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**भारत संचार निगम लिमिटेड**  
(भारत सरकार का उपक्रम)  
**BHARAT SANCHAR NIGAM LIMITED**  
(A Govt. of India Enterprise)

File no. 1-26/2009

dated 12.11.2009

To,

The Secretary,  
Telecom Regulatory Authority of India,  
Mahanagar Doorsanchar Bhawan,  
Old Minto Road, New Delhi-110002

Subject: Consultation paper on Overall Spectrum Management and review of license terms and conditions.

In response to TRAI's consultation paper no. 6/2009 dated 16th October 2009 on "Overall Spectrum Management and review of license terms and conditions", kindly find enclosed herewith the para-wise comments of BSNL for kind consideration of the Authority.

Encl.: As above (total 15 pages)

-Sd-

(Ashok Kumar Rawat)  
DGM (Regulation - III) -CA

## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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### ***Spectrum requirement and availability***

- 1. Do you agree with the subscriber base projections? If not, please provide the reasons for disagreement and your projection estimates along with their basis?**

Yes, we agree.

- 2. Do you agree with the spectrum requirement projected in ¶ 1.7 to ¶1.12? Please give your assessment (service-area wise).**

The requirement of the spectrum depends upon many factors. One of the most important factors is the cost at which it is made available to the operators. If the spectrum is continued to be allotted to the operators as per existing practices/policies, the projected requirement of 582 MHz may also be inadequate. However, if market determined prices are charged for the spectrum, which is a scarce national resource, it shall be utilised most efficiently, economically, rationally and optimally by all the operators. The actual requirement of spectrum, in such a scenario, may be much lower than what has been projected.

- 3. How can the spectrum required for Telecommunication purposes and currently available with the Government agencies be re-farmed?**

National security of the country is of paramount importance. The spectrum requirements of the Defence and other security agencies must be given the highest priority. There should be no compromise in this regard. The spectrum being used by these agencies may be re-farmed for the commercial use after due consultation with them.

Further, all the transition costs should be borne by the sectors/services/operators to whom such re-farmed spectrum will be allocated for commercial deployment. Such compensation should be provided, in advance, to the agencies/organisations to meet all the expenses to vacate the spectrum including costs incurred for re-engineering of their networks and/or setting up of new/alternate networks to meet their requirements.

- 4. In view of the policy of technology and service neutrality licences, should any restriction be placed on these bands (800,900 and 1800 MHz) for providing a specific service and secondly, after the expiry of present licences, how will the spectrum in the 800/900 MHz band be assigned to the operators?**

These bands have been allocated to the operators for specific services as a part of the Licenses granted to them as per prevailing guidelines consistent with the National Frequency Allocation Plan(NFAP) and, therefore, their use has to be restricted to the services for which such allocation has been done. The use of these bands need to be regulated otherwise it will create

## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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interference, deteriorate QoS and hinder the proper conduct of telegraphs. Further, if these bands are to be used for the deployment of any other service, the spectrum may be re-farmed and reallocated to the same operator or any other entity through a market determined price and/or as per the new guideline prevailing at that point of time.

Regarding assignment of the spectrum in these bands after expiry of the present licences, we agree with the recommendations given in para (p) of Chapter VI in the Report of the Committee for "Allocation of Access (GSM/CDMA) Spectrum and Pricing" of May 2009. However, for state owned companies, the spectrum may continue to be assigned by the Government as per its policies at a nominal fee to be decided administratively, as the options like first right of refusal, freedom to take informed commercial decision etc are not available to these companies.

- 5. How and when should spectrum in 700 MHz band be allocated between competitive services?**
- 6. What is the impact of digital dividend on 3G and BWA?**

The 700 MHz band is very useful for faster proliferation of wireless broad band services in a cost effective manner and can be gainfully and efficiently deployed for provision of broad band services, especially, in rural and remote areas. This spectrum, therefore, should be allocated to the License Telecom service providers at the market determined price through a transparent mechanism. Needless to say that adequate spectrum has to be reserved for the use of the Department or its companies i.e. BSNL / MTNL. It is further submitted that while the private operators will take informed commercial decision while acquiring the spectrum at the market determined price, that option is not available to BSNL/MTNL. Therefore, BSNL/MTNL or any other such Govt. entity should be charged a nominal fee to be determined administratively by the Government.

### ***Licensing issues***

- 7. Should the spectrum be delinked from the UAS Licence? Please provide the reasons for your response.**

Yes, we are of the view that UAS License should be delinked from the spectrum with immediate effect. This is also in line with the recommendations given by the Authority from time to time. Further, the Second Committee of DoT, in its report of May 2009, has also recommended the same.

UAS License permits the operator to provide any type of telecommunication access services whether it is basic, 2G mobile, 3G mobile, ISP, BWA etc. The licensee, if so desires, can acquire the spectrum at the market determined price and provide the wireless services. Alternately, it can focus on deployment of wire line networks, which will propel the growth of Internet and

## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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broadband services including Internet Telephony and many other IP based services.

- 8. In case it is decided not to delink spectrum from UAS license, then should there be a limit on minimum and maximum number of access service providers in a service area? If yes, what should be the number of operators?**

BSNL is not at all in favour of not to delink the spectrum from UAS License. BSNL is of the opinion that it is essential to delink the two for efficient and optimal utilisation of the spectrum, which is a scarce national resource and also for seamless growth of telecom network and services in a transparent and level playing environment. Further, this will also enable growth of Internet and Broadband services and proper conduct of the Telegraphs.

