of only existing operators being eligible for 3G services. Government has not accepted this recommendation and new players are also likely to come into the market. In case this happens, there could be level playing field issues., as existing



operators would have to pay 3-6% of AGR and new operators only 1% of AGR as annual spectrum charges. Furthermore, the value of the 3G spectrum in terms of voice capacity and ability to support data services is much more than the value of a similar amount of 2G spectrum.

#### 7.2 Weighted Average Approach:

Spectrum charges are levied for different slabs of 2G spectrum. The rates increase with the increase in spectrum available with the operator. In this approach, the weighted average of rates in different slabs for 2G spectrum would be the annual spectrum charge for both existing operators having 2G+3G spectrum as well as stand alone 3G operator.

This approach however, will result in variable spectrum usage charges for 3G stand alone operator and may have adverse impact on the auctioning of 3G spectrum as it will introduce the element of uncertainty in determining the spectrum charges payable every year. In addition, 2G operators in the lowest slab of spectrum will suffer the highest increase in spectrum charges affecting the viability of their operation.

#### 7.3 Annual Spectrum Charges for 3G at the Rates Being Charged for 2G Spectrum.

In this approach, existing operators will pay annual spectrum charges at the same slab rates on 3G spectrum, as are applicable to them for 2G spectrum, depending upon the actual amount of 2G spectrum an operator holds. In this method, while the rate of annual spectrum charge will remain unchanged for a 2G+3G operator, it will be applied on the total revenue of the operator arising from services using both 2G and 3G spectrum.

This would imply that the incremental increase in annual spectrum charges is zero percentage though operators would have to pay charges as a percentage of both 2G and 3G revenues at the rate applicable to them for 2G. In the case of an operator providing only 3G services, the annual spectrum charge for 5MHz 3G spectrum would be the same as that for lowest slab for a stand alone 2G operator or 2G + 3G operator. At present this is 2% of AGR. Thus for stand alone 3G operator, the annual spectrum charge would be 2% of AGR.

This method puts the same rate of 2% on 5 MHz of 3G spectrum that is paid today for lowest slab of 2G spectrum. This is in contrast to the higher bandwidth as well as utility of the 3G spectrum.

#### 7.4 Slab Rate Arrived on the Basis of Total Spectrum Held ( 2G + 3G)

While this method of calculating slab rates by adding the total spectrum held by an operator reflects the true scarcity value of the spectrum and also the business opportunity available to the operator, it will result in very high annual spectrum charges for 2G + 3G spectrum holders. This in terms would suppress auction revenues and will go against the objective of the Government of getting the maximum value of spectrum upfront and at the same time promote rapid expansion of 3G services in the country.

#### 8.0. RECOMMENDATIONS OF THE COMMITTEE

On the basis of its deliberations the following recommendations are made: \_

- 8.1 Due to the complexity of a system of segregating 2G and 3G revenues, and huge difficulties in verification and audit to prevent creative accounting and arbitrage, and other practical difficulties, the segregation of 2G and 3G revenues is ruled out.
- 8.2 GSM 2G operators at present pay from 2% to 5% of AGR as annual spectrum charges and CDMA 2G operators pay 2% of AGR as annual spectrum charges. Due to efficiency in capital expenditure and synergy in operations, the existing operator having 2G spectrum and acquiring 5MHz of 3G spectrum should pay a slightly enhanced rate for the combined 2G+3G spectrum. The committee recommends that an existing operator having 2G spectrum and acquiring 3G spectrum should pay an incremental 1% over and above the applicable slab rate of 2G spectrum. For a stand alone 3G operator, the rate shall be the corresponding rate applicable to the 5MHz slab rate of 2G spectrum i.e. 3%.
- 8.3 The committee recommends that annual spectrum charges on 3G spectrum, both for existing operator with 2G+3G spectrum and standalone 3G operator, will be charged after a period of one year.
- 8.4 Alternate Recommendation in Case the Revised Spectrum Charges Proposed by DoT are Implemented:

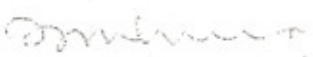
The Department of Telecom is considering rationalizing the 2G annual spectrum charges and increasing them by about 1% for different slabs as follows:

