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16<sup>th</sup> August 2013

**DUA**  
Consulting

The Secretary  
Telecom Regulatory Authority of India  
Mahanagar Doorsanchar Bhawan (next to Zakir Hussain College)  
Jawaharlal Nehru Marg (Old Minto Road)  
New Delhi- 110 002

**Sub: Comments on Consultation Paper number 06/2013 "Valuation and Reserve Price of Spectrum"**

Dear Sir  
Attn Mr Rajeev Agarwal.

We must thank the authority for this initiative to come out with a Consultation Paper on Valuation and Reserve Price of Spectrum. WE believe that such a consultative process was long over due to set right few anomalous situations. Please find enclosed our responses to the consultation paper as well as responses to specific questions raised in the paper.

**In this cover letter, we would like to address five key issues of the Consultation Paper.**

- Availability of Spectrum or Quantum of spectrum
- How to value the spectrum?
- Reserve price of the spectrum
- Most importantly, the vexing question of level playing field, and
- So called stressed state of the sector

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## Availability of Spectrum or Quantum of Spectrum

I would also like to draw authorities' attention to a letter I had addressed in my individual capacity in the September of 2012 (7<sup>th</sup> September), in which issues relating to eligibility and the quantum of spectrum to be auctioned was discussed. The authority, perhaps, decided to ignore that input.

Nonetheless, we remain convinced that the quantity of spectrum available to be auctioned has to be that which was allocated on or post 10<sup>th</sup> January 2008 and quashed following the landmark Supreme court judgment of 2<sup>nd</sup> February 2012, Para 2.5 to 2.11 of the Consultation paper refers. **It would also be prudent to point out that the two press releases of 10<sup>th</sup> January 2008 (copies attached) referred to in the Supreme Court judgment do mention applications submitted on or before 25 September 2007 and also the companies who applied for the dual technology spectrum.** There is also a misleading statement in the Consultation paper in Para 1.13 where in it states that all licenses granted post-2001 till 2010 were given by the DoT (licensor) through an administrative process. In all these licenses, spectrum was tied to the license and the entry fee remained constant in respect of each service area, totaling to Rs.1659 crore for the entire country. The factual position is post 2004 till 2010, as would be evident from discussions below. In order to establish the quantum of spectrum and some of the statements referred to above it would be prudent to go into a bit of the history to arrive at our conclusions logically.

In this connection we invite authority to please read the 27<sup>th</sup> October 2003 recommendations of TRAI.

The details of those recommendations are on page 30 of the 27<sup>th</sup> October 2003 recommendations of TRAI. The relevant sections are reproduced below with emphasis on Para 7.39:



**"Competition**

**7.37 On the issue of introducing more competition, the TRAI has always been in favour of open and healthy competition. In its recommendations on the introduction of the 5<sup>th</sup> and 6<sup>th</sup> Cellular Mobile license, the TRAI opined that**

*"Induction of additional mobile service providers in various service areas can be considered if there is adequate availability of spectrum for the existing service providers as well as for the new players, if permitted."*

*Taking cognisance of spectrum availability, the TRAI is in favour of introducing more competition. However, we feel that in lieu of more cellular operators, it would be more appropriate to have competition in a Unified Licensing framework which will be initiated after six months.*

**Time and need of introduction of more service providers**

*7.38 As already mentioned earlier, with the continuing growth trend, the expected wireless subscriber base by December, 2005 will be 100 million. To achieve 100 million wireless subscribers (cellular & WLL both) the required investment is of the order of Rs.50, 000 Crore. As brought out in Para 6.5 this highlights a need at present itself for greater efforts by existing and new service providers to expand the investment and to meet the market demand for telecom services and help achieve the objectives of telecom growth and development in the country.*

**7.39 As brought out in Para-7.37 above, the 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 utilisation 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.**



*7.40 Considering the above, the role of existing and new players in wireless services at the present juncture is well established."*

Following these recommendations, 28 licensees were issued in 2004 to create 4 licensed players across the country strictly in accordance with the above. The policy distortions were introduced in the December of 2005 abolishing Cellular Mobile Telephone Services (CMTS) License, which came bundled with spectrum, had to be auctioned as per TRAI recommendations of 2003 and replacing this license by Unified Access Service License (UASL), with certain interesting provisos like pick this UASL off the shelf and wait for spectrum when available, thus introducing administered price regime as alluded to in Para 1.13 of the Consultation paper and introducing the infamous First Come First Served policy (FCFS). With this backdrop what was the timeline under which licenses were issued:

28 Licenses were issued in 2004, quite in line with the 27<sup>th</sup> October 2003 policy (List attached). The issuance of these licenses was in full compliance of the 2003 policy.

23 licenses were issued between 2006 and 2007 (list attached) after tweaking the policy in 2005, but with out spectrum. The spectrum allocation to all these was post 10<sup>th</sup> January 2008 except 1. From the above it is abundantly clear that these 23 licenses were in violation of the extant cabinet approved policy of 2003. They were 5<sup>th</sup> or 6<sup>th</sup> licenses without auction, but were without spectrum. 22 of these 23 licenses were allocated spectrum on or after 10 January 2008 in an administered manner (please see attached List of 23 licenses/LOIs and the dates on which they were issued), subsequent to the 2007 recommendations.

A reference was made to the authority in the April of 2007, when there were some leaks in the press. As a result the authority, then came out with the most flawed Recommendations of August 2007, which resulted in the issuance of 122 GSM licenses, allocation of spectrum to these 22/23 licensee of 2006/2007 and 34 Combination of Technology Licenses. These Combination of Technology Licenses were again in defiance of the pre 2007 policy, which had two key stipulations before 2007: 10% cross holdings



and upfront choice of technology for providing a type of cellular service i.e. either GSM or CDMA. Reliance and Tata chose wilfully CDMA in 2001 to regret that decision as events unfolded. The matter is sub-judice in the Supreme Court. In order to cover up that mistake they engineered this flawed Combination of Technology recommendations in 2007.

Notwithstanding, the root cause of the foregoing is the flawed TRAI Recommendations of 28<sup>th</sup> August 2007, wherein the then regulator, in suggesting no cap and no auction (it could disturb level playing field), in the pious belief that the demand supply equation will be balanced, which was not to be? There was a long queue of gold diggers and speculators. Artificial cap was placed by bringing forward the cut off date after inviting applications. These recommendations of the authority have been severely criticised in the Supreme Court judgement. How can anyone pick part recommendations like combination of technology and not treat them as beneficiaries alongside 23 other licensees and at the same time cancel only 122 licenses under the same set of recommendations.

**Concluding,** the licenses issued post 2004 and in defiance of the 2003 recommendations are 179 [(Aircel 14), (Idea 2), (Vodafone 7), (Reliance 15), (Tata 19) and (122 various others)]. They all, except some, received spectrum post 10<sup>th</sup> January 2008 (See attached). The total spectrum, thus issued post 10<sup>th</sup> January 2008 is 673.2 MHz (could be more) and not 473.6 MHz. The estimated cost of this missing 200 MHz is anything from Rupees 20, 000 crore upwards. Our humble submission is that these 57 licenses have been as fraudulently acquired (Rupees 40, 000 Crore loss), as the 122, hence must be cancelled and asked to participate in the auction or forced to pay the discovered price and not allowed to continue to that of 2001 price in order to provide level playing field for the distressed licensee who bid in November 2012 and March 2013 and to those whose licenses come up for renewal. It would be prudent for them as well to be part of the price discovery then be subjected to a price discovered by others, should that happen by a quirk of a miracle in DOT to force the discovered price on these 57 licenses. If action is not taken, they would be unlawful owners of licenses and completely upset the level playing field.



If no action is taken, it would lead to a skewed level playfield in favour of Aircel, Idea, Vodafone, Reliance and Tata (A) vis-à-vis the likes of Videocon, Telenor MTS (B) etc, who were the distressed bidders in 2012 and 2013. They (A & B) all received spectrum post 10<sup>th</sup> January 2008, a set of 57 (A) is allowed and a set of 122 (B) is not allowed to continue. The gold diggers have disappeared, but the serious players are being harmed. Where is the much touted and bandied level playing theory of the Nation so espoused in 2007 and repeated by the authority in 2010? The present paper of the authority itself raises this interesting observation in paras 3.86 and 3.87.

**Therefore**, the spectrum to be auctioned should be increased to the amount vacated, not artificially rationed and hoarded by the government either in the name of re-farming or wrongly distributed. . It is essential that entire spectrum vacated by all cancellations of 179 licenses must be put for auction to avoid creation of artificial scarcity of spectrum and also reducing demand by restricting participation. The total spectrum, thus issued post 10<sup>th</sup> January 2008 is 673.2 MHz (could be more) is to be auctioned and participation increased.

### **How to value the spectrum?**

There can not be a better hint than the Honourable Prime Minister's statement in December 2007, which read as follows:

#### **Quote**

At the same time, we must realise that we need to make use of this precious and limited resource in an optimal manner. All technological options must be explored to maximise its utilisation. The policy regime for making spectrum available should be fair, transparent, equitable and forward looking. It should not create entry barriers to newcomers or barriers to the continued growth of the important sector. At the same time, the revenue potential to the government must not be lost sight of. After all, governments across the globe have harnessed substantial revenues while allocating spectrum. In the final analysis, the key issues are correct pricing, fair allocation rules,



and a pro-competitive stance. In the past, the department of telecommunication and the regulator have successfully enabled the rapid growth of this sector. I believe that working closely with the independent statutory regulator, we can balance multiple objectives in a fair and reasonable manner.

### **Unquote**

It must be made abundantly clear that no license linked with spectrum has ever been distributed since 1992, as was the case from 2006 onwards. They have all been either through a bidding process or an auction. The only aberrations have been from 2006 onwards and until 2008. The results are for all to see. The bidding process had its pitfalls, but corrective steps were taken in 1999.

**Therefore**, the simple answer is market determined price by an ascending e-auction. Declare technology neutrality and spectrum usage charge up front. Auction all segments of the spectrum individually. Auction as much spectrum as available. Allow spectrum trading and sharing. Let there be no linkages to what was done in 2001, 2010, 2012 and 2013. There must not be any more distribution of spectrum by the mythical FCFS basis

### **Reserve price of the Spectrum**

Authority has very eloquently covered this aspect in chapter IV of the paper. There has to be a reserve price for all bands individually. It could be indexed to 2001 in terms of opportunity cost, inflation, labor, market size etc or by taking a root mean square (RMS) of various price discoveries. Whatever be the methodology, a reserve price has to be there. A proviso could be introduced that the issuer reserves the right to withdraw a band or all bands of spectrum should the target price not be achieved?

### **Most importantly, the vexing question of level playing field**

Today, there is no level field for all licenses issued after 2006. There are three sets of licenses issued in 2006 (23), 2008 (122+34) issued in 2008 and remainder of all those issued in 2008, but compelled to participate in the November 2012 and March 2013



auction. Authority has oft repeated level playing field in 2007 and again in 2010 for doing what it did not, which is a level playing field, causing losses to the exchequer and endless litigations. Fears of further litigation have been expressed in paras 3.86 and 3.87. Today there is no level playing field for the likes of Idea, Videocon, Telenor, MTS etc, why? All the above licensees were either issued in violation of the policies of 2003 or the flawed recommendations of 2007, which is also manifest from the fact that none of them received the spectrum until 10<sup>th</sup> January 2008.

**Therefore**, all of them were on the same starting line and also with invalid licenses. For some reason, within Department of Telecommunications (DOT), the 122 got cancelled (mostly speculators and gold diggers), but the 57 continue to thrive at the 2001 price point putting at a handicap of some tens of laps for the brave ones who bid in the two auctions to protect their huge investments. How can they compete with such a grotesque inequality, because of a misplaced interpretation of the SC Judgment of 2<sup>nd</sup> February 2012 and other allied judgments? This is a huge inequality. This blunder of an anomaly has to be resolved once and for all for the "Distress Purchasers". Ingenuity is the need of the day to fix this vexing issue of level playing filed.

### **So called stressed state of the sector**

The authority has raised an issue about the debt on the books of the licensees as barometer of the stress level in the sector, para 3.23. Has the authority cared to ask about the borrowing and the end use these borrowing are put to? Most of them are in multiple fields of operations at times so diverse that they have nothing in common with telecomm operations, or have borrowings for forays into other territories of the world, resulting in the need to raise fresh funds by borrowing or any other financial instrument. Why such debts should be reflected for their main steam operations to portray a picture of a strained sector. The financial sector has also not brought glory to them selves by just extending loans without putting any checks on the use of funds raised. We therefore, believe that level of debt on the books is no measure of stress in the sector, there is much more than meets the eye.






**We believe that** the Authority could have taken *suo motu* action as per Section 11 (a) (viii) Chapter III of the TRAI Act of 1997 as amended in 2010 to prevent such an agonising state of the sector benefitting a few and harming serious players. It must also be made known to the benefit of the authority that in any case, all allocations in 2008 were provisional, conditional and subject to the out come of various court cases.

With best personal regards

Yours sincerely,

  
Brijendra K. Syngal 14 Aug 2013

CC: Shri Arvind Kumar

Advisor (Networks, Spectrum and Licensing)

TRAI

**RECOMMENDATIONS ON THE CONSULTATION PAPER ON VALUATION AND RESERVE  
PRICE OF SPECTRUM**

**Introduction**

At the outset, we thank the Authority for initiating this public consultative exercise with such a comprehensive paper addressing all critical issues surrounding Spectrum Allocation/Pricing, a momentous subject for the industry, the government and citizens of this country. We take this as an opportunity to resolve all the present ambiguities in the field of telecom including the concerns relating to pricing of the spectrum.

This paper provides recommendations on the Consultation Paper on Valuation and Reserve Price of Spectrum dated July 23, 2013 issued by the Telecom Regulatory Authority of India ("TRAI" or the "Regulator"). Before providing our recommendations, we have attempted to provide a background on the telecom policies adopted by the Government from time to time, which have a bearing on the recommendations.

The PM address at India Telecomm 2007 also stated as follows:

*"At the same time, we must realise that we need to make use of this precious and limited resource in an optimal manner. All technological options must be explored to maximise its utilisation. **The policy regime for making spectrum available should be fair, transparent, equitable and forward looking. It should not create entry barriers to newcomers or barriers to the continued growth of the important sector. At the same time, the revenue potential to the government must not be lost sight of.** After all, governments across the globe have harnessed substantial revenues while allocating spectrum. In the final analysis, the key issues are correct pricing, fair allocation rules, and a pro-competitive stance. In the past, the department of telecommunication and the regulator have successfully enabled the rapid growth of this sector. I believe that working closely with the independent statutory regulator, we can balance multiple objectives in a fair and reasonably manner."*

## Policy Background

1. India's National Telecom Policy 1994 ("**NTP 1994**") was announced on 13<sup>th</sup> May 1994, to deregulate, liberalise and encourage private sector participation in the telecom industry. However, NTP 1994 did not yield desired results. Therefore, a new National Telecom Policy ("**NTP 1999**") was announced on 1<sup>st</sup> April 1999.
2. The policy on spectrum management as enumerated in NTP 1999 emphasized the need for spectrum to be used efficiently, optimally and economically. It further emphasised the need for a transparent process of allocation of frequency spectrum for use by a service provider and for making it available to various users under specific conditions. Such process required to be effective and efficient and needed to provide for the levy of a spectrum usage fee.
3. On 23<sup>rd</sup> June 2000, pursuant to a reference made by the Ministry of Communications and Information Technology, TRAI made certain recommendations on the issues of appropriate level of entry fee, basis of selection of new operators and entry of 4<sup>th</sup> cellular operator. TRAI recommended that all new operators, barring Department of Telecom ("**DoT**")/MTNL would be selected through a competitive bidding process. Prospective operators would be required to meet pre-determined criteria in order to qualify to bid for the licence. Pre-qualification would be mainly on the grounds of financial strength and experience, minimum roll out obligation, technical and business plan, payment terms and other commercial conditions. **TRAI also recommended that bidding process should be carefully structured so as to guard against the possible misuses of the process such as pre-emptive over-bidding or cartelisation. For this purpose, a bid structure involving "Multi Stage Informed Ascending Bids" was recommended.**
4. TRAI also recommended that, after each stage of bidding, bids received would be made public and all the bidders would be permitted to raise their bids in the subsequent rounds of bidding. The process would be complete only after a pre-determined number of bid rounds are completed at the end of which the highest bidder for each license would have claim to the licence in question and licences would become effective on payment of the amount of the winning bid for the entry fee within a period specified in the tender document.
5. On the issue of entry of third and fourth operator in a spectrum, TRAI opined that considering the issues related to sharing of spectrum, a view could only be taken after getting a full report from the DoT on the quantum of spectrum being made available for the

Cellular Mobile Service Providers (CMSP), existing as well as the proposed new entrants, and the allocation of such spectrum, i.e., the bandwidth within which it would fall.

