ADITYA BIRLA

IDEA Cellular

Himanshu Kapania
Managing Director

21st March, 2012

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

Kind Attention : Principal Advisor (MS)

Dear Sir,

Sub: Consultation on 'Auction of Spectrum' dated the 7th Mar, 2012

This is with reference to the Consultation Paper issued by the Authority on 7th March 2012 on the above subject.

Please find attached our submission in two sections -

1. Annexure A – Pages 1-10 : Primary Submission by Idea Cellular.
2. Annexure B – Pages 11-35 : Response to TRAI specific 36 questions by Idea Cellular.

We are confident that our submission will receive in-depth consideration from TRAI in respect of the proposed "Auction of Spectrum" that has wide-ranging structural, technical, financial, servicing and legal ramifications for us and most telecom business operators.

Should you require any clarifications or further information on the positions set out in this submission, please do contact us.

Thanking you,

For IDEA Cellular Ltd.

Himanshu Kapania

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Managing Director

c.c. : Dr. J. S. Sharma, Chairman, TRAI
: Shri R. Ashok, Member, TRAI
: Shri R. K. Arnold, Member, TRAI
: Prof. H. S. Jamadagni, Member, TRAI
: Shri Sudhir Gupta, Pr. Advisor (Mobile Services), TRAI
: Smt. Anuradha Mitra, Pr. Advisor (FA & IFA), TRAI
: Shri Lav Gupta, Pr. Advisor (TD)
: Shri Rajkumar Upadhyay, Advisor (Broadband & P.A.), TRAI
: Shri A. Robert Jerad Ravi, Advisor (QoS), TRAI
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Annexure A

Idea's Response to

TRAI's Consultation on 'Auction of Spectrum' dated 7th March 2012

We refer to the above subject, at the outset, we would like to submit the following :

A. Idea Cellular Limited is a pioneering Telecom Operator with mobile services being offered across the country comprising of 15 Service Areas for which license were issued before January 2008 and 7 New Service Areas for which license issued in January 2008.

B. Idea Cellular Limited has need for 900 MHz/1800 MHz spectrum for GSM Services in both its 15 Existing Service Areas for capacity expansion as per the existing Government policy under 'Subscriber linked criteria' (our several applications are pending with DoT) and in the 7 New Service Areas arising due to proposed quashing of licenses due to recent Supreme Court Judgment dated 2nd February 2012.

C. The Authority is fully aware of the circumstances under which a pioneering serious mobile operator like Idea Cellular Limited stands deprived of its seven operative licenses viz. Tamil Nadu (including Chennai), Kolkata, West Bengal, North East, Assam, Orissa and J &K service areas. Idea's applications for license were first in every respect as far back as June 2006, but were treated unfairly by changes in Government policy – which Idea itself protested against since October 2007.

D. Our unique situation as regards 1800 MHz Spectrum allocation in New Circles in 2008 and UASL Licenses has been clearly recorded by the Hon'ble Supreme Court in its Judgment dated 2nd February 2012. Idea had applied for grant of licence in June 2006 and therefore should not have been clubbed with later applicants of 2007. The Authority may kindly note our submissions on this issue as highlighted by our response dated 15th February 2012 to TRAI pre-consultation on allocation of spectrum.

E. The Authority would also note that since the grant of UASL licenses in 2008 and allocation of 1800 MHz spectrum for GSM services, as on date, Idea has invested more than Rs. 3,500 crores in seven operating licenses of Tamil Nadu (incl. Chennai), Kolkata, West Bengal, Orissa, North East, Assam and J &K. This is exclusive of entry fee of approx. Rs 326 crores paid for seven operating licenses and Rs 843 crores paid for six non-operative licenses (including erstwhile Spice Communications Ltd). Naturally, since we are running full operations, the investment continues to rise and the uncertainty created due to cancellation of licenses is unnerving our investors, customers and employees.

F. We have a subscriber base of more than 7.7 million as of 29th February, 2012 in these 7 New Service Areas and these subscribers continue to enjoy 24x7 affordable most competitive services. Authority needs to ensure that all its proposed recommendations should provide ample opportunities for protection of investments, customers, employees, channel partners, choice for society and continuity of operations.