If it is decided not to delink spectrum from UAS license, the regulatory and licensing environment must ensure that there are at least five access service providers in each service area to ensure fair and adequate competition. However, there should not be any limit or cap on the maximum number of access service providers, which may be left to be determined by the market forces and availability of adequate spectrum.

- 9. What should be the considerations to determine maximum spectrum per entity?**
- 10. Is there a need to put a limit on the maximum spectrum one licensee can hold? If yes, then what should be the limit? Should operators having more than the maximum limit, if determined, be assigned any more spectrum?**

The availability of spectrum for commercial use and minimum number of operators envisaged (about 5) for the fair and adequate competition in a service area are the main criterion to be considered for determining maximum spectrum per entity. Further, it is expected that all operators may not have equal market share. Considering this, BSNL agrees with the recommendations of the Second Committee that no operator should hold more than 25% of the total spectrum assigned in a service area.

Ideally the operator having more than the maximum prescribed limit should not be assigned any additional spectrum. However, if any of the operators is already having spectrum more than this limit in a service area than this should become the benchmark for the maximum limit in that service area for allotment of spectrum to ensure level playing field and fair competition.

## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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- 10. If an existing licensee has more spectrum than the specified limit, then how should this spectrum be treated? Should such spectrum be taken back or should it be subjected to higher charging regime?**

None of the existing licensee is having spectrum more than the prescribed limit. Therefore, there is no question of taking the spectrum back or subjecting it to higher charging regime. The spectrum has been allocated to existing operators after meeting the eligibility criterion as per prevailing guideline and orders issued by the Government from time to time. The operators have, accordingly, engineered their network and also committed the investments. The revised limit, if any, should be made applicable prospectively for the new operators licensed after January 2008.

- 12. In the event fresh licences are to be granted, what should be the Entry fee for the license?**

The entry fee for the fresh UAS licenses, if bundled alongwith 4.4 MHz spectrum, as at present, should be determined through a transparent bidding process. Any spectrum beyond 4.4 MHz should also be allotted to the eligible operators, through the open bidding process, who have completed their roll-out obligations as per the terms and conditions of license agreements and have complied with other guidelines/benchmarks prescribed by the government from time to time,

- 13. In case it is decided that the spectrum is to be delinked from the license then what should be the entry fee for such a Licence and should there be any roll out condition?**

The entry fee for a UASL license without spectrum may be kept same as was prescribed for Basic services licenses prior to introduction of UAS license. For development and growth of infrastructure in the rural and remote areas as well as in hilly and difficult terrains, some roll-out obligations must be imposed on all such licensees.

- 14. Is there a need to do spectrum audit? If it is found in the audit that an operator is not using the spectrum efficiently what is the suggested course of action? Can penalties be imposed?**

The audit process is too subjective in nature. This will unnecessarily increase the expenses and complexities in the system. BSNL is, therefore, of the view that there is no need of doing any spectrum audit. Further, allocation of spectrum through transparent bidding process will automatically ensure its efficient and optimal utilisation and need not be audited. Hence, need for imposition of penalty does not arise. The second committee constituted by DoT in its report of May'2009 has also noted the same.

- 15. Can spectrum be assigned based on metro, urban and rural areas separately? If yes, what issues do you foresee in this method?**

## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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Boundaries between urban and rural areas are getting thinner and thinner especially with the wireless services. It will be extremely difficult and expensive to restrict the use of spectrum in the specific Metro, urban or rural area. Any such geographic demarcation within the service area, for allotment of spectrum, is bound to lead to complexities and litigations. Further, the allotment of spectrum through auction will be service area wise and will be extremely difficult, complex and time consuming to implement the same separately for Metro, urban and rural areas. Therefore, BSNL is of the view that assignment of spectrum should not be based on the Metro, Urban and Rural areas. It should always be License service area wise.

- 16. Since the amount of spectrum and the investment required for its utilisation in metro and large cities is higher than in rural areas, can asymmetric pricing of telecom services be a feasible proposition?**

Though, the amount of spectrum and the investment required for its utilisation in metro and large cities is higher than in rural areas, operation and maintenance cost of the network is higher in the rural areas. Further, because low tele-density and low usage, the per line CAPEX and OPEX in rural areas are higher than that in the urban areas. Since, major part of the infrastructure is common for providing mobile services in urban and rural areas, asymmetric pricing of telecom services within a service area is not a feasible proposition.

### ***M&A issues***

- 17. Whether the existing licence conditions and guidelines related to M&A restrict consolidation in the telecom sector? If yes, what should be the alternative framework for M&A in the telecom sector?**

The license conditions and guidelines related to merger and acquisitions have been framed by Government after due consultation and deliberation, keeping in mind the long term growth objectives of telecom sector, development of infrastructure, consumer interests and proper conduct of telegraphs. These guidelines do not restrict the consolidation in telecom sector.

- 18. Whether lock-in clause in UASL agreement is a barrier to consolidation in telecom sector? If yes, what modifications may be considered in the clause to facilitate consolidation?**

As submitted above, existing M&A guidelines are not restricting consolidation in the telecom sector. The lock-in clause in UASL agreement has been incorporated very recently, after a long consultation process, for proper conduct of telegraphs. This will ensure roll-out of networks and services by the new operators for the benefit of consumers. Therefore, there is no necessity of any modifications in the existing lock-in clause.

**BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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- 19. Whether market share in terms of subscriber base/AGR should continue to regulate M&A activity in addition to the restriction on spectrum holding?**

Yes, the market share in terms of subscriber base/AGR should continue to regulate M&A activity in addition to the restriction on spectrum holding in order to ensure fair competition and proper conduct of telegraphs.