6. On 5<sup>th</sup> January 2001, the Government of India (GoI) issued guidelines for issue of 4<sup>th</sup> licence for Cellular Mobile Telephony Services (CMTS). These guidelines envisaged a detailed bidding process for selection of the new service providers. On the basis of these recommendations, many licenses were issued. A list of the licenses issued under these guidelines is enclosed as **Annexure A**. In addition to this, few basics services licenses were also issued to operators such as **Reliance Telecomm, Tata Teleservices** etc for providing telecom services by utilising the wireless in Local Loop technology. These licenses were eventually misused for providing full mobility by series of actions of omissions and commissions by the DoT and the TRAI. These actions led to a prolonged legal battle, leading to a negotiated settlement in 2003. Pursuant to this, these licenses were legitimised in 2003. **Reliance Telecomm and Tata Teleservices were the beneficiaries of this backdoor entry into full mobility.**
7. As a result of this settlement on 27<sup>th</sup> October 2003, TRAI made recommendations on 'Unified Licensing' under Section 11 of the Telecom Regulatory Authority of India Act, 1997 ("**TRAI Act**"). These recommendations were made in view of NTP 1994, NTP 1999, international practices, national objectives etc. The recommendations contained various alternatives to decide the benchmark for the entry fees for entry into the '*Unified Access Licensing Regime*'. The recommendations laid emphasis on efficient utilization of spectrum and indicated that it would make further recommendations on efficient utilisation, spectrum pricing, availability and spectrum allocation procedure taking into account the need timing and availability of the spectrum. Few key recommendations were:
  - o To de-link spectrum from the license
  - o To fix a license fee for this plain vanilla license (without any spectrum), and
  - o Most importantly to award all future licenses with spectrum or only spectrum by auctioning as was done for the award of licenses in 2001.
8. Meanwhile, a Group of Ministers ("**GoM**") had been constituted in September 2003, mainly to consider and recommend the best measures to ensure release of adequate spectrum needed for the growth of the telecom sector. The GoM recommended that the DoT and Ministry of Finance ("**MoF**") would discuss and finalise spectrum pricing formula which would include incentive for efficient use of spectrum as well as disincentive for sub-optimal

usages. The recommendations emphasised that allotment of additional spectrum is transparent, fair and equitable, avoiding monopolistic situation regarding spectrum allotment usage. The GoM also recommended that the fee paid by fourth cellular operator was to form a benchmark for migration of basic players to the new access regime i.e. for those who made fraudulent entry into full mobility by the back door. The two companies were Reliance and Tatas. These recommendations of the GoM were accepted by the Council of Ministers on 31<sup>st</sup> October 2003.

9. On 11<sup>th</sup> November 2003, the DoT issued new guidelines for UAS licensing. The main features of these guidelines were that existing operators would have the option of continuing under the existing regime or to migrate to the new UAS licence. The obligations with regard to licence/entry fee, service area, roll-out obligations and performance bank guarantees would be the same as the 4<sup>th</sup> operator. Subsequently, the Chairman, TRAI, recommended that the entry fee for new UAS licensees would be same as the fourth operator and in cases where there is no fourth operator, it would be the fees fixed by the Government for the basic operator or the reserve price fixed by the Licensor.

A summary of the October 2003 Recommendations is as follows:

**"Competition**

*7.37 - On the issue of introducing more competition, the TRAI has always been in favour of open and healthy competition. In its recommendations on the introduction of the 5th and 6th Cellular Mobile license, the TRAI opined that*

*"Induction of additional mobile service providers in various service areas can be considered if there is adequate availability of spectrum for the existing service providers as well as for the new players, if permitted."*

*Taking cognisance of spectrum availability, the TRAI is in favour of introducing more competition. However, we feel that in lieu of more cellular operators, it would be more appropriate to have competition in a Unified Licensing framework which will be initiated after six months.*

### **Time and need of introduction of more service providers**

7.38 - As already mentioned earlier, with the continuing growth trend, the expected wireless subscriber base by December, 2005 will be 100 million. To achieve 100 million wireless subscribers (cellular & WLL both) the required investment is of the order of Rs.50, 000 crore. As brought out in Para 6.5 this highlights a need at present itself for greater efforts by existing and new service providers to expand the investment and to meet the market demand for telecom services and help achieve the objectives of telecom growth and development in the country.

7.39 - As brought out in Para-7.37 above, the 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 utilisation 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 4th cellular operator.**

7.40 - Considering the above, the role of existing and new players in wireless services at the present juncture is well established.

### **Summary of Recommendations**

In the interest of consumers of the telecom sector and to promote and ensure orderly growth of the telecom sector, the Authority recommends that the country should migrate to "Unified Licensing" Regime for all telecom services. As a preparatory step, Unified Access License will be implemented for access services in each circle. Finally, within six months Unified Access Licensing through an Authorisation process for all services and all geographical areas should be initiated. Service providers will be free to offer all services in all geographical areas through automatic licensing/authorisation subject to notifying the Regulatory Authority and compliance with published guidelines. The guidelines will be published by the Government/Regulator to include various terms & conditions of authorisation, e.g., nominal entry fee, Universal Service Obligation (USO), security

*conditions, etc. **Service providers who need spectrum for their services will approach Government of India separately. The guidelines for spectrum allocation which would cover the methodology for spectrum pricing will also be notified by the Government.** Service providers would be given choice to migrate to the new regime or maintain the present position*

*The present licensing regime may not be flexible enough to accommodate changes. To achieve very high growth in the Telecom Sector in a competitive and fast technological development era, the new unified regime will create a litigation free environment because all service providers will be in a position to offer all types of services in all service areas depending upon service provider's choice. As a preparatory step, Unified Access License will be implemented for access services in each circle. Finally, within six months Unified Access Licensing through an Authorisation process for all services and all geographical areas should be initiated."*

10. These recommendations were accepted by the Minister of Communication & Information Technology (C&IT) on 24<sup>th</sup> November 2003, since this was a major policy change to the NTP 1999, these changes were also placed on the table of the parliament. The Ministry also decided that, with regard to grant of a UASL licence on first-come-first-served basis, it could be issued on a continuous basis subject to the availability of spectrum and without any guarantee of a spectrum. A UASL license did not mean allocation of spectrum or attendant right of spectrum to the licensee. It was merely meant to be a piece of paper for the licensee to start providing Basic telecomm services under the Indian Telegraph Act, 1885 without the use of a spectrum.
11. On 14th December 2005, the DoT issued revised guidelines for UAS licensing. It provided that no restriction should be placed on the number of entrants for provision of UAS in a service area. It further provided that, a licensee would be required to pay an annual licence fee and spectrum charges apart from the non-refundable entry fee. **The guidelines clearly stated that this UASL license did not guarantee them any spectrum.** It appears that the DoT, under pressure, started issuing UASL licenses in the December of 2006 on the plea that there was enough spectrum and not that much demand by the incumbents; therefore those wanting to enter services could do so. It was a farcical situation in the sense that the markets were never tested on the demand and resulted in

some 23 licenses to be issued to companies friendly to the then MOC. A list of those who applied for these licenses is attached as **Annexure B. However, the spectrum allocation took place in 2008 except for one who had the spectrum in 2007.**

12. It is unknown as to what transpired in the minds of the policy makers, which resulted in a reference to TRAI. Therefore, on 13<sup>th</sup> April 2007, the DoT requested TRAI to furnish its recommendations on the issues of limiting the number of access providers in each service area and review of the terms and conditions in the access provider licence. TRAI made its recommendations on 28<sup>th</sup> August 2007. The main emphasis of these recommendations were the principles of fair competition, no restriction on the number of access service providers in any service area, need for spectrum management, measures to increase spectrum efficiency, allocation of spectrum and compliance of roll out obligations by the service providers. **It was also recommended that in future all spectrum; excluding the spectrum in 800, 900 and 1800 MHz bands in 2G services should be auctioned. In addition, allowing the CDMA operators to also offer GSM services under the name of combination of technology and assigning reasons that in view of the existing infrastructure the rollout in rural and sub-urban areas would be faster. These recommendations** were completely flawed for reasons below:

- The recommendations stated that "No Auction" in GSM was in complete reversal of the October 2003 recommendations, which recommended auction,
- While recommending open competition for unlimited number of players it never treated a scenario where the number of players exceeded the quantum of spectrum,
- The key recommendation of combination of technology violated two key licensing clauses of choice of technology for seeking allocation of spectrum and the 10% equity holding in same areas of operation. The allocation of spectrum under the UASL was categorically either or or and not both. The UASL Licensee had to choose the technology by which he intended to provide Mobile Services ie GSM or CDMA. On receipt of that application, the Wireless Planning and Coordination wing would allocate spectrum earmarked for that Technology. This was a major deviation covered by the government under a policy change in public interest and perhaps under Clause 5 of the unified access service license. **Reliance and Tatas were the beneficiaries of this Largesse yet again.**



13. In 2003, the TRAI Recommendations of auctioning of licenses either with spectrum or spectrum alone were accepted by the Government. It was also accepted that a plain vanilla license would also be created for anyone to enter the Indian telecom market without the use of spectrum. The government was to come up with the entry fee for that plain vanilla license. Also it was clearly mentioned that those service providers who need spectrum for their services will approach Government of India separately, who shall make recommendations for the same. This method of distribution of license in 2007 was at complete variance to the policy approved by the Government in 2003, as is manifest from the foregoing. The recommendations in 2007 wherein it is very clearly mentioned that in future all spectrum; excluding **the spectrum in 800, 900 and 1800 MHz bands in 2G services should be auctioned was completely flawed. This is the Genesis of the problem leading to strictures on the role of the regulator.**
14. It must be emphasised that ever since the telecom markets have opened to the private sector no license, **with spectrum**, whatsoever has been issued without either a bidding process or an auction. **No license with spectrum guaranteed has ever been allocated on FCFS.** The FCFS licenses were granted where there was no requirement of spectrum. The amendment that all licenses would be UASL was the root cause of the problem, though it was implied that such a license carries no guarantee of spectrum

### **Key Issues**

1. Mis-interpretation of Supreme Court judgement dated 2<sup>nd</sup> February 2012

The TRAI has deliberated on the amount of spectrum to be put up for auction in Chapter II of the Consultation Paper. The Regulator in Para 2.5 of the Paper has cited the Hon'ble Supreme Court's Order and Judgement dated 02.02.2012 wherein the Supreme Court (SC) has directed in Para 81 (i) that "*The licenses granted to the private respondents on or after 10.1.2008 pursuant to two press releases issued on 10.1.2008 and subsequent allocation of spectrum to the licensees are declared illegal and are quashed.*" Consequently, in Para 2.6 of the Paper it has been stated that "*A total of 122 licences were granted pursuant to the press releases dated 10<sup>th</sup> January 2008 and the total spectrum allotted in various LSAs, in respect of these 122 licences was 413.6 MHz in the 1800 MHz band and 60 MHz in the 800 MHz band.*"

We do not agree with this notion that the number of licenses which stand cancelled as a result of the SC Judgement amounts to 122 and the total spectrum which stands quashed amounts to 473.6 MHz. In past, we have discussed the issues relating to eligibility and the quantum of spectrum to be auctioned but the authority totally ignored that input. Nonetheless, we remain convinced that the quantity of spectrum has to be that which was allocated on or post 10<sup>th</sup> January 2008 and quashed following the landmark Supreme court judgment of 2<sup>nd</sup> February 2012, Para 2.5 to 2.11 of the Consultation paper refers. There is also a misleading statement in the Consultation paper in Para 1.13 where in it states that all licenses granted post-2001 till 2010 were given by the DoT (licensor) through an administrative process. In all these licenses, spectrum was tied to the license and the entry fee remained constant in respect of each service area, totaling to Rs.1659 crore for the entire country. The factual position is post 2004 till 2010, as would be evident from discussions below. In order to establish the quantum of spectrum and some of the statements referred to above it would be prudent to go into a bit of the history to arrive at our conclusions logically. In this connection it is advisable to refer to the 27<sup>th</sup> October 2003 recommendations of TRAI.

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*appropriate to have competition in a Unified Licensing framework which will be initiated after six months.*

**Time and need of introduction of more service providers**

*7.38 As already mentioned earlier, with the continuing growth trend, the expected wireless subscriber base by December, 2005 will be 100 million. To achieve 100 million wireless subscribers (cellular & WLL both) the required investment is of the order of Rs.50,000 Crore. As brought out in Para 6.5 this highlights a need at present itself for greater efforts by existing and new service providers to expand the investment and to meet the market demand for telecom services and help achieve the objectives of telecom growth and development in the country.*

***7.39 As brought out in Para-7.37 above, the 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 utilisation 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.***

*7.40 Considering the above, the role of existing and new players in wireless services at the present juncture is well established."*

Following these recommendations policy distortions were introduced in the December of 2005 abolishing Cellular Mobile Telephone Services (CMTS) License, which came bundled with spectrum, had to be auctioned as per TRAI recommendations of 2003 and replacing this license by Unified Access Service License (UASL), with certain interesting provisos like pick this UASL off the shelf and wait for spectrum when available, thus introducing administered price regime as alluded to in Para 1.13 of the Consultation paper. With this backdrop what was the timeline under which licenses were issued: 28 Licenses were issued in 2004, quite in line with the 27<sup>th</sup> October 2003 policy (as mentioned in Annexure A). The issuance of these licenses was in full compliance of the 2003 policy.

23 licenses were issued between 2006 and 2007 after tweaking the policy in 2005, but without spectrum. The spectrum allocation to all these was post 10<sup>th</sup> January 2008 except 1. From the above it is abundantly clear that these 23 licenses were in violation of the extant policy of 2003. They were 5<sup>th</sup> or 6<sup>th</sup> licenses without auction, but were without spectrum. 22 of these 23 licenses were allocated spectrum on or after 10 January 2008 in an administered manner (please see Annexure B - List of 23 licenses/LOIs and the dates on which they were issued).

Then came the most flawed Recommendations of August 2007, which resulted in the issuance of 122 GSM licenses and 34 Combination of Technology Licenses. These Combination of Technology Licenses were again in defiance of the pre 2007 policy, which had two key stipulations before 2007: 10% cross holdings and upfront choice of technology for providing a type of cellular service i.e. either GSM or CDMA. Reliance and Tata chose willfully CDMA in 2001 to regret that decision as events unfolded. The matter is sub-judice in the Supreme Court. In order to cover up that mistake they engineered this flawed Combination of technology recommendations in 2007.

Notwithstanding, the root cause of the foregoing is the flawed TRAI Recommendations of 28<sup>th</sup> August 2007, where the then regulator, in suggesting no cap and no auction, in the pious belief that the demand supply equation will be balanced, which was not to be? There was a long queue of gold diggers and speculators.