G. The Authority would note that Idea Cellular had recently submitted its comments on the TRAI pre-consultation relating to auction of 2G spectrum and also on TRAI consultation paper on Unified Licensing, wherein, we had inter alia, recommended that just as in the case of the 3G Auction, all eligible operators whose licenses are proposed to be quashed due to the recent Supreme Court Order may bid separately for the 1800/800 MHz spectrum and should

automatically qualify for 'UASL' license. Should the Government plan to introduce guidelines for migration of all Cellular Mobile Service Providers (CMSPs), NLD, ISP and UASL providers to a New Unified Licensing Regime – the same can be made applicable to the winners of the new 1800/800 MHz spectrum to be auctioned in 2012,and they be issued new UAS licenses.

The above issue has also been recognized by the DoT who vide their press release of 15th February 2012, have stated the following :

" In the event of any auction of spectrum pending finalisation of the Unified Licensing Regime, UAS licence without spectrum may be issued which could be subject to a requirement to migrate to Unified licence as and when the regime is put in place. Detailed guidelines for such UAS licence without spectrum would be finalised after receipt of recommendations of TRAI in this regard."

H. Keeping in view the above background, we reserve our right to any remedies that are available to us to the extent we have been adversely impacted by imminent cancellation of licenses including but not limited to a claim for refund of entry fee, claim for compensation for amounts invested by us in running the operations in the seven operating service areas and the claims which the company will be required to honour in case of cessation of services.

I. Besides, 900 MHz and 1800 MHz spectrum, Idea Cellular has already shown its intention to aggressively invest in future Mobile Broadband Services. Idea through market determined auction won right to use 2100 MHz spectrum on HSPA +(UMTS) Services in 11 Service Areas and has entered into an intra-circle roaming arrangement with like minded 3G 2100 MHz operators to enable our customers to access 3G, 2100 MHz, HSPA + UMTS Services in the additional 10 Service Areas. Idea Cellular has need to expand its spectrum portfolio for additional 2100 MHz 3G spectrum. It also intends to participate in future 700 MHz Auction for latest Mobile Broadband Services on LTE Technology and 2300 MHz Auction for similar LTE based Mobile Broadband.

Without prejudice to the aforesaid rights, **please find below our primary submissions on TRAI consultation on auction of spectrum. Our detailed query response is enclosed as per Annexure B :**

1. **Need for 1800 MHz /800 MHz Auction**

   At the outset, we wish to submit that the **TRAI consultation on auction of spectrum is clearly an outcome of the recent Judgment given by the Hon'ble Supreme Court** wherein the Hon'ble Court has inter alia asked the Authority to make fresh recommendations for grant of license and allocation of spectrum in 2G GSM band for 1800 MHz and CDMA band for 800 MHz in 22 service areas by auction, as was done for allocation of 3G use with HSPA technology in case of 2100 MHz. The Authority should restrict trying to expand the scope of the consultation and should segregate Auction of 1800 /800 MHz spectrum from unrelated topics of Spectrum refarming and 700 MHz Auction.

2. **Key Recommendation for 1800 /800 MHz Auction**

   In this regard, **Idea has stated its position vide its response to TRAI pre-consultation** on allocation of spectrum. Our key submissions therein were as follows :

   a. **On quantum of spectrum to be auctioned** : The proposed quashing of licenses as per Supreme Court Judgment on 2nd February 2012 (herein after referred to as 'Quashed Licenses') has led to availability of start-up 1800/800 MHz spectrum with the Government across all 22 Service Areas (Circles) within the country. **We recommend the total spectrum available with the Government be auctioned** for all

participating eligible Telecom Service providers including spectrum available from holders of 'Quashed Licenses' and balance available with the DoT/WPC.

b. **On who all can participate in auction** : We recommend that 1800/800 MHz Auction be opened to All holders of 'Quashed Licenses', All New applicants who become eligible for new UASL licenses on currently specified terms and conditions, existing Telecom Service Providers in respective service Areas. The suggestion for auction to be open for eligible telecom operators is based on the assumption that all available spectrum as detailed in point (a) above is included in the auction.

c. **Linkage with extension of licenses** : A number of existing incumbent mobile operators including Idea were winner of license Auction in 1995 /1996. A number of licenses of the incumbent operators are now due for extension in 2014/2015. The extension price for these licenses has to be discovered. The new 1800/800 MHz Auction gives an excellent opportunity for price discovery to be applied for extension of licenses. It is proposed that the extension price of licenses from 2014 onwards be linked to the price Government discovers in this 1800/800 MHz Auction. This suggestion is based on the assumption that the entire available spectrum as detailed in point 2(a) will be auctioned.