- 20. Whether there should be a transfer charge on spectrum upon merger and acquisition? If yes, whether such charges should be same in case of M&A/transfer/sharing of spectrum?**

Yes, there should be transfer charge on spectrum upon M&A. This charge should be at par with charges applicable for transfer and sharing of spectrum as recommended by the 2nd DoT Committee in its report of May'2009.

- 20. Whether the transfer charges should be one-time only for first such M&A or should they be levied each time an M&A takes place?**

The prescribed transfer charges should be applicable each time an M&A takes place.

- 22. Whether transfer charges should be levied on the lesser or higher of the 2G spectrum holdings of the merging entities?**

The transfer charges should be levied on the spectrum of the company which is getting merged, whether lesser or higher of the 2G spectrum. The company, who is acquiring the other entity, should pay the transfer charge on the spectrum being acquired.

- 23. Whether the spectrum held consequent upon M&A be subjected to a maximum limit?**

Yes, it should also be subjected to the limits prescribed for holding the maximum spectrum by a licensee in a service area.

***Spectrum Trading***

- 24. Is spectrum trading required to encourage spectrum consolidation and improve spectrum utilization efficiency?**

Yes, spectrum trading is definitely required to encourage spectrum consolidation and to improve spectrum efficiency. However, while allowing spectrum trading, the applicable rollout obligations must be taken in to consideration for development of infrastructure and protection of consumer interests. The companies, who have not fulfilled the rollout obligations, should not be allowed to trade their spectrum.

**BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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**25. Who all should be permitted to trade the spectrum ?**

It is re-iterated that the access service providers, who have completed the roll out obligations, should only be allowed to trade their spectrum.

**26. Should the original allottee who has failed to fulfill "Roll out obligations" be allowed to do spectrum trading?**

No, the original allottee, who has failed to fulfill its "Roll out obligations", should not be permitted to trade its spectrum. It is submitted that the spectrum from such licensees should be taken back by the licensor and, thereafter, be auctioned at market price for allotment to other eligible operators so that it can be optimally used for providing telecom services to the consumers.

**26. Should transfer charges be levied in case of spectrum trading?**

Yes, transfer charges should be levied in case of spectrum trading.

**28. What should be the parameters and methodology to determine first time spectrum transfer charges payable to Government for trading of the spectrum? How should these charges be determined year after year?**

The spectrum transfer charges on pro-rata basis, as recommended by the 2nd DoT Committee in its report of May'2009 in schedule of transfer charges, should be levied on each and every transfer of the spectrum and not only on the first transfer of spectrum. It may be reviewed by the Government from time to time depending upon the market conditions/prices of spectrum at that time.

**29. Should such capping be limited to 2G spectrum only or consider other bands of spectrum also? Give your suggestions with justification.**

In the context of spectrum trading, the word 'such' is not clear and hence can not be commented upon.

**30. Should size of minimum tradable block of spectrum be defined or left to the market forces?**

In our view, it should be left to the market forces.

**31. Should the cost of spectrum trading be more than the spectrum assignment cost?**

It should be left to the market forces to decide the cost of the spectrum trading.



## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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### **Spectrum sharing**

#### **32. Should Spectrum sharing be allowed? If yes, what should be the regulatory framework for allowing spectrum sharing among the service providers?**

Spectrum sharing in the form of pooling of spectrum, as suggested in the consultation paper, should not be allowed due to the following reasons:

- (i) Sharing of spectrum is nothing but the sharing of active infrastructure which is not permitted as on date due to various security and license conditions.
- (ii) It is technically very difficult to comply with the security requirements while implementing the sharing of spectrum through pooling.
- (iii) It will disturb the level playing field between the existing and new operators and will distort the market dynamics.
- (iv) As per the prevalent guidelines, the annual spectrum usages charges are linked with the total amount of spectrum held by the operator, which increase with the increase in the quantum of spectrum. The operator having 12.5 MHz even in one town of its service area, pays spectrum usages charges @ 5% per annum of the AGR of the entire LSA. On the contrary, if three operators pool together, they will get the advantage of a mobile network designed for 13.2 MHz of spectrum which is much more efficient and cost effective. However, they will pay spectrum usages charges only at the rate of 2% per annum of their AGR, instead of paying 5% of AGR. This will give undue competitive advantage to these operators vis-a-vis other operators.
- (v) As per present DoT guidelines, a single entity with 4.4 MHz can cater to a subscriber base of 5 lakhs in a Metro service area. The operator with 13.2 MHz can cater to 57 lakh customers in that service area. In case three operators pool their spectrum, they can jointly cater to 57 lakh customers while paying annual spectrum usages charges @ 2% of AGR only. This provides them tremendous undue competitive advantage vis-a-vis others operators thus disturbing the level playing field and also huge loss to the National Exchequer.
- (vi) It may lead to cartelisation by some of the new operators, in terms of spectrum sharing, to the competitive disadvantage to the other similarly placed operators.

## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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- (vii) It will inhibit the growth of telecom infrastructure in the country which is one of the prime objectives for grant of additional access services licenses.
- (viii) It will be extremely difficult to enforce the roll-out obligations and other licensing conditions on the pooling operators including those applicable for spectrum such as interference, power limits and transmission within assigned frequencies etc, as observed by the 2nd DoT Committee in its report of May'2009.

However, if the spectrum sharing is at all to be permitted, it should only be permitted in terms of short term leasing of the spectrum by one entity to other in its licensed service area, on mutually agreed terms and conditions, with prior permission of the Government after paying the applicable sharing charges. In such sharing, responsibility of the compliance with various terms and conditions of the license agreements, including those of spectrum license, shall continue to be that of the owner of the spectrum.