Concluding, the licenses issued post 2004 and in defiance of the 2003 recommendations are 179 [(Aircel 14), (Idea 2), (Vodafone 7), (Reliance 15), (Tata 19) and (122 various others)]. They all, except some, received spectrum post 10<sup>th</sup> January 2008 (Annexure C). The total spectrum thus issued post 10<sup>th</sup> January 2008 is 673.2 MHz and not 473.6 MHz. The estimated cost of this missing 200 MHz anything from Rupees 20, 000 crore upwards. Our humble submission is that these 57 licenses have been fraudulently acquired (Rupees 40, 000 Crore loss), hence must be cancelled and asked to participate in the auction or forced to pay the discovered price and not allowed to continue to that of 2001 price in order to provide level playing field for the distressed licensee who bid in November 2012 and March 2013 and to those whose licenses come up for renewal. It would be prudent for them as well to be part of the price discovery then be subjected to a price discovered by others, should that happen by a

quirk of a miracle in DOT to force the discovered price on these 57 licenses. If action is not taken, they would be unlawful owners of licenses and completely upset the level playing field.

If no action is taken, it would lead to a skewed level playfield in favour of Aircel, Idea, Vodafone, Reliance and Tata. Most importantly, the spectrum to be auctioned should be increased to the amount vacated and not artificially rationed and hoarded by the government in the name of re-farming, eviction. It is essential that entire spectrum vacated by all cancellations of 179 licenses must be put for auction to avoid creation of artificial scarcity.

The mess in the sector for the last over 4 years is because of -

- The Recommendations of the Authority in August 2007, especially relating to the issue of no auction, no Cap
- The contravention of the October 2003 Recommendations of the Authority, which set out the road map for inducting additional players, and
- The introduction of Combination of Technology dispensation, in complete violation of the extant policy then, in favour of Reliance

The Authority could have taken *suo motu* action as per Section 11 (a) (viii) Chapter III of the TRAI Act of 1997 as amended in 2010. In any case, all allocations in 2008 were provisional, conditional and subject to the outcome of various court cases.

## 2. 2G Auctions held in the month of November 2012 and March 2013

We are of the view that Auctions held in the month of November 2012 and March 2013 were a total failure because of arbitrarily high reserve price and complete misinterpretation of Supreme Court judgement of 2<sup>nd</sup> February 2012, resulting in inadequate competition there by creating excess supply and a low demand.

As mentioned in point number 1, 57 licenses have been fraudulently acquired (Rs 40,000 crore loss), hence must be cancelled and all the subsequent spectrum allocations must be quashed. Having failed in the 12<sup>th</sup> November 2012 and March 2013 auctions by these fraudulent means, minimum the Government can do is to ask these 57 licensees to

immediately cough up the reserve price. Had they been allowed to participate in the auctions, the same auctions would have been a roaring success. Point number 3.86 and 3.87 of the Consultation Paper clearly highlights the reason of failure of recent auctions held.

*3.86 A counterview could be that the purchases of spectrum in the auctions of November 2012 and March 2013 were made by service providers whose licences had been cancelled by the Court. Since, these service providers had already sunk in substantial investments in network rollout that were irrecoverable in the event of cessation of operations, they had no option but to buy spectrum in the auction to survive in the telecom market. Therefore, the prices paid by these service providers could be considered as prices for "distress purchases" rather than genuine price discovery. If such a view is held, there is a case for determination of valuation for all LSAs, de novo.*

*3.87 However, in case the de novo reserve price for the forthcoming auction is determined at a level lower than the auction determined price of 2012/ 2013, this may give rise to protests and subsequent litigation by TSPs who participated in the auctions held in November 2012 and March 2013 and purchased spectrum because they were compelled to bid for spectrum at the higher reserve price on account of cancellation of their licences by the Supreme Court's judgment dated 2<sup>nd</sup> February, 2012. The action of fixing reserve price for the forthcoming auction at a level lower than the auction determined price of 2012/ 2013, could also be construed as a violation of the principle of natural justice because the service providers who had purchased spectrum in November 2012 and March 2013 would have to face a comparative disadvantage vis a vis service providers who did not participate in the earlier auctions and could possibly now purchase the spectrum at a lower price.*

By not including these 57 licenses, Authority has created an unequal playing field for those players whose licenses got cancelled as per Supreme Court's judgments dated February 2 2012.

### 3. Quantum of Spectrum to be Auctioned

- Total Spectrum to be auctioned – Apart from 122 licenses, as detailed in point number 1 there are 57 additional licenses issued and subsequent spectrum allocation done post 10 January 2008. These 57 licenses issued and subsequent spectrum allocated must be cancelled and quashed, respectively. Therefore, total spectrum issued post 10<sup>th</sup> January 2008 is 673.2 MHz and not 473.6 MHz. The estimated cost of this missing 200 MHz anything from Rupees 20, 000 crore upwards.
- Bands to be auctioned and minimum spectrum quantum to be auctioned in each band – We are of the view that all the bands of Spectrum should be auctioned in order to prevent any arbitraries. Minimum block size to be auctioned should be 5 MHz
- We believe that there should be no multiplication factor for auctioning 800 MHz, 900 MHz and 1800 MHz of spectrum. Linkages and arbitraries should be removed and let the market determine the price.
- Spectrum cost element in the end tariff - Authority should rationally indentify what exactly should be the reasonable tariff and cost component of spectrum built in to the tariff. We are of the view that there should be a spectrum usage charge and also there should be an extra charge on usage of additional spectrum. Annual spectrum charges should be technology neutral and based on the revenues of the operator. A minimum annual spectrum charge can also be levied based on the quantum of spectrum held so that it acts as a deterrent against spectrum squatters. In our view validity of the spectrum should be 20 years from the date of allocation of spectrum, as it is in the current scenario. Also, validity of price of spectrum should be between 3 years to 5 years with suitable indexation limited to inflation and PLR (Primary Lending Rate). Government should not allow any deferred payment of spectrum and the payment should be upfront in nature. The industry will come up for any number of excuses to defend their inefficiencies.

4. What should be the reserve price?

A reserve price is the price at which bidding begins. If there is a transparent auction with enough competition among bidders, the final price will be largely independent of the reserve price (unless the reserve price is set too high, in which case the auction may not result in a transaction). On the other hand, if there is only one bidder, or if there is collusion, then the final price will be close to the reserve price. In our view, the reserve price could be pegged

to the 2001 price discovery by suitably indexing it for both, inflation and cost of money-PLR. By following this method the price arrived at would be around Rupees 3500 to 4000 crore at PLR of say 12%. We have carried out a calculation to determine the reserve price of the spectrum on the basis of cost contribution through this important scarce national resource which is like a raw material vital to provide connectivity. - Let's take 3 situations wherein reserve price of the spectrum is assumed to be 5000 crore, 7500 crore and 10,000 crore for a 5 MHz block. By a simple mortgage type calculation for an asset acquired for 20 years, the Equated Monthly Instalment ("EMI") is as per table below. This EMI includes both interest as well as the principle amount.

<b>Spectrum Cost (Rupees)</b>	<b>EMI per month at 1% For 20 years for each of the 6 players (Rupees)</b>	<b>No of players</b>	<b>Total EMI paid per month by all the 6 players (Rupees)</b>
5000 crore	50 crore	6	300 crore
7500 crore	75 crore	6	450 crore
10,000 crore	100 crore	6	600 crore

Now assuming that number of total subscribers is 50 crore and the ARPU is 200, the monthly revenue comes up to 10,000 crore. In all the above cases, this cost of spectrum is a miniscule component of the revenues. Assuming that new players have 10% market share, the revenue for them totals up to 1000 crore, which is greater than > EMI's paid in all the three situations by all the 6 players.

However it is obvious that revenue of each of new operators/players depends upon the number of subscribers it has. Let us say Company ABC started its telecom operations in 2009 with zero subscribers and paid the spectrum cost as 1700 crore at that time. So that means Company ABC, has agreed to pay Rupees 17 crore monthly as EMI for the next 20 years. As on January 2012, his subscriber base is, let us say 4 crore and he is



still paying Rupees 17 crore EMI, which is clearly an underpaid amount compared to a revenue of around 600 crore at Rupees 150 ARPU.

In the current scenario if reserve price is set at Rupees 5000 crore, with 4 crore as subscriber base, Company ABC can easily generate a revenue worth Rupees 800 crore monthly - 4 crore X 200 (monthly ARPU). Company ABC can easily pay the EMI that is 50 crore monthly for 20 years. All in all there is no reason of setting the reserve price of the spectrum at a low cost considering the above calculations. Taking 30% out of each of the cost as tax and other deductions, remaining 6% to 10% can be considered for determining the reserve price of the spectrum to be auctioned. It may not be out of place to mention that a licensee pays around 30% in taxes out of the ARPU. In order to balance the possible higher spectrum charge as result of a market determined price the Regulator may look at a graded tax regime, which may be low to begin with for say for 5 years and ramped up after that say to 20% to start and ramped to 30% or a situation of neutral revenues. Therefore, we believe that a balancing act of an upfront cost and compulsory taxes would bring about equality between the old and new players. By the above method, price discovery should be per MHz per block of spectrum.

Therefore, any one of the options (as mentioned in the Consultation Paper) can be opted for calculating the reserve price. Also, linking this auction to calculate the valuation of spectrum to 3G auction is arbitrary, irrational and illogical.

## 5. Other important Issues

- Spectrum Refarming

The idea of spectrum refarming was first taken up by the TRAI in 2010 and has since then been a subject matter of discussion between the regulatory authorities and the existing operators as well. The TRAI, in its recommendation, had proposed refarming of 900 megahertz (MHz) spectrum when operators' licenses come up for renewal between 2014 and 2025. This is considered to be necessary so that the 900 MHz spectrum can be redistributed for high end services. Keeping in mind the present circumstances, refarming of spectrum should be undertaken to make available additional spectrum for new and emerging telecom technologies

TRAI must keep in mind the legacy services in the 800 and 900 MHz bands before announcing the re-farming in these bands. It must be done in a phased manner. Similarly, there are other bands which are useful for IMT and LTE services. These bands are presently in use by other sectors such as broad cast, defense and police etc. There should be a policy to allocate funds for technology replacement and up gradation as an incentive for the vacating user. It should be possible to re-farm bands from 450 MHz to at least 3000 MHz for mobility in all kinds of services by terrestrial or satellites or any other means.

- **Spectrum Trading**

We are of the view that, spectrum trading should be permitted by the regulator so as to evolve optimal spectrum utilization practices. Spectrum trading should also include a spectrum trading fees so as to ensure that Government gets its due share from the trading of this valuable national resource. That means government should every time levy a transfer fee, as is the case when change in ownership takes place in real estate. Any entity having a plain vanilla UAS license can be permitted to carry out acquisition of spectrum in spectrum trading. Existing UAS licensees can also be permitted to carry out spectrum trading, such that efficient allocation of the scarce resource takes place. Thus, plain vanilla licensees can have the option of participating in governmental auctions to acquire spectrum or also have the option of acquiring spectrum in the open market via spectrum trading. The authority should, in principle, allow spectrum trading. The amount of spectrum to be traded can be governed by the limits set out in the M & A guidelines to prevent hoarding.

- **Spectrum Sharing**

India is unique in its excessive fragmentation of spectrum holdings. The average spectrum holding by each operator is 10 MHz across all bands (i.e. 800, 900, 1800, 2100 MHz paired bands) which is about one-fourth of the international average. Therefore, India requires more innovative approaches in spectrum management. Spectrum sharing entails a number of benefits such as better quality of service for subscribers and a consequent increase in usage; higher efficiency for the operators; optimal utilization of

meager spectrum given out by the Government; and increase in Government revenue through the annual licence fee, which is a percentage of the adjusted gross revenue of the operators. Spectrum Sharing most likely won't exist once Spectrum Trading is allowed by the Authority.

- Spectrum Squatting
  - Spectrum is a scarce national resource. In India, up till now, spectrum for wireless telephony was being allocated along with the UAS license under an allegedly flawed spectrum allocation policy. A pan India UAS license with a cost of around Rs 1648 crores, which was a price discovered in 2001, was in reality way below the cost of the 2G spectrum which came bundled with it. Additional spectrum was granted on a subscriber linked criteria. The realization of a flaw in the 2G spectrum allocation policy, probably started to dawn with the sale of Hutch to Vodafone at around \$22 billion. The subsequent stake sales in new telecom licensees Swan and Unitech at multiple valuations to the license fee paid by them appears to have fortified the realization that our spectrum allocation policy was flawed and was leading to huge losses to the public exchequer and benefitting private pockets. These two new licensees had not even rolled out a network, making it obvious that the multiple valuation reached reflected the valuation of the spectrum held by these companies. In effect these new licensees, who have failed to rollout any networks, are spectrum squatters, hogging up precious spectrum for making an overnight killing at the expense of the public exchequer.
  - With these massive losses caused due to the government doling out 2G spectrum, the issue seems to have become explosive in the public arena and it has virtually forced the government to rewrite policy such that future spectrum allocation happens via open and transparent auctions, which can help achieve the market value of the spectrum to the benefit of the public exchequer. The following table reflects, the kind of fee that the government earns out of license fee/ revenue share and spectrum charges based on the AGR. Thus, spectrum squatting can lead to substantial losses to the public exchequer.

TABLE-1

Year	Approximated Jan to year end-No of mobile users	ARPU1	ARPU2	TR1	TR2	Govt revenue 1	Govt revenue 2	Per MHz revenue 1	Per MHz revenue 2
	mn	250/m annualised	350/m annualised	CRORES	CRORES	CRORES	CRORES	CRORES	CRORES
1997	0.339	3000	+200	102	142	20	26	0.34	0.47
1998	0.882	3000	+200	265	370	53	74	0.58	1.23
1999	1.2	3000	+200	360	504	72	101	1.20	1.58
2000	1.884	3000	+200	565	791	113	158	1.58	2.6
2001	3.577	3000	+200	1073	1502	215	300	3.58	5.01
2002	6.432	3000	+200	1930	2701	386	540	6.43	8.00
2003	12.998	3000	+200	3899	5458	780	1092	13.00	18.21
2004	33.701	3000	+200	10110	14154	2022	2821	33.70	47.13
2005	52.175	3000	+200	15653	21914	3121	4353	52.18	73.05
2006	129.54	3000	+200	38862	54407	7772	10881	129.54	181.35
2007	233.62	3000	+200	70066	98120	14017	19624	233.62	327.07
2008	348.29	3000	+200	103087	145442	20777	29086	348.29	484.81
March 2009	391.76	3000	+200	117528	164539	23506	32808	391.76	548.46

*\* Revenues in this chart have been approximated for the purpose of arriving at losses to the government due to spectrum squatting*

- o The fee that the government earns from spectrum usage includes service tax of 10%, a blended revenue share of 7%, 2% blended spectrum charges and 1% contribution to the Universal Services Obligation Fund (USOF). Thus, spectrum squatting can potentially lead to a 20% of AGR loss to the public exchequer. For the purpose of computation, the total revenue has been projected on the assumption of approximately Rs 250 (ARPU1) and Rs 350 (ARPU2) as the blended average revenue per user (ARPU) and has been used as an approximation of AGR to calculate the approximate government revenues TR1 and TR2. The last column above indicates the per MHz revenue to government on the assumption that approximately 60 MHz of 2G pan India spectrum is in usage and has been calculated both for TR1 and TR2.