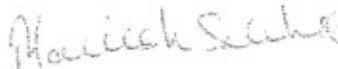


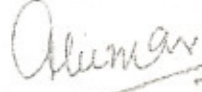
Spectrum in MHz in 2G	Charges as % of AGR		
	Existing	Proposed by TRAI	Proposed by DOT
Upto 4.4/2.5	2	No change	3
Upto 6.2/5	3	No change	4
Upto 8	4	No change	5
Upto 10	4	5	6
Upto 12.5	5	6	7
Upto 15	5	7	8

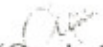
In case the increased rates are accepted by the Competent Authority, the Committee recommends that the new revised slab rates applicable to an operator with 2G spectrum should be applicable to the 2G+3G spectrum holder on their total AGR. In this case, 1% incremental increase in the slab rate as proposed in para 8.2 above will not be applicable as it will amount to doubling of annual spectrum charges in the lowest slab (from the existing 2% to 4%). This will have an adverse bearing on the auction price. Thus, in case the revised rates proposed by DoT are accepted, the Committee recommends that the annual spectrum charges for an operator holding 2G +3G spectrum will be the same as being paid by the 2G spectrum holder for the corresponding slab. Further, the recommendation of para 8.3 above regarding moratorium will also not be applicable for operators holding 2G+3G spectrum.

For a standalone 3G operator, the rate shall be 3%, the lowest slab for 2G spectrum under the revised proposal of DoT, with one year moratorium.


  
(Dr. Ashok Chandra)  
(JWA/WPC)

  
(Manish Sinha)  
DDG (LF)

  
(Ashok Kumar)  
DDG/TEC  
7/11/08

  
(Govind Mohan)  
Director/DEA

(Prof. Bhaskar Ramamurthy)  
Dean IIT Chennai

  
(J.S. Deepak)  
JS (T)

Spectrum in MHz in 2G	Charges as % of AGR		
	Existing	Proposed by TRAI	Proposed by DOT
Upto 4.4/2.5	2	No change	3
Upto 6.2/5	3	No change	4
Upto 8	4	No change	5
Upto 10	4	5	6
Upto 12.5	5	6	7
Upto 15		7	8

In case the increased rates are accepted by the Competent Authority, the Committee recommends that the new revised slab rates applicable to an operator with 2G spectrum should be applicable to the 2G+3G spectrum holder on their total AGR. In this case, 1% incremental increase in the slab rate as proposed in para 8.2 above will not be applicable as it will amount to doubling of annual spectrum charges in the lowest slab (from the existing 2% to 4%). This will have an adverse bearing on the auction price. Thus, in case the revised rates proposed by DoT are accepted, the Committee recommends that the annual spectrum charges for an operator holding 2G +3G spectrum will be the same as being paid by the 2G spectrum holder for the corresponding slab. Further, the recommendation of para 8.3 above regarding moratorium will also not be applicable for operators holding 2G+3G spectrum.

For a standalone 3G operator, the rate shall be 3%, the lowest slab for 2G spectrum under the revised proposal of DoT, with one year moratorium.

(Dr. Ashok Chandra)  
(JWA/WPC)

(Manish Sinha)  
DDG (LP)

(Ashok Kumar)  
DDG/TEC

(Govind Mohan)  
Director/DEA

(Prof. Bhaskar Ramamurthy)  
Dean IIT Chennai

(J.S. Deepak)  
JS (T)

- 11 -

Report of the Committee for Segregation of 2G and 3G Revenue and Suggesting Annual Spectrum Charges on 3G Spectrum



No. P-11014/02/2008-PP  
Government of India  
Ministry of Communications & IT  
Department of Telecommunications

Sanchar Bhawan,  
Ashok Road, New Delhi - 10001  
Dated: November 25, 2008

To

The Secretary  
Telecom Regulatory Authority of India  
MTNL Bhawan, Jawahar Lal Nehru Marg  
New Delhi - 110002

**Subject:- TRAI Recommendation on the Spectrum Charging for 3G Services.**

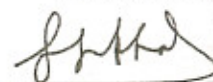
Sir,

Please refer to this Department's letter of even number dated 24<sup>th</sup> November 2008 on the subject mentioned above. In para 8 of the said letter, the section dealing with the proviso referred therein has been mentioned inadvertently as "9(a)(1) of TRAI Act 2000". This may please be read as "Section 11(1)(d) of the TRAI Act 2000".

The error is regretted.

Telecom Regulatory Authority of India Mahabharat Doorsanchar Bhawan Jawaharlal Nehru Marg, New Delhi 2
28 NOV 2008
Dy. No. : 8238

Yours faithfully



(S. Chandrashekhar)

Deputy Secretary to the Government of India