### **33. What should be criteria to permit spectrum sharing?**

While reiterating the submissions made in Q.32 above, BSNL is of the view that spectrum sharing in the form of leasing only should be permitted among the operators who have fulfilled the applicable rollout obligations.

### **34. Should spectrum sharing charges be regulated? If yes then what parameters should be considered to derive spectrum sharing charges? Should such charges be prescribed per MHz or for total allocated spectrum to the entity in LSA?**

Spectrum sharing charges levied by the licensor should be same as that of spectrum trading charges to be applied on pro-rata basis for the period of leasing.

### **35. Should there be any preconditions that rollout obligation be fulfilled by one or both service provider before allowing the sharing of spectrum?**

Yes, there should be preconditions that rollout obligations be fulfilled by both the service providers before permitting them sharing of the spectrum.

### **36. In case of spectrum sharing, who will have the rollout obligations? Giver or receiver?**

In view of our submissions in Q.No. 35, this situation will not arise. Both the spectrum sharing entities must comply with their respective roll-out obligations before sharing of their spectrum.

***Perpetuity of licences***

**37. Should there be a time limit on licence or should it be perpetual?**

Yes, there should be a time limit on license. It is a sovereign right of Government which should not be transferred in perpetuity to private telecom service providers. This is more so as in many cases, the majority stake in private telecom service providers is held by foreign entities.

**38. What should be the validity period of assigned spectrum in case it is delinked from the licence? 20 years, as it exists, or any other period?**

In all such cases, the validity period of assigned spectrum should also be 20 years, as it exists in case of present licenses. The 2nd DoT Committee has also recommended the same in its report of May'2009.

**39. What should be the validity period of spectrum if spectrum is allocated for a different technology under the same license midway during the life of the license?**

At the outset, it is submitted that this issue has neither been referred by DoT in any of its letters enclosed with the consultation paper nor it is related to the subject matter under consideration. It may be noted that as per the prevailing rules, allocation of spectrum to telecom service providers is concurrent to the validity of the license itself irrespective of time of allotment and its use for the same or different technology. These rules do not create any exception in respect of spectrum allotted for alternate/different technologies.

Further, the guidelines issued by the Government vide its press release dated 19.10.2007 clearly indicated that Allocation of spectrum for the alternate technology shall be done to private UAS Licensees on payment of prescribed fee, which will be an amount equal to the amount prescribed as entry fee for getting a new UAS licence in the same service area. Relevant portion of these guidelines dated 19.10.2007 is reproduced herein as under:

*"----- The spectrum for the alternate technology, CDMA or GSM (as the case may be) shall be allocated in the applicable frequency band subject to availability after payment of prescribed fee. Allocation of spectrum for the alternate technology may be done to private UAS Licensees on payment of prescribed fee, which will be an amount equal to the amount prescribed as entry fee for getting a new UAS licence in the same service area. The existing UAS Licensees, who have already applied for allocation of spectrum for the alternate technology shall also be considered*

## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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*for allocation of spectrum in alternate technology from the date of payment of prescribed fee.-----."*

In principle approval issued by DoT to UASL licensees for alternate technology inter-alia stated that:

*"-----the payment of fee, as stipulated above, is solely for the purpose of grant of permission to use GSM technology also in addition to the CDMA technology being used under the existing UAS licence(s) issued to the company under section 4(2) of the Indian Telegraph. Act, 1835-----Spectrum shall be allocated as per existing policy/ guidelines, as amended from time to time, subject to its availability.*

*The effective date of existing UAS licence(s) and other terms & conditions shall remain unchanged."*

These UAS licensees have accepted these guidelines and terms and conditions stipulated in the in-principle approval granted by DoT and have signed the amendment to their license agreements accordingly.

The guidelines issued by Government for use of alternate technology to the UAS licensees and allocation of spectrum for the same, clearly stated that the effective date of existing UAS licenses and other terms and conditions will remain the same. Thus, spectrum allocation made for alternate technology is valid only till the expiry date of license as per the prevailing guidelines of spectrum allocation. This was well known to all such UAS licensees in advance and they have taken a well informed decision. Thus, question of reviewing the same does not arise. Any review of this condition, regarding extension of spectrum period or refund/ adjustment of the entry fee, will tantamount to extending undue favours to such licensees at the cost of National Exchequer. Further, if such UAS Licensees have any grievances or dispute with the Licensor in this regard, they should approach the Hon'ble TDSAT for resolution of their grievances and not TRAI as per the framework of TRAI, Act, 1997 as amended in 2000.

- 40. If the spectrum assignment is for a defined period, then for what period and at what price should the extension of assigned spectrum be done?**

## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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Extension of assigned spectrum, after expiry of the initial defined period, may be done for a period of another 20 years. The price for such extension may be determined administratively as recommended by the 2nd DoT Committee in its report of May'2009.

**41. If the spectrum assignment is for a defined period, then after the expiry of the period should the same holder/licensee be given the first priority?**

The same holder/licensee should be given first priority for such assignment as has been recommended by the 2nd DoT Committee in its report of May'2009.

### **Uniform License Fee**

**42. What are the advantages and disadvantages of a uniform license fee?**

Uniform license fee will reduce the arbitrage and ensure the level playing field among various types of licensees. Further, this will be easy to implement in a transparent manner and will maximise the revenues to the exchequer. Apparently, there is no disadvantage of uniform license fee. Therefore, it should be implemented immediately.

**43. Whether there should be a uniform License Fee across all telecom licenses and service areas including services covered under registrations?**

Yes, License Fee should be uniform across all telecom licenses and service areas including services covered under registrations in order to ensure level playing field, eliminate arbitrage and prevent leakage of Government revenues.