- The calculations from the table clearly suggest that auctioned 3G/2G spectrum, if allowed to remain idle could lead to losses in government revenue. With the government allegedly planning to auction four 5 MHz 3G slots amounting to 20 MHz of spectrum, the potential revenue loss due to spectrum squatting can amount to nearly Rs 9000 crores per year given that the approximate government revenue in 2008 was between Rs 3462 million and Rs 4848 million per MHz as per the table above.
- It may be argued that the new 2G UAS licensees have been stipulated with a rollout obligation. However, it may be noted that the rollout obligation is miniscule in relation to the total revenue potential and the potential loss of revenue to the government. Thus, a player may choose to do a minimum rollout just to continue to hold the spectrum till a suitable buyer for the spectrum is found. It may also be noted that almost none of the new UAS licensees have rolled out any 2G network till now as apparent from the latest TRAI release on subscribers added in June and July 2009. This appears to be a clear example of spectrum squatting leading to huge losses to the government exchequer in terms of revenues to be earned out of license fee, spectrum charges, service tax and USO fund contribution. In the case of 3G it may be argued that a 3G winning bidder who pays a substantial amount for 3G spectrum would want to deploy the spectrum to start earning revenues. However, it is also likely that the 3G winning bidder may want to sit out in the wait for a capital gain and in the process lead to losses to the government. As demonstrated above, the total loss to government on 20 MHz 3G spectrum can amount to Rs 9000 crores. On a per player basis, this would amount to Rs 2250 crores.
- In this respect some of the following deterrents can be built into the policy framework such that spectrum squatting does not lead to losses to the government:
  1. Introduction of a spectrum trading charge such that sale of spectrum and its subsequent transfer results in a fee payable to the government
  2. Closure of loop holes like issuance of fresh equity for fresh capital, which can be subsequently en-cashed by issuance of bonus shares and their sale
  3. A clear re-write of the subjective and arbitrary rollout obligations, which are open to various interpretations by the operators

4. Introduction of a fee, which becomes due to the government, whether or not the 3G winning bidder deploys the spectrum or not. This fee should take into account the 20% revenue that the government earns from usage of spectrum
  5. Apply the same yardstick to the 2 G spectrum holders to pay up for spectrum squatting.
- o While arriving at a methodology of calculation of a fee to prevent spectrum squatting, the government will need to bear in mind that the announcement of such a fee is likely to depress the upfront bid amounts as the bidding player is likely to factor in such payments into its business model. Too high a fee could depress bids substantially and too low a fee could encourage spectrum squatters. However, it is beyond doubt that a fee to prevent spectrum squatting is necessary and the government will need to establish a fee that does not impact the bid price substantially, but at the same time deters spectrum squatters. Also, this fee needs to be announced before 3G auctions such that various bidders can include it in their business model and determine the bids they would like to place.
  - o A second table as reproduced below to establish the per MHz revenue that is accruable to the government.

**TABLE - 2**

Year	Operator	Suscribers	Annualised ARPU	TR	Government revenue	Per MHz Revenue @ 7.5 MHz per operator
			INR	Crores	Crores	Crores
2006	Bharti	31974036	4305	13764	2753	367
2006	Hutch	15364211	4353	6668	1338	178
2006	Idea	14892114	3702	5513	1103	147
2007	Bharti	55162944	3767	20782	4156	554
2007	Vodafone	39864831	3636	14497	2899	387
2007	Idea	24854660	3099	7703	1541	205
2008	Bharti	65630733	3235	27705	5541	739
2008	Vodafone	60933152	2711	16520	3304	441
2008	Idea	38012845	2677	10175	2035	271
			ARPU for 2 Qs			
till Q2 2009	Bharti	102367881	1382	14152	2830	377
till Q2 2010	Vodafone	76499596	1212	9264	1853	247
till Q2 2011	Idea	47688876	1180	5554	1111	148

Data Source: COAI

- It may be noted that as per MHz contribution to government revenue by top three operators' averages to around Rs 483 crores per MHz for 2008. Table 1 had put the figure at about Rs 485 crores, which is close to the figure established in Table - 2. From Table -2 it may be concluded that Bharti is the most efficient operator and has utilized the spectrum in the most efficient manner.
- Bharti commands a 25% market share. 25% of total revenue for value Rs 103887 crores imputed from Table – 1 amounts to Rs 25971 crores, which is close to Bharti's revenue value of Rs 27705 crores for 2008 reflected in Table – 2, suggesting that the estimation techniques used to generate Table – 1 are fairly robust. Vodafone, which reportedly has a market share of 17%, should have revenues of about Rs 17660 crores for 2008 when as computed from Table -1 as per above used methodology. This is close to the figure of Rs 16520 crores in Table – 2. From the foregoing it is quite clear that spectrum squatting causes massive additional losses to the exchequer, because the yield per megahertz by various players is quite substantial. Therefore, an imposition of the yield after a delay of one year or two years is a must on all license holders lest they play out their game by spectrum squatting.
- Swapping of 2100 MHz band with defence
  - An exchange of 15 units of 3G airwaves in the 2100 MHz band in lieu of the 15 units of idle spectrum in the 1900 MHz band will facilitate the liberalization of three extra 5 MHz slots in the 2100 MHz band for commercial use and generate revenue for the government without compromising the spectrum requirements of the armed forces.
  - Considering the acute 3G spectrum crunch in 2100 MHz band and poor traction of CDMA services in India, keeping 15 units of mobile broadband airwaves in the 1900 MHz band idle for another decade for a distant refarming need is impractical. In fact, going by the trends of the industry, the CDMA airwaves refarming requirement that is currently being cited is unlikely to even arise in the future.
  - Besides, it must be kept in mind that the armed forces may also be keen on such an exchange deal as they stand to gain a larger block of contiguous spectrum in the 1900 MHz band that would be ideal for optimizing their network management operations

- Opening 800 MHz band to GSM operators
  - With the diminishing interest of operators in CDMA and the reducing subscriber base of the technology, we recommend that the 800 MHz spectrum band is harmonized with the international band plan to become part of an “extended” 900 MHz band. This will increase the availability of spectrum in the 900 MHz band by up to 10 MHz (approximately 40%).
  - In turn, this will lead to optimum utilization of 800 MHz spectrum and the government will also be able to generate revenues that it was earlier denied, because there will be no absence of bidders from among GSM operators for the 800 MHz spectrum during the auctions.



### **Issues for Consultation**

1. What method should be adopted for refarming of the 900 MHz band so that the TSPs whose licences are expiring in 2014 onwards get adequate spectrum in 900/1800 MHz band for continuity of services provided by them?

The idea of spectrum refarming was first taken up by the TRAI in 2010 and has since then been a subject matter of discussion between the regulatory authorities and the existing operators as well. The TRAI, in its recommendation, had proposed refarming of 900 megahertz (MHz) spectrum when operators' licenses come up for renewal between 2014 and 2025. This is considered to be necessary so that the 900 MHz spectrum can be redistributed for high end services. Keeping in mind the present circumstances, refarming of spectrum should be undertaken to make available additional spectrum for new and emerging telecom technologies

We believe that Refarming should take place in line with the EGOM's recommendation last year. According to which all existing TSP's have the option of retaining up to 2.5 MHz spectrum in the 900 MHz band at the time of renewal of license, subject to the auction determined price being paid. We understand that the EGOM did arrive at this decision after a careful consideration of the views expressed by TRAI, DoT Committee and the recommendations by TC.

2. In case spectrum is to be "reserved" for such TSPs, should it be restricted to licences expiring in 2014 (metros) or include licences expiring afterwards (LSAs other than metros)?

We are of view that for continuity of services by TSPs whose licences are expiring in 2014 or afterwards, 2.5 MHz of spectrum should be reserved in 900 MHz band and TSPs should be asked to pay auction determined price accordingly.

3. Is any restriction required to be imposed on the eligibility for participation in the proposed auction?

We are of the opinion that no restrictions should be imposed on the eligibility for participation in the proposed auction, however, any minimum eligibility criterion must be met post auctioning should they be successful.

4. Should India adopt E-GSM band, in view of the diminishing interest in the CDMA services? If yes,
- a) How much spectrum in the 800 MHz band should be retained for CDMA technology?
  - b) What are the issues that need to be addressed in the process?
  - c) What process should be adopted for migration considering the various issues involved?

Yes, India should adopt E-GSM band, in view of the diminishing interest in the CDMA services. In any case it was an historical mistake made to have allowed the use of this spectrum for CDMA. 10 MHz or more of spectrum should be adopted for E-GSM Band. The main issue is that of continuity of service for the CDMA services. A minimum of 1.25 MHz could be set apart for that purpose. They should also pay the auction determined price for this spectrum, when renewed.

5. Should roll out obligations for new/existing/renewal/quashed licenses be different? Please give justification in support of your answer.
6. Is there a need to prescribe additional roll-out obligations for a TSP who acquires spectrum in the auction even if it has already fulfilled the prescribed roll-out obligations earlier?

Answer for Question 5 & Question 6

We believe that in a mature market it may not be necessary to attach roll-out obligations with spectrum allocated through a market-mechanism. It would be inefficient to mandate additional roll-out obligations for a TSP who acquires spectrum in the auction if it has already fulfilled the prescribed roll-out obligations earlier. This would not benefit the consumer as it would neither contribute towards competition nor choice in the form of wider

basket of services. In our view, it is also difficult for the Government to monitor these roll out obligations in the first place. No doubt, the government loses on taxes should the resource lie unutilized, we suggest levying a spectrum squatting charge after three years of effective date of the license.

7. What should be the framework for conversion of existing spectrum holdings into liberalized spectrum?

We are of the view that there should be a framework in place for conversion of existing spectrum holdings into liberalized spectrum, like adequate set time lines to bring in new technologies. This should however be done as long as the technologies adopted are in line with the internationally accepted ITU Standards. There should not be any restrictions in inducting technologies which bring economies of scale and delivery of better consumer experience. In addition, there is a need for the continuation of the services in the old technologies. In order to meet that obligation a part of the spectrum could be set aside as suggested for 900 MHz band.

8. Is it right time to permit spectrum trading in India? If yes, what should be the legal, regulatory and technical framework required for trading?

We are of the view that, spectrum trading should be permitted by the regulator so as to evolve optimal spectrum utilization practices. Spectrum trading should also include a spectrum trading fees so as to ensure that Government gets its due share from the trading of this valuable national resource. That means government should every time levy a transfer fee, as is the case when change in ownership takes place in real estate. Any entity having a plain vanilla UAS license can be permitted to carry out acquisition of spectrum in spectrum trading. Existing UAS licensees can also be permitted to carry out spectrum trading, such that efficient allocation of the scarce resource takes place. Thus, plain vanilla licensees can have the option of participating in governmental auctions to acquire spectrum or also have the option of acquiring spectrum in the open market via spectrum trading. The authority should, in principle, allow spectrum trading. The amount of spectrum to be traded can be governed by the limits set out in the M & A guidelines to prevent hoarding.

9. Would it be appropriate to use prices obtained in the auction of 3G spectrum as the basis for the valuation in 2013? In case the prices obtained in the auction of 3G spectrum are to be used as the basis, what qualifications would be necessary?

In our view it would not be appropriate to use prices obtained in the auction of 3G spectrum as the basis for the valuation in 2013. Linking this auction to calculate the valuation of spectrum to 3G auction is arbitrary, irrational and illogical. Each band of spectrum must find its own level of economic and commercial level. We have to have objectivity of purpose and not subjectivity.

10. Should the value of spectrum for individual LSA be derived in a top-down manner starting with pan-India valuation or should valuation of spectrum for each LSA be done individually?

We are of the view that valuation of spectrum for each LSA should be done on an individual basis. A bottom-up valuation of spectrum capturing the unique potential of each individual LSA is desirable. The TRAI has costing data of all service providers in the form of Accounting Separation Reports which could be used to derive the average industry costs for all service providers

11. Is indexation of 2001 prices of 1800 MHz spectrum an appropriate method for valuing spectrum in 2013? If yes, what is the indexation factor that should be used?

Yes, indexation of 2001 prices of 1800 MHz spectrum would be appropriate for the valuation of spectrum in 2013. It is important to understand that valuation of spectrum and reserve price calculation are 2 different sides of a coin. Valuation of spectrum will be determined by the auction. However the reserve price can be indexed. In our view, the reserve price could be pegged to the 2001 price discovery by suitably indexing it for both, inflation and cost of money-PLR.

12. Should the value of spectrum in the areas where spectrum was not sold in the latest auctions of November 2012 and March 2013 be estimated by correlating the sale prices

achieved in similar LSAs with known relevant variables? Can multiple regression analysis be used for this purpose?

We are of the view that Auctions held in the month of November 2012 and March 2013 were a total failure because of arbitrarily high reserve price and complete misinterpretation of Supreme Court judgement of 2<sup>nd</sup> February 2012, resulting in inadequate competition there by creating excess supply and a low demand.

13. Should the value of spectrum be assessed on the basis of producer surplus on account of additional spectrum? Please support your response with justification. If you are in favour of this method, please furnish the calculation and relevant data along with results.
14. Should the value of spectrum in the 1800 MHz band be derived by estimating a production function on the assumption that spectrum and BTS are substitutable resources? Please support your response with justification. If you are in favour of this method, please furnish the calculation and relevant data along with results.

Answer for Question 13 and Question 14

We are of the view that there should be no linkages other than the determination of a market driven price for the spectrum.

15. Apart from the approaches discussed in the foregoing section, is there any alternate approach for valuation of spectrum that you would suggest? Please support your answer with detailed data and methodology.

We believe that any alternate approach for Valuation of Spectrum should be done after studying the Element of Spectrum Cost in the tariff structure.

16. Should the premium to be paid for the 900 MHz and liberalized 800 MHz spectrum be based on the additional CAPEX and OPEX that would be incurred on a shift from these bands to the 1800 MHz band?

In our view, it is best to let the users decide on the premium amount that they would like to pay.

17. Should the valuation of spectrum and fixing of reserve price in the current exercise be restricted to the unsold LSAs in the 1800 MHz band, or should it apply to all LSAs?

In our view, valuation of spectrum and fixing of reserve price in the current exercise should not be restricted to the unsold LSAs. It should apply to all LSAs.

18.

- a) Should annual spectrum usage charges be a percentage of AGR or is there a need to adopt some other method for levying spectrum usage charges? If another method is suggested, all details may be furnished.
- b) In case annual spectrum usage charges are levied as a percentage of AGR, should annual spectrum charges escalate with the amount of spectrum holding, as at present, or should a fixed percentage of AGR be applicable?
- c) If your response favours a flat percentage of AGR, what should that percentage be?

We should continue with the existing regime of imposing annual spectrum usage charge as a percentage of the AGR. It should be a fixed percentage of AGR. Cash Neutrality, Cost of Administration, Cost of Refarming and contribution to USOF should be borne in mind while fixing the AGR charge.