3. **900 /800 MHz Refarming**

a. **We are surprised that the Authority has suddenly chosen to link the issue of re-farming with the proposed auction process**. We believe the topic of refarming of 900 /800 MHz from its current GSM /CDMA use is a separate topic and the same needs to be properly discussed in the Public forum through a separate consultation process.

b. We strongly disagree with the Regulator in so far as it tries to subterfuge such an important topic which impacts over 500 million out of 900 million existing Indian telecom customers and has serious wide scale implication on various stakeholders, to be clubbed with a straight forward auction of 1800 /800 MHz driven primarily on the directions of the Supreme Court vide its judgement dated 2nd February 2012.

c. Inspite of our reservations and without prejudice to our contractual rights, we are providing detailed assessment on proposed refarming of 900 /800 MHz and its likely disastrous impact, if the Regulator /government were to go through with the refarming of existing GSM/CDMA Services on 900 MHz /800 MHz spectrum.

d. Without prejudice to our rights, our broad submission against stated desire of Regulator /Government for refarming are :

Currently, the 900 MHz spectrum band is being used for delivering GSM Services, primarily Voice. The proposed suggestion of Refarming of 900 MHz Band means the Regulator /DoT believes the country is ready to abandon the existing use and/or change of the use of existing 900 MHz spectrum band from the current GSM technology (use of 900 MHz GSM was specified by DoT in 1994/1995 as per original license) to futuristic UMTS /LTE technology primarily developed for Mobile Broadband services. This decision of Refarming will have wide scale implications on the customers, technology, operators, investors, competition and the society at large. **We will cover below each of the ramifications of Refarming decision in greater detail.**

1. **Customers - Is Refarming Anti-Consumer or Beneficial ? :**

I. Out of the existing over 900 million mobile customers in India, 900 MHz band today serve over 500 million customers (as reported by 800/900 MHz Telecom Operators for their specific Service Area). **The Voice Telephony business continues to grow in India with rural penetration still at an abysmal level of under 40%. Refarming 900 MHz band out of GSM services will result in the disruption of Mobile services to the vast majority of these customers.**

II. India currently has 10 to 12 operators per Service Area including CDMA operators and 1800 MHz licenses granted since 2001. If we study the pattern of investments, deep rural coverage has primarily been provided by 900 MHz GSM operators like BSNL, Bharti, Vodafone, Reliance, Aircel and Idea in their respective Service Areas. **If 900 MHz band is refarmed out of GSM services, there would be large geographical pockets in India with a blackout of GSM mobile services. If these sites are replaced with 1800 MHz band providing GSM services, the coverage will shrink and large portion of existing customers will go out of service or quality of service will suffer.**

III. As rural penetration is still low (below 40% as per TRAI release) and mostly existing 900 MHz GSM operators are expanding into these rural areas, refarming of this band will stop the journey of rural mobile telephony coverage expansion. This will be contrary to the stated objective of the Government. Below are the quotes from Government of India's stated policy on rural coverage :

Statement by the Honourable Telecom and IT Cabinet Minister on 29th January 2011

"People in the rural areas too are increasingly accessing the telecom services with the growth rate in the rural areas outpacing the growth rate in the urban areas"

Excerpts from Draft NTP 2011

"As of September, 2011, there are over 850 million mobile subscribers. Over 90% of villages have mobile coverage."