**44. If introduced, what should be the rate of uniform License Fee?**

It should be calculated on the basis of weighted average of license fees being taken currently for various types of services and areas and should be prescribed in such a way that there is no loss to the National Exchequer. A uniform fee of the order of about 6% on revenues from all services, including those who require only registration such as IPs (Infrastructure Providers), will be quite reasonable as the same will protect the present revenues of the Government.

### ***Spectrum assignment***

**45. If the initial spectrum is de-linked from the licence, then what should be the method for subsequent assignment?**

As submitted above, in case the initial spectrum is de-linked from the license, the subsequent assignments of the spectrum should be done through a

## **BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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transparent bidding process. However, for state owned companies, the spectrum may continue to be assigned by the Government as per its policies at a nominal fee to be decided administratively.

**46. If the initial spectrum continues to be linked with licence then is there any need to change from SLC based assignment?**

As submitted above, it is reiterated that if initial spectrum continues to be linked with the license, the bundled license itself should be awarded through a transparent bidding process and any subsequent spectrum should also be awarded through auction process only.

**47. In case a two-tier mechanism is adopted, then what should be the alternate method and the threshold beyond which it will be implemented?**

It is not feasible to comment on this as no such "two-tier mechanism" has been discussed in the consultation paper.

**48. Should the spectrum be assigned in tranches of 1 MHz for GSM technology? What is the optimum tranche for assignment?**

Yes, the spectrum should be assigned in tranches of 1 MHz only limited to maximum of 2 MHz per operator per auction.

**49. In case a market based mechanism (i.e. auction) is decided to be adopted, would there be the issue of level playing field amongst licensees who have different amount of spectrum holding? How should this be addressed?**

The spectrum has been allotted to the telecom operators at different times as per the then prevailing guidelines in this regard and they have engineered their networks and committed investments accordingly. Further, the operators, who have entered in the telecom industry at the early stages have taken more risk as compared to the subsequent entrants. The new entrants, who will acquire spectrum through a market based mechanism, will take an informed decision in this regard. Therefore, it is felt that there may not be any issue of level playing field on this account.

Further, while recommending the assignment of spectrum through auction process, in its report of May'2009, the 2nd DoT Committee has already looked into the issues related to level playing field extensively.

**BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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- 50. In case continuation of SLC criteria is considered appropriate then, what should be the subscriber numbers for assignment of additional spectrum?**

In view of our submissions as above, the question of allotment of additional spectrum on the basis of subscriber linked criteria does not arise.

- 51. In your opinion, what should be the method of assigning spectrum in bands other than 800, 900 and 1800 MHz for use other than commercial?**

As submitted in the Q.No 3 above, national security of the country is of paramount importance. The spectrum requirements of the Defence, the security agencies and other Government Organisations must be given highest priority for allocation. There should be no charge levies on Defence and Security agencies. For the Government Organisations, nominal spectrum usages charges may be prescribed by the Government.

***Spectrum pricing***

- 52. Should the service providers having spectrum above the committed threshold be charged a onetime charge for the additional spectrum?**

- 53. In case it is decided to levy one time charge beyond a certain amount then what in your opinion should be the date from which the charge should be calculated and why?**

- 54. On what basis, this upfront charge be decided? Should it be benchmarked to the auction price of 3G spectrum or some other benchmark?**

As submitted above, it is reiterated that the spectrum has been allotted to the telecom operators at different times as per the then prevailing guidelines in this regard and they have engineered their networks and committed investments accordingly. Therefore, there is no justification for levying any such one time charge for the allotment of their spectrum.

- 55. Should the annual spectrum charges be uniform irrespective of quantum of spectrum and technology?**

Yes, annual spectrum charges should be uniform irrespective of quantum of spectrum and technology. The 2nd DoT Committee in its report of May'2009 has also recommended the same.

- 56. Should there be regular review of spectrum charges? If so, at what interval and what should be the methodology?**

**BSNL's comments on "Overall Spectrum Management and review of license terms and conditions"**

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It may be reviewed periodically depending upon the prevailing market conditions.

***Structure for spectrum management***

**57. What in your opinion is the desired structure for efficient management of spectrum?**

It is submitted that WPC wing of DoT is well equipped for the efficient management of the spectrum. There is no need of revisiting this arrangement.



**REGULATION CELL**

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**भारत संचार निगम लिमिटेड**  
(भारत सरकार का उपक्रम)  
**BHARAT SANCHAR NIGAM LIMITED**  
(A Govt. of India Enterprise)

**No: 1-26/2009-Regln**

**Dated: 4<sup>th</sup> December, 2009**

To,

**The Secretary,  
Telecom Regulatory Authority of India,  
Mahanagar Doorsanchar Bhawan,  
Jawahar Lal Nehru Marg,  
(Old Minto Road), New Delhi-110002.**

{Kind Attn: Shri Sudhir Gupta, Advisor (MN), TRAI}

**Subject:** Consultation paper on "Overall Spectrum Management and review of license terms and conditions"

Sir,

This is further to our earlier letter of even number dated 12.11.2009, vide which comments of BSNL were submitted on the issues raised in above consultation papers. Some of the private operators have raised certain issues in their written submissions to the Authority as well as in the open house sessions, which are incorrect and in complete contradiction with the stated policies of the Government, terms and conditions of their license agreements as well as recommendations of TRAI and TEC. While reiterating all our earlier comments, we would like to submit following additional comments on these issues:

## **1.0 Justification forwarded by M/s TTSL in favour of limiting spectrum up to 6.2 MHz is infructuous.**

Conclusions of M/S TTSL in its submissions before the Authority that spectrum beyond 6.2 MHz is not required by any GSM operator are totally incorrect and fabricated. The justifications and assumptions forwarded by M/s TTSL in support of its analysis in this regard suffer from serious technical infirmities rendering it a highly optimistic and idealistic solution, good for technical readings and presentations but far from the realities of real operational world. Comments of BSNL on the basic assumptions taken by M/S TTSL in support of its said analysis are submitted as below for kind perusal of the Authority:-

1.1 The basic postulate on which the entire design has been based is a wrong assumption of assuming mE/Subs to be 35.

The average mE/subs traffic of BSNL for the month of October, 2009 is 43.44. Also there exists more than 11 Circles, where the mE/subs traffic is more than 50. It should be pointed out here that BSNL designs its network with 50 mE/subs assumption and for metro cities like Chennai TD it is taken as 60 mE/subs.

A continuous downtrend in the tariff structures of the operators have further ensured that the traffic generated by each subscriber is on a continuous rise. Looking at the trend of falling tariffs in wireless market and its ease and presence, it is felt that the basic design assumption should be taken as 100 mE/subs, as that of landline switches.

1.2 The basic cluster size has been taken as 4X3, which is good for small and medium sized cities/towns, however for bigger metros, the cluster size has to be 5X3 for operational ease, as at such places the cell sites will be in close proximity on one hand and the clutter non-uniform on the other. As such, a regular grid pattern cannot be formed and due to proximity in dense traffic areas, enhanced interference effects would result. An increased cluster size would obviously mean greater cell separations, thereby reducing the interference effects.

1.3 Maximum hardware configuration possible is 4/4/4, which is suitable for moderately sized cities, however, for metros and that too in its congested localities, invariably a 6/6/6 and even above configuration is a necessary requirement.

1.4 The assumption of more than 60% of speech traffic being carried over AMR-HR (Adaptive Multi Rate – Half Rate) is again a far fetched hypothesis. An AMR-HR codec could be used in places of extremely good radio coverage and highly reduced noise and interference effects. With the present scenario of many technologies and operators jostling for space in radio segment continuously adding noise to the spectrum plus the presence of closely knit cell-sites of the operator, availability of such an idealistic situation in the entire coverage area of an operator is not possible.

Further, as enumerated already, AMR-HR codec rates could be used in places of extremely healthy radio conditions, which could be places in the vicinity of the cell sites, but Mobile Stations available at the peripheries of the cell coverage area obviously would not be having a radio coverage to use a AMR-HR codec on one hand and achieve the stringent TRAI KPIs (Key Performance Indicators) on the other.

1.5 The assumption of availability of handsets with SAIC (Single antenna Interference Cancellation) capability being 30 % in the network is again highly optimistic. Though it is agreed that having an SAIC handset will help tolerate higher interference effects as compared to normal handsets while maintaining the same level of receiver performance, but the availability of SAIC feature in a handset is a purely handset dependent feature and nothing an operator can do to achieve it. In Indian scenario, where cheap branded or even unbranded mobile handsets are a raze, expecting customers to have a technical know-how to understand the availability of such a feature in his handset and then shelve out extra money for this feature too optimistic to be true.

1.6 The assumption of having 17 sites in one sq. Km is again highly theoretical. Typically, 10-11 maximum sites are being put up and that too in high traffic areas. Apart from the problems associated with hiring of sites in such dense traffic areas, there exists a serious design and operation issues requiring highly immaculate design and equally perfect implementation, which for obvious operational reasons is not possible to implement and more importantly maintain, in long run.

1.7 Number of SDCCH (Standalone Dedicated Control channel) timeslots haven been assumed as 03, which are again on a lower side. With more and more signaling based services, USSD (Unstructured Supplementary Service Data) and the ever increasing SMS traffic, many sites requires a minimum of 4 time slots.

1.8 The assumption of merely 02 timeslots for GPRS (General Packet Radio Service) has been again knowingly downplayed. With users increasingly using the GPRS services, it has been observed that in dense tech savvy places even 04-05 reserved timeslots are getting clogged. To top it, 3G services are familiarizing the users with high data rates availability and applications, there by putting a pressing demand to increase the number of reserved GPRS timeslots. Moreover, a user switching from 3G network to 2G network, while making a data session will have to necessarily fall back on GPRS bearer, thereby putting all the more pressure for further increase of reserved GPRS channels.

**In view of the submissions as above, it seems that the entire design goal of the whole exercise by M/S TTSL is to somehow achieve a figure of 38 K subscribers per sq. km per operator to justify its claim. For achieving the goal, various theoretical, idealistic and highly unrealistic assumptions have been put forth. BSNL strongly refutes such assumptions and request the Authority not to take any cognizance of such fictitious analysis submitted to meet their ulterior motives.**

## **2.0 Bundled / Contracted Spectrum for new UAS licensee is a myth.**

The consultation paper has created an impression wherein it appears that spectrum of 4.4 MHz is bundled with the UASL license. Further, the new operators, who have been granted UAS licenses after 10.01.2008, have presented their claim that they should be given the spectrum of 6.2 MHz in case of GSM and 5 MHz in case of CDMA before formulating any revised policy as the same is the “contracted spectrum” as per the provisions of their license agreements. In this regard, we would like to invite the kind attention of the Authority to the stated policy of the Government issued vide its press release dated 19.10.2007 under which these licenses were granted. The relevant extract of this press release is reproduced below:

*“.....The Unified (Telecom) Access Services (UAS) licences are technology neutral and the licensees are required to provide access services and meet the stipulated roll-out obligations using wire-line and/or wireless technologies by utilising network equipment that meets the prescribed standards. The allocation of radio-spectrum and grant of wireless licence shall be subject to availability. In case UAS Licensee is not allocated spectrum due to non-availability, the Licensee shall endeavour to roll out services using wireline technologies. It has also been decided that the roll-out for wireless services shall be reckoned from the date of spectrum allocation. This will also apply to those licensees who are awaiting initial spectrum allotment.....” (Emphasis supplied).*

This was again supplemented by one more press release dated 10.01.2008, which inter-alia state that *“...UAS license authorizes licensee to rollout telecom access services using any digital technology which includes wire-line and/ or wireless (GSM and/or CDMA) services. They can also provide Internet Telephony, Internet Services and Broadband Services. UAS license in broader terms is an umbrella license and does not automatically authorize UAS licensees usage of spectrum to rollout Mobile (GSM and/ or CDMA) services. For this, UAS license which is granted on first -come - first -serve basis subject to availability of spectrum in particular service area.....” (Emphasis supplied)*

**From the above, it is amply clear that no spectrum of any amount or kind is bundled along with UAS license granted under the above stated policies of the Government. All the new UAS licensees were well informed and have taken a conscious commercial decision to acquire their licenses under the new policies. The same is also reflected in their license agreements as**

**well. The relevant provisions of license agreements in clause 23.5 and 43.5 of the UAS license are reproduced as below:-**

*“23.5 The frequencies shall be assigned by WPC from the designated bands prescribed in National Frequency Allocation Plan - 2002. (NFAP-2002) as amended from time to time. Based on usage, justification and availability, spectrum may be considered for assignment, on case by case basis. The frequencies assigned may not be contiguous and may not be same in all cases, while efforts would be made to make available larger chunks to the extent feasible. The detailed guidelines for allocation of frequency spectrum and charges thereof etc. would be separately issued from time to time.*

*43.5 Subject to availability and as per Guidelines issued from time to time, the spectrum allocation and frequency bands will be as follows:*

*43.5.(i) For wireless operations in SUBSCRIBER access network, the frequencies shall be assigned by WPC wing of the Department of Telecom from the frequency bands earmarked in the applicable National Frequency Allocation Plan and in coordination with various users. Initially a cumulative maximum of upto 4.4 MHz + 4.4 MHz shall be allocated in the case of TDMA based systems (@ 200 KHz per carrier or 30 KHz per carrier) or a maximum of 2.5 MHz + 2.5 MHz shall be allocated in the case of CDMA based systems (@ 1.25 MHz per carrier), on case by case basis subject to availability. While efforts would be made to make available larger chunks to the extent feasible, the frequencies assigned may not be contiguous and may not be the same in all cases or within the whole Service Area. For making available appropriate frequency spectrum for roll out of services under the licence, the type(s) of Systems to be deployed are to be indicated.*

*43.5 (ii) Additional spectrum beyond the above stipulation may also be considered for allocation after ensuring optimal and efficient utilisation of the already allocated spectrum taking into account all types of traffic and guidelines/criteria prescribed from time to time. However, spectrum not more than 5+5 MHz in respect of CDMA system or 6.2+6.2 MHz in respect of TDMA system shall be allocated to any new Unified Access Services Licensee. The spectrum shall be allocated in 824-844 MHz paired with 869-889 MHz, 890-915 MHz paired with 935-960 MHz, 1710-1785 MHz paired with 1805-1880 MHz.*

*43.5(iii) In the event, a dedicated carrier for micro-cellular architecture based system is assigned in 1880 - 1900 MHz band, the spectrum not more than 3.75 + 3.75 MHz in respect of CDMA system or 4.4 + 4.4 MHz in respect of TDMA system shall be assigned to any new Unified Access Services Licensee.*

*43.5(iv) The Licensor has right to modify and / or amend the procedure of allocation of spectrum including quantum of spectrum at any point of time without assigning any reason.” (Emphasis supplied)*

**The license conditions and press releases as mentioned above clearly indicate that the UASL license is to provide the access services by using wireless and/or wire line technologies and allocation of radio-spectrum and grant of wireless licence shall be Subject to availability and as per guidelines issued from time to time, the spectrum allocation and frequency bands. Further, additional spectrum beyond 2.5 + 2.5 MHz in respect of CDMA system or 4.4 + 4.4 MHz in respect of TDMA may be considered for allocation after ensuring optimal and efficient utilisation of the already allocated spectrum taking into account all types of traffic and guidelines/criteria prescribed from time to time. The spectrum more than 5+5 MHz in respect of CDMA system or**

6.2+6.2 MHz in respect of TDMA system is not be allocated to any new Unified Access Services Licensee as per above stated policies and the terms and conditions of their license agreements.

**Therefore, the impression given in the consultation paper that spectrum is bundled with the new UAS license and the submission made by the new entrants in GSM segment that they have contractual right to get 6.2 MHz for their GSM operations is a myth and is contrary to the provisions of stated policies of the Government as well as the terms and conditions of the licenses granted to them.**

### **3.0 Withdrawal of Spectrum from incumbent GSM Operators is technically not implementable and legally untenable.**

Some of the operators, in order to meet their ulterior motives and in complete contradiction of recommendations of TRAI and TEC, are giving some incorrect and fabricated analysis so as to arrive at the conclusion that no spectrum beyond 6.2 MHz is required by GSM operators. They have advocated that even in the densest cities like Metros, GSM services can be provided to any number of subscribers with this spectrum and have suggested that the spectrum allotted to incumbent GSM operators above 6.2 MHz may be withdrawn and allotted to them. In this regard, it is submitted that the analysis given by these operators is totally incorrect and far from realities. **BSNL has already given its submission in this regard in para 1.0 above.** It may also be noted that same operators have also suggested having a cap of 12.4 MHz for the merged entity in case of M&A with a cap of 6.2 MHz in 900 MHz band. Such irrational and contradictory arguments clearly indicate that these arguments are nowhere close to reality but based on their self interest.