19. What should be the ratio adopted between the reserve price for the auction and the valuation of the spectrum?

In our view, 1:1 ratio should be adopted between the reserve price for the auction and the valuation of the spectrum

## **List of Attachments**

1. List of licenses and licensees as they were issued, since 1994
2. List of licenses and licensees as they were issued, since 2001 to 2004
3. List of licenses and licensees as they were issued, in 2006
4. List of the recipients who were distributed spectrum post 10<sup>th</sup> January 2008
5. Two Press releases of 10<sup>th</sup> January 2008
6. Cover Note
7. Responses

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	2	Aircel Cellular Limited	Chennai	CMTS	29-Nov-1994
2	37	Bharti Airtel Limited	Delhi	UAS	29-Nov-1994
3	44	Bharti Airtel Limited	Kolkata	UAS	29-Nov-1994
4	105	Loop Mobile (India) Ltd.	Mumbai	CMTS	29-Nov-1994
5	262	Vodafone Essar East Ltd.	Kolkata	UAS	30-Nov-1994
6	264	Vodafone Essar Ltd.	Mumbai	UAS	29-Nov-1994
7	265	Vodafone Essar Mobile Services Ltd.	Delhi	UAS	30-Nov-1994



Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	34	Bharti Airtel Limited	Andhra Pradesh	UAS	12-Dec-1995
2	40	Bharti Airtel Limited	Himachal Pradesh	UAS	12-Dec-1995
3	49	Bharti Airtel Limited	Punjab	UAS	12-Dec-1995
4	54	Bharti Hexacom Ltd.	North East	CMTS	12-Dec-1995
5	84	Idea Cellular Ltd.	Andhra Pradesh	CMTS	19-Dec-1995
6	87	Idea Cellular Ltd.	Gujarat	CMTS	12-Dec-1995
7	88	Idea Cellular Ltd.	Haryana	CMTS	12-Dec-1995
8	92	Idea Cellular Ltd.	Kerala	CMTS	12-Dec-1995
9	94	Idea Cellular Ltd.	Madhya Pradesh	CMTS	12-Dec-1995
10	95	Idea Cellular Ltd.	Maharashtra	CMTS	12-Dec-1995
11	103	Idea Cellular Ltd.	Uttar Pradesh (West)	CMTS	12-Dec-1995
12	149	Reliance Telecom Ltd.	Assam	UAS	12-Dec-1995
13	150	Reliance Telecom Ltd.	Bihar	UAS	12-Dec-1995
14	151	Reliance Telecom Ltd.	Himachal Pradesh	UAS	12-Dec-1995
15	153	Reliance Telecom Ltd.	Madhya Pradesh	UAS	12-Dec-1995
16	154	Reliance Telecom Ltd.	North East	UAS	12-Dec-1995
17	155	Reliance Telecom Ltd.	Orissa	UAS	12-Dec-1995
18	156	Reliance Telecom Ltd.	West Bengal	UAS	12-Dec-1995
19	256	Vodafone Essar Cellular Ltd.	Kerala	UAS	12-Dec-1995
20	257	Vodafone Essar Cellular Ltd.	Maharashtra	UAS	19-Dec-1995
21	258	Vodafone Essar Cellular Ltd.	Tamilnadu (excluding Chennai Service Area)	UAS	12-Dec-1995
22	259	Vodafone Essar Digilink Ltd.	Haryana	UAS	12-Dec-1995
23	260	Vodafone Essar Digilink Ltd.	Rajasthan	UAS	12-Dec-1995
24	261	Vodafone Essar Digilink Ltd.	Uttar Pradesh (East)	UAS	12-Dec-1995
25	263	Vodafone Essar Gujarat Ltd.	Gujarat	UAS	19-Dec-1995

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1 42	Bharti Airtel Limited	Karnataka	UAS	15-Feb-1996
2 55	Bharti Hexacom Ltd.	Rajasthan	UAS	22-Apr-1996
3 188	Spice Communications Ltd.	Karnataka	UAS	9-Apr-1996
4 190	Spice Communications Ltd.	Punjab	UAS	9-Apr-1996

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1	83 HFCL Infotel Ltd.	Punjab	UAS	30-Sep-1997
2	127 Mahanagar Telephone Nigam Ltd.	Delhi	CMTS	10-Oct-1997
3	128 Mahanagar Telephone Nigam Ltd.	Mumbai	CMTS	10-Oct-1997
4	132 Reliance Communications Ltd.	Gujarat	UAS	30-Sep-1997
5	191 Tata Teleservices (Maharashtra) Ltd.	Maharashtra	UAS	30-Sep-1997
6	192 Tata Teleservices (Maharashtra) Ltd.	Mumbai	UAS	30-Sep-1997
7	193 Tata Teleservices Ltd.	Andhra Pradesh	UAS	30-Sep-1997

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1 10	Aircel Ltd.	Tamilnadu (excluding Chennai Service Area)	CMTS	31-Dec-1998
2 180	Sistema Shyam TeleServices Ltd.	Rajasthan	UAS	4-Mar-1998

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	13	Bharat Sanchar Nigam Ltd.	Andhra Pradesh	CMTS	29-Feb-2000
2	14	Bharat Sanchar Nigam Ltd.	Assam	CMTS	29-Feb-2000
3	15	Bharat Sanchar Nigam Ltd.	Bihar	CMTS	29-Feb-2000
4	16	Bharat Sanchar Nigam Ltd.	Chennai	CMTS	29-Feb-2000
5	17	Bharat Sanchar Nigam Ltd.	Gujarat	CMTS	29-Feb-2000
6	18	Bharat Sanchar Nigam Ltd.	Haryana	CMTS	29-Feb-2000
7	19	Bharat Sanchar Nigam Ltd.	Himachal Pradesh	CMTS	29-Feb-2000
8	20	Bharat Sanchar Nigam Ltd.	Jammu & Kashmir	CMTS	29-Feb-2000
9	21	Bharat Sanchar Nigam Ltd.	Karnataka	CMTS	29-Feb-2000
10	22	Bharat Sanchar Nigam Ltd.	Kerala	CMTS	29-Feb-2000
11	23	Bharat Sanchar Nigam Ltd.	Kolkata	CMTS	29-Feb-2000
12	24	Bharat Sanchar Nigam Ltd.	Madhya Pradesh	CMTS	29-Feb-2000
13	25	Bharat Sanchar Nigam Ltd.	Maharashtra	CMTS	29-Feb-2000
14	26	Bharat Sanchar Nigam Ltd.	North East	CMTS	29-Feb-2000
15	27	Bharat Sanchar Nigam Ltd.	Orissa	CMTS	29-Feb-2000
16	28	Bharat Sanchar Nigam Ltd.	Punjab	CMTS	29-Feb-2000
17	29	Bharat Sanchar Nigam Ltd.	Rajasthan	CMTS	29-Feb-2000
18	30	Bharat Sanchar Nigam Ltd.	Tamilnadu (excluding Chennai Service Area)	CMTS	29-Feb-2000
19	31	Bharat Sanchar Nigam Ltd.	Uttar Pradesh (East)	CMTS	29-Feb-2000
20	32	Bharat Sanchar Nigam Ltd.	Uttar Pradesh (West)	CMTS	29-Feb-2000
21	33	Bharat Sanchar Nigam Ltd.	West Bengal	CMTS	29-Feb-2000

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	38	Bharti Airtel Limited	Gujarat	UAS	28-Sep-2001
2	39	Bharti Airtel Limited	Haryana	UAS	28-Sep-2001
3	43	Bharti Airtel Limited	Kerala	UAS	28-Sep-2001
4	45	Bharti Airtel Limited	Madhya Pradesh	UAS	28-Sep-2001
5	46	Bharti Airtel Limited	Maharashtra	UAS	28-Sep-2001
6	47	Bharti Airtel Limited	Mumbai	UAS	28-Sep-2001
7	50	Bharti Airtel Limited	Tamilnadu (including Chennai Service Area)	UAS	28-Sep-2001
8	52	Bharti Airtel Limited	Uttar Pradesh (West)	UAS	28-Sep-2001
9	86	Idea Cellular Ltd.	Delhi	CMTS	5-Oct-2001
10	89	Idea Cellular Ltd.	Himachal Pradesh	CMTS	5-Oct-2001
11	100	Idea Cellular Ltd.	Rajasthan	CMTS	5-Oct-2001
12	102	Idea Cellular Ltd.	Uttar Pradesh (East)	CMTS	5-Oct-2001
13	129	Reliance Communications Ltd.	Andhra Pradesh	UAS	20-Jul-2001
14	130	Reliance Communications Ltd.	Bihar	UAS	20-Jul-2001
15	131	Reliance Communications Ltd.	Delhi	UAS	20-Jul-2001
16	133	Reliance Communications Ltd.	Haryana	UAS	20-Jul-2001
17	134	Reliance Communications Ltd.	Himachal Pradesh	UAS	20-Jul-2001
18	136	Reliance Communications Ltd.	Karnataka	UAS	20-Jul-2001
19	137	Reliance Communications Ltd.	Kerala	UAS	20-Jul-2001
20	138	Reliance Communications Ltd.	Kolkata	UAS	20-Jul-2001
21	139	Reliance Communications Ltd.	Madhya Pradesh	UAS	20-Jul-2001
22	140	Reliance Communications Ltd.	Maharashtra	UAS	20-Jul-2001
23	141	Reliance Communications Ltd.	Mumbai	UAS	20-Jul-2001
24	142	Reliance Communications Ltd.	Orissa	UAS	20-Jul-2001
25	143	Reliance Communications Ltd.	Punjab	UAS	20-Jul-2001
26	144	Reliance Communications Ltd.	Rajasthan	UAS	20-Jul-2001
27	145	Reliance Communications Ltd.	Tamilnadu (including Chennai Service Area)	UAS	26-Sep-2001
28	146	Reliance Communications Ltd.	Uttar Pradesh (East)	UAS	20-Jul-2001
29	147	Reliance Communications Ltd.	Uttar Pradesh (West)	UAS	20-Jul-2001
30	148	Reliance Communications Ltd.	West Bengal	UAS	20-Jul-2001
31	152	Reliance Telecom Ltd.	Kolkata	UAS	27-Sep-2001
32	196	Tata Teleservices Ltd.	Delhi	UAS	31-Aug-2001
33	197	Tata Teleservices Ltd.	Gujarat	UAS	31-Aug-2001
34	201	Tata Teleservices Ltd.	Karnataka	UAS	31-Aug-2001
35	209	Tata Teleservices Ltd.	Tamilnadu (including Chennai Service Area)	UAS	31-Aug-2001
36	266	Vodafone Essar South Ltd.	Andhra Pradesh	UAS	29-Sep-2001
37	267	Vodafone Essar South Ltd.	Chennai	UAS	26-Sep-2001
38	268	Vodafone Essar South Ltd.	Karnataka	UAS	26-Sep-2001
39	269	Vodafone Essar South Ltd.	Punjab	UAS	5-Oct-2001

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	35	Bharti Airtel Limited	Assam	UAS	8-Jul-2004
2	36	Bharti Airtel Limited	Bihar	UAS	10-Feb-2004
3	41	Bharti Airtel Limited	Jammu & Kashmir	UAS	10-Feb-2004
4	48	Bharti Airtel Limited	Orissa	UAS	10-Feb-2004
5	51	Bharti Airtel Limited	Uttar Pradesh (East)	UAS	10-Feb-2004
6	53	Bharti Airtel Limited	West Bengal	UAS	11-Feb-2004
7	56	Dishnet Wireless Ltd.	Assam	UAS	21-Apr-2004
8	57	Dishnet Wireless Ltd.	Bihar	UAS	21-Apr-2004
9	59	Dishnet Wireless Ltd.	Himachal Pradesh	UAS	21-Apr-2004
10	60	Dishnet Wireless Ltd.	Jammu & Kashmir	UAS	21-Apr-2004
11	64	Dishnet Wireless Ltd.	North East	UAS	21-Apr-2004
12	65	Dishnet Wireless Ltd.	Orissa	UAS	21-Apr-2004
13	69	Dishnet Wireless Ltd.	West Bengal	UAS	21-Apr-2004
14	135	Reliance Communications Ltd.	Jammu & Kashmir	UAS	6-Sep-2004
15	195	Tata Teleservices Ltd.	Bihar	UAS	30-Jan-2004
16	198	Tata Teleservices Ltd.	Haryana	UAS	30-Jan-2004
17	199	Tata Teleservices Ltd.	Himachal Pradesh	UAS	30-Jan-2004
18	202	Tata Teleservices Ltd.	Kerala	UAS	30-Jan-2004
19	203	Tata Teleservices Ltd.	Kolkata	UAS	30-Jan-2004
20	204	Tata Teleservices Ltd.	Madhya Pradesh	UAS	12-Feb-2004
21	206	Tata Teleservices Ltd.	Orissa	UAS	30-Jan-2004
22	207	Tata Teleservices Ltd.	Punjab	UAS	30-Jan-2004
23	208	Tata Teleservices Ltd.	Rajasthan	UAS	30-Jan-2004
24	210	Tata Teleservices Ltd.	Uttar Pradesh (East)	UAS	30-Jan-2004
25	211	Tata Teleservices Ltd.	Uttar Pradesh (West)	UAS	30-Jan-2004
26	212	Tata Teleservices Ltd.	West Bengal	UAS	30-Jan-2004
27	270	Vodafone Essar South Ltd.	Uttar Pradesh (West)	UAS	13-Feb-2004
28	271	Vodafone Essar South Ltd.	West Bengal	UAS	23-Mar-2004

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	1	Aditya Birla Telecom Ltd.	Bihar	UAS	6-Dec-2006
2	3	Aircel Ltd.	Andhra Pradesh	UAS	5-Dec-2006
3	4	Aircel Ltd.	Delhi	UAS	5-Dec-2006
4	5	Aircel Ltd.	Gujarat	UAS	5-Dec-2006
5	6	Aircel Ltd.	Karnataka	UAS	5-Dec-2006
6	7	Aircel Ltd.	Maharashtra	UAS	5-Dec-2006
7	8	Aircel Ltd.	Mumbai	UAS	6-Dec-2006
8	9	Aircel Ltd.	Rajasthan	UAS	5-Dec-2006
9	58	Dishnet Wireless Ltd.	Haryana	UAS	14-Dec-2006
10	61	Dishnet Wireless Ltd.	Kerala	UAS	14-Dec-2006
11	62	Dishnet Wireless Ltd.	Kolkata	UAS	14-Dec-2006
12	63	Dishnet Wireless Ltd.	Madhya Pradesh	UAS	14-Dec-2006
13	66	Dishnet Wireless Ltd.	Punjab	UAS	14-Dec-2006
14	67	Dishnet Wireless Ltd.	Uttar Pradesh (East)	UAS	14-Dec-2006
15	68	Dishnet Wireless Ltd.	Uttar Pradesh (West)	UAS	14-Dec-2006
16	96	Idea Cellular Ltd.	Mumbai	UAS	5-Dec-2006
17	272	Vodafone Essar Spacetel Ltd.	Assam	UAS	5-Dec-2006
18	273	Vodafone Essar Spacetel Ltd.	Bihar	UAS	5-Dec-2006
19	274	Vodafone Essar Spacetel Ltd.	Himachal Pradesh	UAS	5-Dec-2006
20	275	Vodafone Essar Spacetel Ltd.	Jammu & Kashmir	UAS	5-Dec-2006
21	277	Vodafone Essar Spacetel Ltd.	North East	UAS	5-Dec-2006
22	278	Vodafone Essar Spacetel Ltd.	Orissa	UAS	5-Dec-2006



Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1 276	Vodafone Essar Spacetel Ltd.	Madhya Pradesh	UAS	20-Mar-2007

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	11	Allianz Infratech (P) Ltd.	Bihar	UAS	31-Jul-2008
2	12	Allianz Infratech (P) Ltd.	Madhya Pradesh	UAS	31-Jul-2008
3	70	Etisalat DB Telecom Pvt. Ltd.	Andhra Pradesh	UAS	25-Jan-2008
4	71	Etisalat DB Telecom Pvt. Ltd.	Delhi	UAS	25-Jan-2008
5	72	Etisalat DB Telecom Pvt. Ltd.	Gujarat	UAS	25-Jan-2008
6	73	Etisalat DB Telecom Pvt. Ltd.	Haryana	UAS	25-Jan-2008
7	74	Etisalat DB Telecom Pvt. Ltd.	Karnataka	UAS	25-Jan-2008
8	75	Etisalat DB Telecom Pvt. Ltd.	Kerala	UAS	25-Jan-2008
9	76	Etisalat DB Telecom Pvt. Ltd.	Maharashtra	UAS	25-Jan-2008
10	77	Etisalat DB Telecom Pvt. Ltd.	Mumbai	UAS	25-Jan-2008
11	78	Etisalat DB Telecom Pvt. Ltd.	Punjab	UAS	25-Jan-2008
12	79	Etisalat DB Telecom Pvt. Ltd.	Rajasthan	UAS	25-Jan-2008
		Tamilnadu			
13	80	Etisalat DB Telecom Pvt. Ltd.	(including Chennai Service Area)	UAS	25-Jan-2008
14	81	Etisalat DB Telecom Pvt. Ltd.	Uttar Pradesh (East)	UAS	25-Jan-2008
15	82	Etisalat DB Telecom Pvt. Ltd.	Uttar Pradesh (West)	UAS	25-Jan-2008
16	85	Idea Cellular Ltd.	Assam	UAS	25-Jan-2008
17	90	Idea Cellular Ltd.	Jammu & Kashmir	UAS	25-Jan-2008
18	91	Idea Cellular Ltd.	Karnataka	UAS	25-Jan-2008
19	93	Idea Cellular Ltd.	Kolkata	UAS	25-Jan-2008
20	97	Idea Cellular Ltd.	North East	UAS	25-Jan-2008
21	98	Idea Cellular Ltd.	Orissa	UAS	25-Jan-2008
22	99	Idea Cellular Ltd.	Punjab	UAS	25-Jan-2008
		Tamilnadu			
23	101	Idea Cellular Ltd.	(including Chennai Service Area)	UAS	25-Jan-2008
24	104	Idea Cellular Ltd.	West Bengal	UAS	25-Jan-2008
25	106	Loop Telecom Ltd.	Andhra Pradesh	UAS	25-Jan-2008
26	107	Loop Telecom Ltd.	Assam	UAS	25-Jan-2008
27	108	Loop Telecom Ltd.	Bihar	UAS	25-Jan-2008
28	109	Loop Telecom Ltd.	Delhi	UAS	25-Jan-2008
29	110	Loop Telecom Ltd.	Gujarat	UAS	25-Jan-2008
30	111	Loop Telecom Ltd.	Haryana	UAS	25-Jan-2008
31	112	Loop Telecom Ltd.	Himachal Pradesh	UAS	25-Jan-2008
32	113	Loop Telecom Ltd.	Jammu & Kashmir	UAS	25-Jan-2008
33	114	Loop Telecom Ltd.	Karnataka	UAS	25-Jan-2008
34	115	Loop Telecom Ltd.	Kerala	UAS	25-Jan-2008
35	116	Loop Telecom Ltd.	Kolkata	UAS	25-Jan-2008
36	117	Loop Telecom Ltd.	Madhya Pradesh	UAS	25-Jan-2008
37	118	Loop Telecom Ltd.	Maharashtra	UAS	25-Jan-2008
38	119	Loop Telecom Ltd.	North East	UAS	25-Jan-2008
39	120	Loop Telecom Ltd.	Orissa	UAS	25-Jan-2008
40	121	Loop Telecom Ltd.	Punjab	UAS	25-Jan-2008
41	122	Loop Telecom Ltd.	Rajasthan	UAS	25-Jan-2008
		Tamilnadu			
42	123	Loop Telecom Ltd.	(including Chennai Service Area)	UAS	25-Jan-2008
43	124	Loop Telecom Ltd.	Uttar Pradesh (East)	UAS	25-Jan-2008
44	125	Loop Telecom Ltd.	Uttar Pradesh (West)	UAS	25-Jan-2008
45	126	Loop Telecom Ltd.	West Bengal	UAS	25-Jan-2008

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
46	157 S Tel Pvt. Ltd.	Assam	UAS	25-Jan-2008
47	158 S Tel Pvt. Ltd.	Bihar	UAS	25-Jan-2008
48	159 S Tel Pvt. Ltd.	Himachal Pradesh	UAS	25-Jan-2008
49	160 S Tel Pvt. Ltd.	Jammu & Kashmir	UAS	25-Jan-2008
50	161 S Tel Pvt. Ltd.	North East	UAS	25-Jan-2008
51	162 S Tel Pvt. Ltd.	Orissa	UAS	25-Jan-2008
52	163 Sistema Shyam TeleServices Ltd.	Andhra Pradesh	UAS	25-Jan-2008
53	164 Sistema Shyam TeleServices Ltd.	Assam	UAS	25-Jan-2008
54	165 Sistema Shyam TeleServices Ltd.	Bihar	UAS	25-Jan-2008
55	166 Sistema Shyam TeleServices Ltd.	Delhi	UAS	25-Jan-2008
56	167 Sistema Shyam TeleServices Ltd.	Gujarat	UAS	25-Jan-2008
57	168 Sistema Shyam TeleServices Ltd.	Haryana	UAS	25-Jan-2008
58	169 Sistema Shyam TeleServices Ltd.	Himachal Pradesh	UAS	25-Jan-2008
59	170 Sistema Shyam TeleServices Ltd.	Jammu & Kashmir	UAS	25-Jan-2008
60	171 Sistema Shyam TeleServices Ltd.	Karnataka	UAS	25-Jan-2008
61	172 Sistema Shyam TeleServices Ltd.	Kerala	UAS	25-Jan-2008
62	173 Sistema Shyam TeleServices Ltd.	Kolkata	UAS	25-Jan-2008
63	174 Sistema Shyam TeleServices Ltd.	Madhya Pradesh	UAS	25-Jan-2008
64	175 Sistema Shyam TeleServices Ltd.	Maharashtra	UAS	25-Jan-2008
65	176 Sistema Shyam TeleServices Ltd.	Mumbai	UAS	25-Jan-2008
66	177 Sistema Shyam TeleServices Ltd.	North East	UAS	25-Jan-2008
67	178 Sistema Shyam TeleServices Ltd.	Orissa	UAS	25-Jan-2008
68	179 Sistema Shyam TeleServices Ltd.	Punjab	UAS	25-Jan-2008
69	181 Sistema Shyam TeleServices Ltd.	Tamilnadu (including Chennai Service Area)	UAS	25-Jan-2008
70	182 Sistema Shyam TeleServices Ltd.	Uttar Pradesh (East)	UAS	25-Jan-2008
71	183 Sistema Shyam TeleServices Ltd.	Uttar Pradesh (West)	UAS	25-Jan-2008
72	184 Sistema Shyam TeleServices Ltd.	West Bengal	UAS	25-Jan-2008
73	185 Spice Communications Ltd.	Andhra Pradesh	UAS	25-Jan-2008
74	186 Spice Communications Ltd.	Delhi	UAS	25-Jan-2008
75	187 Spice Communications Ltd.	Haryana	UAS	25-Jan-2008
76	189 Spice Communications Ltd.	Maharashtra	UAS	25-Jan-2008
77	194 Tata Teleservices Ltd.	Assam	UAS	25-Jan-2008
78	200 Tata Teleservices Ltd.	Jammu & Kashmir	UAS	25-Jan-2008
79	205 Tata Teleservices Ltd.	North East	UAS	25-Jan-2008
80	213 Unitech Wireless (Delhi) Pvt. Ltd.	Delhi	UAS	25-Jan-2008
81	214 Unitech Wireless (East) Pvt. Ltd.	Assam	UAS	25-Jan-2008
82	215 Unitech Wireless (East) Pvt. Ltd.	Bihar	UAS	25-Jan-2008
83	216 Unitech Wireless (East) Pvt. Ltd.	North East	UAS	25-Jan-2008
84	217 Unitech Wireless (East) Pvt. Ltd.	Orissa	UAS	25-Jan-2008
85	218 Unitech Wireless (East) Pvt. Ltd.	Uttar Pradesh (East)	UAS	25-Jan-2008
86	219 Unitech Wireless (East) Pvt. Ltd.	West Bengal	UAS	25-Jan-2008
87	220 Unitech Wireless (Kolkata) Pvt. Ltd.	Kolkata	UAS	25-Jan-2008
88	221 Unitech Wireless (Mumbai) Pvt. Ltd.	Mumbai	UAS	25-Jan-2008
89	222 Unitech Wireless (North) Pvt. Ltd.	Haryana	UAS	25-Jan-2008
90	223 Unitech Wireless (North) Pvt. Ltd.	Himachal Pradesh	UAS	25-Jan-2008
91	224 Unitech Wireless (North) Pvt. Ltd.	Jammu & Kashmir	UAS	25-Jan-2008
92	225 Unitech Wireless (North) Pvt. Ltd.	Punjab	UAS	25-Jan-2008

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
93	226 Unitech Wireless (North) Pvt. Ltd.	Rajasthan	UAS	25-Jan-2008
94	227 Unitech Wireless (North) Pvt. Ltd.	Uttar Pradesh (West)	UAS	25-Jan-2008
95	228 Unitech Wireless (South) Pvt. Ltd.	Andhra Pradesh	UAS	25-Jan-2008
96	229 Unitech Wireless (South) Pvt. Ltd.	Karnataka	UAS	25-Jan-2008
97	230 Unitech Wireless (South) Pvt. Ltd.	Kerala	UAS	25-Jan-2008
98	231 Unitech Wireless (Tamil Nadu) Pvt. Ltd.	Tamilnadu (including Chennai Service Area)	UAS	25-Jan-2008
99	232 Unitech Wireless (West) Pvt. Ltd.	Gujarat	UAS	25-Jan-2008
100	233 Unitech Wireless (West) Pvt. Ltd.	Madhya Pradesh	UAS	25-Jan-2008
101	234 Unitech Wireless (West) Pvt. Ltd.	Maharashtra	UAS	25-Jan-2008
102	235 Videocon Telecommunications Ltd.	Andhra Pradesh	UAS	25-Jan-2008
103	236 Videocon Telecommunications Ltd.	Assam	UAS	25-Jan-2008
104	237 Videocon Telecommunications Ltd.	Bihar	UAS	25-Jan-2008
105	238 Videocon Telecommunications Ltd.	Delhi	UAS	25-Jan-2008
106	239 Videocon Telecommunications Ltd.	Gujarat	UAS	25-Jan-2008
107	240 Videocon Telecommunications Ltd.	Haryana	UAS	25-Jan-2008
108	241 Videocon Telecommunications Ltd.	Himachal Pradesh	UAS	25-Jan-2008
109	242 Videocon Telecommunications Ltd.	Jammu & Kashmir	UAS	25-Jan-2008
110	243 Videocon Telecommunications Ltd.	Karnataka	UAS	25-Jan-2008
111	244 Videocon Telecommunications Ltd.	Kerala	UAS	25-Jan-2008
112	245 Videocon Telecommunications Ltd.	Kolkata	UAS	25-Jan-2008
113	246 Videocon Telecommunications Ltd.	Madhya Pradesh	UAS	25-Jan-2008
114	247 Videocon Telecommunications Ltd.	Maharashtra	UAS	25-Jan-2008
115	248 Videocon Telecommunications Ltd.	Mumbai	UAS	25-Jan-2008
116	249 Videocon Telecommunications Ltd.	North East	UAS	25-Jan-2008
117	250 Videocon Telecommunications Ltd.	Orissa	UAS	25-Jan-2008
118	251 Videocon Telecommunications Ltd.	Rajasthan	UAS	25-Jan-2008
119	252 Videocon Telecommunications Ltd.	Tamilnadu (including Chennai Service Area)	UAS	25-Jan-2008
120	253 Videocon Telecommunications Ltd.	Uttar Pradesh (East)	UAS	25-Jan-2008
121	254 Videocon Telecommunications Ltd.	Uttar Pradesh (West)	UAS	25-Jan-2008
122	255 Videocon Telecommunications Ltd.	West Bengal	UAS	25-Jan-2008
1	276. Vodafone Essar Spacetel Ltd.	Madhya Pradesh	UAS	20-Mar-2007

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence	
1	38	Bharti Airtel Limited	Gujarat	UAS	28-Sep-2001
2	39	Bharti Airtel Limited	Haryana	UAS	28-Sep-2001
3	43	Bharti Airtel Limited	Kerala	UAS	28-Sep-2001
4	45	Bharti Airtel Limited	Madhya Pradesh	UAS	28-Sep-2001
5	46	Bharti Airtel Limited	Maharashtra	UAS	28-Sep-2001
6	47	Bharti Airtel Limited	Mumbai	UAS	28-Sep-2001
7	50	Bharti Airtel Limited	Tamilnadu (including Chennai Service Area)	UAS	28-Sep-2001
8	52	Bharti Airtel Limited	Uttar Pradesh (West)	UAS	28-Sep-2001
9	86	Idea Cellular Ltd.	Delhi	CMTS	5-Oct-2001
10	89	Idea Cellular Ltd.	Himachal Pradesh	CMTS	5-Oct-2001
11	100	Idea Cellular Ltd.	Rajasthan	CMTS	5-Oct-2001
12	102	Idea Cellular Ltd.	Uttar Pradesh (East)	CMTS	5-Oct-2001
13	129	Reliance Communications Ltd.	Andhra Pradesh	UAS	20-Jul-2001
14	130	Reliance Communications Ltd.	Bihar	UAS	20-Jul-2001
15	131	Reliance Communications Ltd.	Delhi	UAS	20-Jul-2001
16	133	Reliance Communications Ltd.	Haryana	UAS	20-Jul-2001
17	134	Reliance Communications Ltd.	Himachal Pradesh	UAS	20-Jul-2001
18	136	Reliance Communications Ltd.	Karnataka	UAS	20-Jul-2001
19	137	Reliance Communications Ltd.	Kerala	UAS	20-Jul-2001
20	138	Reliance Communications Ltd.	Kolkata	UAS	20-Jul-2001
21	139	Reliance Communications Ltd.	Madhya Pradesh	UAS	20-Jul-2001
22	140	Reliance Communications Ltd.	Maharashtra	UAS	20-Jul-2001
23	141	Reliance Communications Ltd.	Mumbai	UAS	20-Jul-2001
24	142	Reliance Communications Ltd.	Orissa	UAS	20-Jul-2001
25	143	Reliance Communications Ltd.	Punjab	UAS	20-Jul-2001
26	144	Reliance Communications Ltd.	Rajasthan	UAS	20-Jul-2001
27	145	Reliance Communications Ltd.	Tamilnadu (including Chennai Service Area)	UAS	26-Sep-2001
28	146	Reliance Communications Ltd.	Uttar Pradesh (East)	UAS	20-Jul-2001
29	147	Reliance Communications Ltd.	Uttar Pradesh (West)	UAS	20-Jul-2001
30	148	Reliance Communications Ltd.	West Bengal	UAS	20-Jul-2001
31	152	Reliance Telecom Ltd.	Kolkata	UAS	27-Sep-2001
32	196	Tata Teleservices Ltd.	Delhi	UAS	31-Aug-2001
33	197	Tata Teleservices Ltd.	Gujarat	UAS	31-Aug-2001
34	201	Tata Teleservices Ltd.	Karnataka	UAS	31-Aug-2001
35	209	Tata Teleservices Ltd.	Tamilnadu (including Chennai Service Area)	UAS	31-Aug-2001
36	266	Vodafone Essar South Ltd.	Andhra Pradesh	UAS	26-Sep-2001
37	267	Vodafone Essar South Ltd.	Chennai	UAS	26-Sep-2001
38	268	Vodafone Essar South Ltd.	Karnataka	UAS	26-Sep-2001
39	269	Vodafone Essar South Ltd.	Punjab	UAS	5-Oct-2001

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1	35 Bharti Airtel Limited	Assam	UAS	8-Jul-2004
2	36 Bharti Airtel Limited	Bihar	UAS	10-Feb-2004
3	41 Bharti Airtel Limited	Jammu & Kashmir	UAS	10-Feb-2004
4	48 Bharti Airtel Limited	Orissa	UAS	10-Feb-2004
5	51 Bharti Airtel Limited	Uttar Pradesh (East)	UAS	10-Feb-2004
6	53 Bharti Airtel Limited	West Bengal	UAS	11-Feb-2004
7	56 Dishnet Wireless Ltd.	Assam	UAS	21-Apr-2004
8	57 Dishnet Wireless Ltd.	Bihar	UAS	21-Apr-2004
9	59 Dishnet Wireless Ltd.	Himachal Pradesh	UAS	21-Apr-2004
10	60 Dishnet Wireless Ltd.	Jammu & Kashmir	UAS	21-Apr-2004
11	64 Dishnet Wireless Ltd.	North East	UAS	21-Apr-2004
12	65 Dishnet Wireless Ltd.	Orissa	UAS	21-Apr-2004
13	69 Dishnet Wireless Ltd.	West Bengal	UAS	21-Apr-2004
14	135 Reliance Communications Ltd.	Jammu & Kashmir	UAS	6-Sep-2004
15	195 Tata Teleservices Ltd.	Bihar	UAS	30-Jan-2004
16	198 Tata Teleservices Ltd.	Haryana	UAS	30-Jan-2004
17	199 Tata Teleservices Ltd.	Himachal Pradesh	UAS	30-Jan-2004
18	202 Tata Teleservices Ltd.	Kerala	UAS	30-Jan-2004
19	203 Tata Teleservices Ltd.	Kolkata	UAS	30-Jan-2004
20	204 Tata Teleservices Ltd.	Madhya Pradesh	UAS	12-Feb-2004
21	206 Tata Teleservices Ltd.	Orissa	UAS	30-Jan-2004
22	207 Tata Teleservices Ltd.	Punjab	UAS	30-Jan-2004
23	208 Tata Teleservices Ltd.	Rajasthan	UAS	30-Jan-2004
24	210 Tata Teleservices Ltd.	Uttar Pradesh (East)	UAS	30-Jan-2004
25	211 Tata Teleservices Ltd.	Uttar Pradesh (West)	UAS	30-Jan-2004
26	212 Tata Teleservices Ltd.	West Bengal	UAS	30-Jan-2004
27	270 Vodafone Essar South Ltd.	Uttar Pradesh (West)	UAS	13-Feb-2004
28	271 Vodafone Essar South Ltd.	West Bengal	UAS	23-Mar-2004