Further, kind attention of the Authority is also invited to the recommendations given by TRAI on 27.10.2007 after carrying out detailed analysis and also to the examination/analysis done by the TEC i.e. technical arm of DoT in 2007. Both of these agencies have recognised that existing GSM operators require the spectrum up to 15+15 MHz. Based on such analysis, DoT has formulated the guidelines for issuance of spectrum to existing GSM operators up to 15+15 MHz.

The incumbent GSM operators have designed and engineered their networks as per the prevailing policy regime and spectrum made available to them by the Government as per its guidelines issued from time to time and keeping in view the terms and conditions of the licenses granted to them. **They have committed their investments and have all the contractual rights to retain and use the spectrum already allocated to them.** The policy guidelines which are applicable to the new UAS licensees / new entrants in GSM segment can not applied retrospectively to the existing operators and any such move will be legally untenable.

It is also submitted that all new UAS licensees were having the equal opportunity at the time of auction of the licenses during 1994-1995 as well as 2001 and they took decision not to participate in the auction process at that time. Thereafter, they have taken well informed commercial decision to enter in the Indian Telecom market knowing fully about the prevailing policy frameworks and rights and obligations of the UAS licensees under the new regime. Raising the issue of level playing field at this stage for allocation of spectrum at par with the incumbent GSM operators is irrational, mischievous, and legally untenable and is an attempt to sabotage the businesses of the incumbent GSM Operators with a motive to garner the market share.

#### **4.0 Equal Distribution of Spectrum of 900 MHz is a fallacy.**

It has been commented by some of the operators that spectrum allocated in 900 MHz should be taken back from the incumbent GSM operators and should be equally distributed among all the GSM operators. Further, some of the telecom operators have suggested having a cap of 2.4 MHz in 900 MHz band.

At the outset, we would like to state that such demands for “equal Distribution of Spectrum of 900 MHz or capping of Spectrum” are totally unjustified, irrational, mischievous and legally untenable. This spectrum in 900 MHz has been allocated by Government as per its own policy decisions and not as per the choice of operators. They have designed and engineered their networks as per the spectrum made available to them by the Government from time to time and have committed huge investment. Any change at this stage would be highly detrimental to their business interest as well as to that of the consumer's and should not be resorted to.

#### **5.0 Uniform License Fee is the need of the hour.**

While reiterating our earlier submission in this regard, it is further submitted that presently scopes of many licenses overlap with each other for various services. However, license fee varies from one license to another license even for the same services. For example, while no license fee is payable by the infrastructure providers for leasing out their infrastructure, access providers have to pay the license fee at the rate of 6%, 8% & 10% of their AGR for leasing the similar infrastructure. Similarly, carriage of intra-circle calls falls within the scope of access services license as well as NLD license. However, the license fee payable differs in case of Access and NLD licenses. Such situation prevails in case of many other services also. Thus, while the two licensees offer the same services, the payment of license fee by them is different.

The above-said situation of levy of varying license fee on the same service provided under different licenses creates an arbitrage and telecom service providers tend to show/divert their revenues under the license which is having minimum license fee applicability. Due to this reasons only, most of the telecom service providers have diverted their tower operations to a separate entity having IP (Infrastructure Provider) registration with DoT under which no license fee is applicable. Similarly, due to overlapping between the scope of Access services and NLD service licenses – as submitted above, telecom operators tend to divert most of their revenue under NLD license. There are similar other anomalies.

The above-stated levy of different license fee under various licenses for the same services is neither beneficial for the growth of telecom sector nor for the National Exchequer. Payment of different license fee for the same service disturbs the level playing between telecom services providers, as both of the telecom operators have to compete in the same market. Similarly, Government does not get the license fee as prescribed in the various licenses.

The above stated background creates a strong case for the TRAI to recommend the uniform license fee @ 6% (inclusive of 5% USO levy) for all the licenses/services except wire-line services. This will ensure level-playing field amongst different telecom service providers and will also ensure the due share of license fee revenues to the National Exchequer.

**It is further submitted that to encourage rollout in rural areas, all the service providers, who are providing services in 95% of the block head quarters, may be exempted from paying the USO levy of 5%.**

## **6.0 Exemption from payment of License Fee by the operators for their wire-line services is a must.**

Proliferation of wire-line services is highly capital intensive via-a-via wireless services. Therefore, in the present competitive scenario further expansion of wire-line networks is economically not viable. Further, it is becoming extremely difficult to sustain networks.

The robust wire-line networks are extremely important for proliferation of Broadband Services and implementation of e-governance projects of the Government. The targets of Broadband services of Government can only required to be maintained in very good condition but are also required to be expanded. Further, the wire-line networks shall be extremely useful for fixed mobile convergence which will greatly increase the efficiency of the spectrum which is scare National resources. It is, therefore, necessary to provide requisite incentives for roll-out of wire-line networks.

One of the ways to provide the incentives to wire-line networks can be by way of exemption of revenue of wire-line services from any payments towards license fee including USO levy, which may kindly be considered for making recommendations to the Government.

Yours faithfully,

**(Ashok Kumar Rawat)**  
**DGM (Regulation-III)-CA**