Sl. No.	Name of Licensee Company	Service Area	Type of Licence	Effective Date of Licence
1	Aditya Birla Telecom Ltd.	Bihar	UAS	6-Dec-2006
2	Aircel Ltd.	Andhra Pradesh	UAS	5-Dec-2006
3	Aircel Ltd.	Delhi	UAS	5-Dec-2006
4	Aircel Ltd.	Gujarat	UAS	5-Dec-2006
5	Aircel Ltd.	Karnataka	UAS	5-Dec-2006
6	Aircel Ltd.	Maharashtra	UAS	5-Dec-2006
7	Aircel Ltd.	Mumbai	UAS	6-Dec-2006
8	Aircel Ltd.	Rajasthan	UAS	5-Dec-2006
9	Dishnet Wireless Ltd.	Haryana	UAS	14-Dec-2006
10	Dishnet Wireless Ltd.	Kerala	UAS	14-Dec-2006
11	Dishnet Wireless Ltd.	Kolkata	UAS	14-Dec-2006
12	Dishnet Wireless Ltd.	Madhya Pradesh	UAS	14-Dec-2006
13	Dishnet Wireless Ltd.	Punjab	UAS	14-Dec-2006
14	Dishnet Wireless Ltd.	Uttar Pradesh (East)	UAS	14-Dec-2006
15	Dishnet Wireless Ltd.	Uttar Pradesh (West)	UAS	14-Dec-2006
16	Idea Cellular Ltd.	Mumbai	UAS	5-Dec-2006
17	Vodafone Essar Spaceltd Ltd.	Assam	UAS	5-Dec-2006
18	Vodafone Essar Spaceltd Ltd.	Bihar	UAS	5-Dec-2006
19	Vodafone Essar Spaceltd Ltd.	Himachal Pradesh	UAS	5-Dec-2006
20	Vodafone Essar Spaceltd Ltd.	Jammu & Kashmir	UAS	5-Dec-2006
21	Vodafone Essar Spaceltd Ltd.	North East	UAS	5-Dec-2006
22	Vodafone Essar Spaceltd Ltd.	Orissa	UAS	5-Dec-2006

Details of allotted spectrum to all the GSM operators

Operator	Operator	Date of Allocation of Spectrum	Allocation in 200MHz band in MHz	Allocation in 180MHz band in MHz	Total Allocation in MHz
BPL		01.08.2001	14		
		11.11.2001	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
Reliance		26.07.2001	14		
		11.12.2001	14		
		17.07.2002	14		
		17.07.2002	14		
Tata		22.12.2000	14		
		08.12.2000	14		
		10.03.2001	14		
		22.12.2000	14		
Vodafone		22.12.2000	14		
		08.12.2000	14		
		10.03.2001	14		
		22.12.2000	14		
Total in Delhi S.A.			22.2	0.0	22.2
		22.12.2000	14		
		08.12.2000	14		
BPL		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
Reliance		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
Tata		22.12.2000	14		
		08.12.2000	14		
		10.03.2001	14		
		22.12.2000	14		
Vodafone		22.12.2000	14		
		08.12.2000	14		
		10.03.2001	14		
		22.12.2000	14		
Total in Mumbai S.A.			22.2	0.0	22.2
		22.12.2000	14		
		08.12.2000	14		
BPL		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
Reliance		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
Tata		22.12.2000	14		
		08.12.2000	14		
		10.03.2001	14		
		22.12.2000	14		
Vodafone		22.12.2000	14		
		08.12.2000	14		
		10.03.2001	14		
		22.12.2000	14		
Total in Noida S.A.			22.2	0.0	22.2
		22.12.2000	14		
		08.12.2000	14		
BPL		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
Reliance		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
		17.07.2002	14		
Tata		22.12.2000	14		
		08.12.2000	14		
		10.03.2001	14		
		22.12.2000	14		
Vodafone		22.12.2000	14		
		08.12.2000	14		
		10.03.2001	14		
		22.12.2000	14		
Total in S.A.			22.2	0.0	22.2
		22.12.2000	14		
		08.12.2000	14		



S No	Company Name	Quarters	Date of allocation of spectrum	Allotment in 100MHz band in MHz	Allotment in 1500MHz band in MHz	Total allotment in MHz	
1	Maharashtra	Bairi	01.04.2002		5.0		
			14.11.2008		1.0		
			05.21.2009		1.0		
		Total				7.0	
		Idea	12.12.1999	1.1			
			09.18.2000	1.3			
			31.12.2003	1.2			
			01.04.2005		2.2		
		Total		3.6		3.6	
		Vodafone	17.01.2004	1.1			
			15.12.2004	1.1			
		Total		2.2		2.2	
		Reliance	27.09.2004	1.3			
			10.09.2007	1.3			
		Total		2.6		2.6	
		Airtel	19.12.1999	1.4			
			28.11.2000	1.8			
		Total		3.2		3.2	
		Aircel Ltd	10.11.2008	1.1			
			01.03.2008	1.1			
		Total		2.2		2.2	
		Datacom	01.03.2008	1.1			
			01.03.2008	1.1			
		Total		2.2		2.2	
		Easatel (S.A) Ltd	10.09.2004	1.1			
			08.06.2004	1.1			
		Total		2.2		2.2	
		Spice	11.11.2008	1.1			
11.11.2008	1.1						
Total		2.2		2.2			
TISL	11.11.2008	1.1					
	11.11.2008	1.1					
Total in S.A		20.2	49.2	69.4			
Total	11.12.1991	1.1					
	01.04.2002	1.4					
	11.12.2003	1.6					
	11.06.2005		2.0				
Total		4.1		4.1			
Reliance	17.01.2004	1.1					
	22.11.2000	0.2					
Total		1.3		1.3			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Aircel Ltd	10.11.2008	1.1					
	01.03.2008	1.1					
Total		2.2		2.2			
Datacom	01.03.2008	1.1					
	01.03.2008	1.1					
Total		2.2		2.2			
Easatel (S.A) Ltd	10.09.2004	1.1					
	08.06.2004	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
TISL	11.11.2008	1.1					
	11.11.2008	1.1					
Total in S.A		22.2	40.2	62.4			
Vodafone	17.01.2004	1.1					
	15.12.2004	1.1					
Total		2.2		2.2			
Aircel Ltd	10.11.2008	1.1					
	01.03.2008	1.1					
Total		2.2		2.2			
Datacom	01.03.2008	1.1					
	01.03.2008	1.1					
Total		2.2		2.2			
Easatel (S.A) Ltd	10.09.2004	1.1					
	08.06.2004	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
TISL	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Tata	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			
Spice	11.11.2008	1.1					
	11.11.2008	1.1					
Total		2.2		2.2			

Operator	U.S.P. or Allocation of Spectrum	100MHz or 15 MHz	100MHz or 15 MHz	in MHz
	10.01.1305	11		
	10.04.2000	11		
	10.02.2000	11		
	10.03.2000	11		
	10.05.2000	20		
	10.07.2000	20		
	10.08.2000	20		
	10.09.2000	20		
	10.10.2000	20		
	10.11.2000	20		
	10.12.2000	20		
	10.13.2000	20		
	10.14.2000	20		
	10.15.2000	20		
	10.16.2000	20		
	10.17.2000	20		
	10.18.2000	20		
	10.19.2000	20		
	10.20.2000	20		
	10.21.2000	20		
	10.22.2000	20		
	10.23.2000	20		
	10.24.2000	20		
	10.25.2000	20		
	10.26.2000	20		
	10.27.2000	20		
	10.28.2000	20		
	10.29.2000	20		
	10.30.2000	20		
	10.31.2000	20		
	10.32.2000	20		
	10.33.2000	20		
	10.34.2000	20		
	10.35.2000	20		
	10.36.2000	20		
	10.37.2000	20		
	10.38.2000	20		
	10.39.2000	20		
	10.40.2000	20		
	10.41.2000	20		
	10.42.2000	20		
	10.43.2000	20		
	10.44.2000	20		
	10.45.2000	20		
	10.46.2000	20		
	10.47.2000	20		
	10.48.2000	20		
	10.49.2000	20		
	10.50.2000	20		
	10.51.2000	20		
	10.52.2000	20		
	10.53.2000	20		
	10.54.2000	20		
	10.55.2000	20		
	10.56.2000	20		
	10.57.2000	20		
	10.58.2000	20		
	10.59.2000	20		
	10.60.2000	20		
	10.61.2000	20		
	10.62.2000	20		
	10.63.2000	20		
	10.64.2000	20		
	10.65.2000	20		
	10.66.2000	20		
	10.67.2000	20		
	10.68.2000	20		
	10.69.2000	20		
	10.70.2000	20		
	10.71.2000	20		
	10.72.2000	20		
	10.73.2000	20		
	10.74.2000	20		
	10.75.2000	20		
	10.76.2000	20		
	10.77.2000	20		
	10.78.2000	20		
	10.79.2000	20		
	10.80.2000	20		
	10.81.2000	20		
	10.82.2000	20		
	10.83.2000	20		
	10.84.2000	20		
	10.85.2000	20		
	10.86.2000	20		
	10.87.2000	20		
	10.88.2000	20		
	10.89.2000	20		
	10.90.2000	20		
	10.91.2000	20		
	10.92.2000	20		
	10.93.2000	20		
	10.94.2000	20		
	10.95.2000	20		
	10.96.2000	20		
	10.97.2000	20		
	10.98.2000	20		
	10.99.2000	20		
	10.100.2000	20		
	10.101.2000	20		
	10.102.2000	20		
	10.103.2000	20		
	10.104.2000	20		
	10.105.2000	20		
	10.106.2000	20		
	10.107.2000	20		
	10.108.2000	20		
	10.109.2000	20		
	10.110.2000	20		
	10.111.2000	20		
	10.112.2000	20		
	10.113.2000	20		
	10.114.2000	20		
	10.115.2000	20		
	10.116.2000	20		
	10.117.2000	20		
	10.118.2000	20		
	10.119.2000	20		
	10.120.2000	20		
	10.121.2000	20		
	10.122.2000	20		
	10.123.2000	20		
	10.124.2000	20		
	10.125.2000	20		
	10.126.2000	20		
	10.127.2000	20		
	10.128.2000	20		
	10.129.2000	20		
	10.130.2000	20		
	10.131.2000	20		
	10.132.2000	20		
	10.133.2000	20		
	10.134.2000	20		
	10.135.2000	20		
	10.136.2000	20		
	10.137.2000	20		
	10.138.2000	20		
	10.139.2000	20		
	10.140.2000	20		
	10.141.2000	20		
	10.142.2000	20		
	10.143.2000	20		
	10.144.2000	20		
	10.145.2000	20		
	10.146.2000	20		
	10.147.2000	20		
	10.148.2000	20		
	10.149.2000	20		
	10.150.2000	20		
	10.151.2000	20		
	10.152.2000	20		
	10.153.2000	20		
	10.154.2000	20		
	10.155.2000	20		
	10.156.2000	20		
	10.157.2000	20		
	10.158.2000	20		
	10.159.2000	20		
	10.160.2000	20		
	10.161.2000	20		
	10.162.2000	20		
	10.163.2000	20		
	10.164.2000	20		
	10.165.2000	20		
	10.166.2000	20		
	10.167.2000	20		
	10.168.2000	20		
	10.169.2000	20		
	10.170.2000	20		
	10.171.2000	20		
	10.172.2000	20		
	10.173.2000	20		
	10.174.2000	20		
	10.175.2000	20		
	10.176.2000	20		
	10.177.2000	20		
	10.178.2000	20		
	10.179.2000	20		
	10.180.2000	20		
	10.181.2000	20		
	10.182.2000	20		
	10.183.2000	20		
	10.184.2000	20		
	10.185.2000	20		
	10.186.2000	20		
	10.187.2000	20		
	10.188.2000	20		
	10.189.2000	20		
	10.190.2000	20		
	10.191.2000	20		
	10.192.2000	20		
	10.193.2000	20		
	10.194.2000	20		
	10.195.2000	20		
	10.196.2000	20		
	10.197.2000	20		
	10.198.2000	20		
	10.199.2000	20		
	10.200.2000	20		
	10.201.2000	20		
	10.202.2000	20		
	10.203.2000	20		
	10.204.2000	20		
	10.205.2000	20		
	10.206.2000	20		
	10.207.2000	20		
	10.208.2000	20		
	10.209.2000	20		
	10.210.2000	20		
	10.211.2000	20		
	10.212.2000	20		
	10.213.2000	20		
	10.214.2000	20		
	10.215.2000	20		
	10.216.2000	20		
	10.217.2000	20		
	10.218.2000	20		
	10.219.2000	20		
	10.220.2000	20		
	10.221.2000	20		
	10.222.2000	20		
	10.223.2000	20		
	10.224.2000	20		
	10.225.2000	20		
	10.226.2000	20		
	10.227.2000	20		
	10.228.2000	20		
	10.229.2000	20		
	10.230.2000	20		
	10.231.2000	20		
	10.232.2000	20		
	10.233.2000	20		
	10.234.2000	20		
	10.235.2000	20		
	10.236.2000	20		
	10.237.2000	20		
	10.238.2000	20		
	10.239.2000	20		
	10.240.2000	20		
	10.241.2000	20		
	10.242.2000	20		
	10.243.2000	20		
	10.244.2000	20		
	10.245.2000	20		
	10.246.2000	20		
	10.247.2000	20		
	10.248.2000	20		
	10.249.2000	20		
	10.250.2000	20		
	10.251.2000	20		
	10.252.2000	20		
	10.253.2000	20		
	10.254.2000	20		
	10.255.2000	20		
	10.256.2000	20		
	10.257.2000	20		
	10.258.2000	20		
	10.259.2000	20		
	10.260.2000	20		
	10.261.2000	20		
	10.262.2000	20		
	10.263.2000	20		
	10.264.2000	20		
	10.265.2000	20		
	10.266.2000	20		
	10.267.2000	20		
	10.268.2000	20		
	10.269.2000	20		
	10.270.2000	20		
	10.271.2000	20		
	10.272.2000	20		
	10.273.2000	20		
	10.274.2000	20		
	10.275.2000	20		
	10.276.2000	20		
	10.277.2000	20		
	10.278.2000	20		
	10.279.2000	20		
	10.280.2000	20		
	10.281.2000	20		
	10.282.2000	20		
	10.283.2000	20		
	10.284.2000	20		
	10.285.2000	20		
	10.286.2000	20		
	10.287.2000	20		
	10.288.2000	20		
	10.289.2000	20		
	10.290.2000	20		
	10.291.2000	20		
	10.292.2000	20		
	10.293.2000	20		
	10.294.2000	20		
	10.295.2000	20		
	10.296.2000	20		
	10.297.2000	20		
	10.298.2000	20		
	10.299.2000	20		
	10.300.2000	20		
	10.301.2000	20		
	10.302.2000	20		
	10.303.2000	20		
	10.304.2000	20		
	10.305.2000	20		
	10.306.2000	20		
	10.307.2000	20		
	10.308.2000	20		
	10.309.2000	20		

Service Area	Operator	Date of allocation of spectrum	Allotment in 300MHz band in Mhz	Allotment in 1800MHz band in Mhz	Total Allotment in Mhz
Kerala	BSNL	22.12.2000	6.2		
		23.09.2004		1.3	
		12.03.2007		2.3	
	Total		6.2	3.6	9.8
	Vodafone	28.12.1995	4.4		
		28.12.1999	1.8		
	Total		6.2		6.2
	dea	28.12.1995	4.4		
		28.12.1999	1.8		
	Total		6.2	1.8	8.0
	Reliance	10.01.2006		4.4	4.4
	Dishnet	10.01.2008		4.4	4.4
	atacom	15.05.2009		4.4	4.4
	Unitech	15.05.2008		4.4	4.4
	Elsalat DB Pvt. Ltd	15.05.2008		4.4	4.4
Loop	15.05.2008		4.4	4.4	
TISL	15.05.2008		4.4	4.4	
Total in S.A			13.6	42.5	56.1
Maharashtra	Vodafone	03.04.2002		4.4	
		15.01.2004		1.8	
	Total			6.2	6.2
	Bsnl	22.12.1995	4.4		
		28.12.1999	1.8		
	Total		6.2		6.2
	Spice	04.04.1996	4.4		
		05.04.2000	1.8		
	Total		6.2		6.2
	BSNL	22.12.2000	6.2		6.2
	Reliance	11.01.2008		4.4	4.4
	Aircel Ltd.	11.01.2008		4.4	4.4
	Infoc	15.05.2008		4.4	4.4
	dea	28.12.1995	4.4		4.4
	Unitech	15.05.2008		4.4	4.4
Elsalat DB Pvt. Ltd	15.05.2008		4.4	4.4	
Loop	15.05.2008		4.4	4.4	
TISL	15.05.2008		4.4	4.4	
Total in S.A			21.0	41.5	62.5
West Bengal	Bsnl	22.12.2000	6.2		6.2
		22.12.2000	6.2		6.2
		12.07.2007		3.4	
	Total		6.2	3.4	9.6
	Reliance	11.01.2008		4.4	4.4
		28.12.1995	4.4		4.4
	Total		6.2		6.2
	Vodafone	28.12.1995	4.4		
		02.01.2001	1.8		
	Total		6.2		6.2
	Dishnet	11.01.2008		4.4	4.4
	atacom	14.12.2008		4.4	4.4
	Unitech	14.12.2008		4.4	4.4
	Elsalat DB Pvt. Ltd	14.12.2008		4.4	4.4
	Spice	06.05.2009		4.4	4.4
TISL	04.12.2008		4.4	4.4	
Loop	04.12.2008		4.4	4.4	
Total in S.A			18.6	45.2	63.8

S.No.	Service Area	Operators	Date of Allocation of spectrum	Allotment in 300MHz band in MHz	Allotment in 180MHz band in MHz	Total Spectrum in MHz
1	S.A	Bharti	21.04.2002		6.2	6.2
		Vodafone	29.09.2004	6.2		12.4
		Idea	23.12.1995	4.1		16.5
			28.12.1999	1.8		18.3
			28.01.2009		1.8	20.1
		Total		6.2	1.8	26.3
		BSNL	24.12.2000	6.2		32.5
			27.07.2016		1.8	34.3
			27.01.2007		2.0	36.3
		Total		6.2	3.6	45.9
		Reliance	19.01.2008		4.4	40.3
		Aircel Ltd	13.01.2008		4.4	44.7
		Datacom	28.09.2008		4.4	49.1
Unitech	26.09.2008		4.4	53.5		
Ehsalat CB Pvt. Ltd	25.09.2008		4.4	57.9		
CCP	29.12.2008		4.4	62.3		
ETSL	29.12.2008		1.1	63.4		
Total in S.A		18.6	42.6	61.2		
2	S.A	Bharti	22.06.2004	6.2		12.4
			27.01.2009		1.0	13.4
		Total		6.2	1.0	17.2
		Vodafone	12.12.1995	4.1		21.3
			24.01.2001	1.4		22.7
			13.07.2005		1.8	24.5
		Total		6.2	2.8	33.2
		Reliance	19.01.2008		4.4	37.6
		Mts	23.04.2007		1.4	39.0
			26.03.2008		1.8	40.8
		Total		6.2	6.2	47.0
		BSNL	23.12.2000	6.2		53.2
			27.01.2008		1.8	55.0
	27.03.2007		2.0	57.0		
Total		6.2	3.8	63.8		
Reliance	19.01.2008		4.4	68.2		
Datacom	28.09.2008		4.4	72.6		
Unitech	26.09.2008		4.4	77.0		
Ehsalat CB Pvt. Ltd	25.09.2008		4.4	81.4		
CCP	29.12.2008		4.4	85.8		
ETSL	29.12.2008		1.1	86.9		
Total in S.A		18.6	43.8	62.4		
3	S.A	Vodafone	12.12.1995	4.1		8.2
			23.01.2001	1.9		10.1
		Total		6.2		16.2
		Idea	23.12.2002		4.4	20.6
			19.12.2005		1.8	22.4
		Total			6.2	28.6
		Reliance	19.01.2008		4.4	33.0
		BSNL	22.12.2000	6.2		39.2
			28.05.2006		1.8	41.0
		Total		6.2	1.8	49.0
		Bharti	12.04.1996	4.1		53.1
			10.08.2000	1.8		54.9
		Total		6.2	2.0	61.1
Aircel Ltd	13.01.2008		4.4	65.5		
Sonyam Telelink	23.12.2008		4.4	69.9		
Datacom	23.12.2008		4.4	74.3		
Unitech	23.12.2008		4.4	78.7		
Ehsalat CB Pvt. Ltd	23.12.2008		4.4	83.1		
ETSL	23.12.2008		1.1	84.2		
CCP	23.12.2008		1.1	85.3		
Total in S.A		18.6	45.2	63.8		

S No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1300MHz band in MHz	Total Allotment in MHz	
13	M.P.	Bhart	01.04.2002		5.2		
			08.01.2007		1.5		
		Total			6.7		6.7
		Vodafone	11.02.2008			4.4	4.4
		BSNL	22.12.2000	6.2			6.2
			12.05.2007			3.9	
		Total		6.2		13.3	19.5
		Reliance	12.12.1995	4.4			4.4
			08.01.2007			1.5	
		Total		6.2			6.2
		IDEA	12.12.1995	4.4			4.4
			09.09.2002			1.3	
		Total		6.2		1.3	7.5
		Dishnet	11.01.2008			4.4	4.4
		Datacom	28.08.2008			4.4	4.4
		Unitech	28.08.2008			1.1	1.1
		Loop	28.08.2008			1.1	1.1
TISL	28.08.2008			1.1	1.1		
Airtel	28.08.2008			4.4	4.4		
Total in S.A			19.5	44.1	64.0		
14	West Bengal	Bhart	12.08.2004	4.4		4.4	
			10.01.2008			1.3	
		Total		4.4		1.3	5.7
		Dishnet	15.12.2004			1.1	1.1
		Vodafone	12.06.2004	4.4			4.4
			10.01.2008			1.3	
		Total		4.4		1.3	5.7
		Reliance	12.12.1995	4.4			4.4
			20.02.2004			1.5	
		Total		4.4		1.5	5.9
		BSNL	22.12.2000	6.2			6.2
			12.05.2007			1.3	
		Total		6.2		1.3	7.5
		Datacom	29.01.2009			1.1	1.1
		IDEA	29.01.2009			4.4	4.4
		Unitech	29.01.2009			1.1	1.1
		Loop	29.01.2009			4.4	4.4
TISL	29.01.2009			4.4	4.4		
Total in S.A			19.4	33.6	53.0		
15	West Bengal	Vodafone	11.01.2008		1.1	1.1	
		Dishnet	13.03.2008		4.4	4.4	
		Bhart	12.12.1995	4.4			4.4
			18.09.2003			1.3	
		Total		6.2			6.2
		Reliance	12.12.1995	4.4			4.4
			26.08.2005			1.3	
		Total		6.2			6.2
		IDEA	11.03.2002			4.4	4.4
		BSNL	22.12.2000	6.2			6.2
			12.07.2007			3.9	
		Total		6.2		3.9	10.1
		Datacom	04.12.2008			4.4	4.4
		Unitech	04.12.2008			1.1	1.1
		S Tel	04.12.2008			4.4	4.4
		Loop	04.12.2008			4.4	4.4
		TISL	04.12.2008			4.4	4.4
Total in S.A			19.6	34.0	53.6		

		allocation of spectrum	900MHz band in MHz	1800MHz band in MHz	in MHz			
14	100%	Isat	08.08.2004	3.2				
			09.06.2006		1.9			
			03.10.2008		2.2			
			30.11.2008		1.9			
		Total		6.2	7.0	7.0		
		Vodafone	11.01.2009		1.4	1.4		
		Beurcom	12.12.1995	4.4				
			29.12.1999	1.3				
		Total		6.2	1.9	1.9		
		33%			5.1			
15	100%	33%	22.12.2002	6.0				
			24.08.2006		5			
			28.04.2007		1.0			
		Total		6.2	1.9	1.9		
		Debitnet	07.02.2006		1.4	1.4		
		33%	11.01.2009		1.1	1.1		
		Dalacem	02.10.2009		1.1	1.1		
		Unitech	03.10.2008		1.1	1.1		
		S.T.A	23.10.2008		1.1	1.1		
		33%	23.10.2008		1.1	1.1		
Total in S.A		18.5	48.2	50.9				
16	100%	Vodafone	11.01.2009		4.3	4.3		
		Beurcom	12.12.1995	4.4				
			05.03.2001	1.8				
		Total		6.2		4.3		
		33%	23.12.2002	6.1				
			10.05.2007		3.3			
		Total		12.3	3.3	3.3		
		Dalacem	24.12.2004		1.1	1.1		
		Smart	06.05.2004	6.2				
		Total		6.2	1.9	1.9		
17	100%	Dalacem	24.04.2009		4.4	4.4		
		33%	24.04.2009		4.4	4.4		
		Unitech	24.04.2008		4.4	4.4		
		33%	24.04.2008		4.4	4.4		
		33%	24.04.2008		4.4	4.4		
		33%	24.04.2008		4.4	4.4		
		33%	24.04.2008		4.4	4.4		
		Total in S.A		18.5	40.8	59.4		
		18	100%	Vodafone	11.01.2009		4.1	4.1
				33%	27.12.2004	1.9		
	15.03.2005				2.0			
	10.11.2008				1.3			
Total				1.9	4.1	4.1		
33%	25.04.2003			6.2				
Total				6.2	3.8	3.8		
Reliance	12.12.1995			4.4				
Total				6.2		6.2		
Debitnet	22.07.2004			4.4				
Total		4.4	1.9	1.9				
19	100%	Dalacem	22.12.2008		1.1	1.1		
		33%	22.12.2008		1.1	1.1		
		Unitech	22.12.2008		1.1	1.1		
		S.T.A	22.12.2008		1.1	1.1		
		33%	22.12.2009		1.1	1.1		
		Total in S.A		19.6	26.1	55.0		

S.No.	Service Area	Operators	Date of allocation of spectrum	Allotment in 900MHz band in MHz	Allotment in 1800MHz band in MHz	Total Allotment in MHz
21	A2	Bhart	24.12.2004	4.4		
			23.12.2008		1.3	
		Tata		4.4	1.3	5.7
			28.04.2003	6.2		
		BSNL			3.9	
			10.05.2007			
		Total		6.2	3.5	9.7
		Reliance	12.12.1995	4.4		
			20.01.2006		1.3	
		Total		4.4	1.3	5.7
		Dishnet	22.07.2004	4.4		4.4
		Vodafone	11.01.2008		1.1	1.1
		Daiacom	23.12.2008		4.4	4.4
		Ida	23.12.2008		4.4	4.4
		Unitech	23.12.2008		4.4	4.4
Loop	23.12.2008		1.1	1.1		
S.Tel	23.12.2008		3.1	3.1		
Total in S.A		19.4	30.3	53.2		
22	A4	Vodafone	11.01.2008		4.4	4.4
					4.4	4.4
		BSNL	28.04.2003	6.2		
			18.06.2006	1.9		
		Total		8.1		8.1
		Dishnet	01.09.2004	4.4		4.4
		Bhart	22.06.2004	4.4		
			28.06.2006	1.8		
		Total		6.2		6.2
		Daiacom	24.12.2008		1.1	1.1
		Ida	24.12.2008		4.4	4.4
		Unitech	24.12.2008		4.4	4.4
		S.Tel	24.12.2008		1.1	1.1
		Loop	24.12.2008		1.1	1.1
		Total in S.A		10.5	30.3	49.1

Press Release

In the light of Unified Access Services Licence (UASL) guidelines issued on 14<sup>th</sup> December 2005 by the department regarding number of Licences in a Service Area, a reference was made to TRAI on 13-4-2007. The TRAI on 28-08-2007 recommended that No cap be placed on the number of access service providers in any service area. The government accepted this recommendation of TRAI. Hon'ble Prime Minister also emphasized on increased competition while inaugurating India Telecom 2007. Accordingly, DOT has decided to issue LOI to all the eligible applicants on the date of application who applied up-to 25-9-2007.

UAS licence authorises 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 licence in broader terms is an umbrella licence and does not automatically authorize UAS licensee's usage of spectrum to rollout Mobile (GSM and/or CDMA) services. For this, UAS licensee has to obtain another licence, i.e. Wireless Operating Licence which is granted on first-come-first-serve basis subject to availability of spectrum in particular service area.

DOT has been implementing a policy of First-cum-First Served for grant of UAS licences under which initially an application which is received first will be processed first and thereafter if found eligible will be granted LOI and then who so ever complies with the conditions of LOI first will be granted UAS licence.

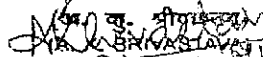
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Department of Telecom  
(AS cell)

10.01.2008

The above Press release has approval of Honble MOC, IT and may kindly be released immediately.

To,  
Director (M & C), PIB, Patel Bawan, New Delhi

copy to:  
✓ DDG (CSA), DOT for uploading on DOT website.

  
श्री. व. श्रीवास्तव  
महानिदेशक (ए. एस.)  
सूचना विभाग, भारत सरकार  
Dept. of Telecom, Gov. of India  
नई दिल्ली / New Delhi

30/1/08  
DDG (CSA)



**Department of Telecommunications**

**Press Release**

**Date : 10<sup>th</sup> January 2008**

**Sub : UASL applicants to depute their authorised representative to collect responses of DOT on 10.1.2008.**

The applicant companies who have submitted applications to DOT for grant of UAS licences in various service areas on or before 25.9.2007 are requested to depute their Authorised signatory/Company Secretary/ authorised representative with authority letter to collect response(s) of DOT. They are requested to bring the company's rubber stamp for receiving these documents to collect letters from DOT in response to their UASL applications. Only one representative of the Company/group Company will be allowed. Similarly, the companies who have applied for usage of dual technology spectrum are also requested to collect the DOT's response.

All above are requested to assemble at 3:30 pm on 10.1.2008 at Committee Room, 2<sup>nd</sup> Floor, Sanchar Bhawan, New Delhi. The companies which fail to report before 4.30 P.M. on 10.01.2008, the responses of DOT will be dispatched by post.

All eligible LOI holders for UASL may submit compliance to DOT to the terms of LOIs within the prescribed period during the office hours i.e. 9.00 A.M. to 5.30 P.M. on working days.