*" National Telecom Policy-2011 is designed to ensure that India plays this role effectively and transforms the socio-economic scenario through accelerated equitable and inclusive economic growth by laying special emphasis on **providing affordable and quality telecommunication services in rural and remote areas**".*

IV. The other complexity which arises from a customer perspective is that when the 900 MHz band is re-farmed and the operator is forced to adopt UMTS/LTE, the customer would have to junk his current GSM handset and buy the latest UMTS /LTE device to avail of the new use proposed for 900 MHz spectrum, and this too only when the re-farmed spectrum investment in UMTS/LTE actually reaches the remote /rural villages of India. As GSM is a well developed technology having reached scale, the GSM devices are affordable and available at price points from US $ 7.5 onwards while the UMTS /LTE devices, even at mass scale, are priced at above US $100. While these futuristic devices offer a lot more features, the question the customers are likely to raise is that when his basic need remains Voice Telephony , why is he being compelled to upgrade handsets, and meet this new expense. **Even assuming that the average device cost falls to half the current price, the country will need an additional device investment of US$ 25 to 30 billion if these 500 million customers who are**

currently on GSM 900, are to move to new devices. We humbly submit that this new <u>cost of device upgradation is anti consumer</u> and does not align with stated Government objectives for growth of affordable telecom services in rural and remote areas.

2. **<u>Technology – Is India ready to abandon GSM services for futuristic UMTS /LTE services?</u>** :

I. The mere suggestion of Refarming by the Regulator gives an impression that the Regulator and the Government of India believe that in the next 3 to 4 years the country will abandon GSM technology and shift to futuristic mobile technologies. Implicit in the refarming suggestion is that Indian customers across all strata of income, gender and geography will not need low cost GSM services and can upgrade to next generation services.

II. While the spectrum auction consultation paper quotes the European example on Refarming, what it does not highlight is that nowhere in Europe has 900 MHz GSM services been asked to close down in favour of next generation technology.

III. In Europe, the number of operators are fewer and the 900 MHz band generally has larger bandwidth of 35+ 35 MHz (India's allocation is presently a maximum 21.8 + 21.8 MHz), thereby permitting existing operators to earmark specific frequency band within 900 MHz spectrum to run GSM services and a separate 5 MHz in the 900 MHz band for future UMTS /LTE services. Thus in the same area, the same operator can offer both 900 Mhz GSM services and 900 MHz UMTS services, thereby giving a choice to the customer.

IV. However, in India there is a maximum of 21.8 + 21.8 MHz of 900 MHz spectrum allotted to telecom operators. Further, given that India is the 2nd largest market for GSM Voice in the world and that too with the lowest tariff, the volume of traffic carried by 900 MHz GSM operators in India is far in excess of their counterparts in Europe. Hence, if Government directs Refarming it is not possible to offer a choice of both GSM services and future services from UMTS/LTE unless the Regulator refarms the remaining 13.2 + 13.2 MHz spectrum in the extended GSM band and auctions the same exclusively for UMTS /LTE.

V. The liberation of spectrum will be to refarm the remaining 13.2 +13.2 MHz (including extended GSM band) and auction the same for mobile broadband using UMTS/LTE technology standards and for the existing 21.8 + 21.8 MHz, let existing operators offering GSM services continue on existing technology until the overall eco system is ready and consumer /society demands their existing services are upgraded to future mobile broadband services with 'Voice on IP'. Current expert projections for GSM Technology usage in the country suggest that GSM as technology will continue for the next 15-20 years and may only be completely abandoned in favour of other futuristic technologies around year 2025-30 time frame.

VI. Informal discussions with equipment suppliers suggest that GSM services continue to grow across the globe as a large mass of the remaining 1.5 - 2 billion world population remain deprived of basic voice services. They further opine , that large population countries like India, Pakistan, Indonesia, China and continents of Africa and Latin America are still investing and expanding GSM 900 MHz services.

VII. Even in the high income countries like United States, UK, Germany, France, etc., there is no near term projection of GSM Voice services to be closed down /phased out. Given the per capita income of India, it is natural to assume that low income countries phase out of GSM services is at least 1 to 2 decade away. Expediting the Refarming process will thus be at complete variance with the stated Government objectives of inclusive growth and affordable universal services especially in deep rural and remote areas.

VIII. In comparison to GSM services, **UMTS services which was launched Worldwide, as early as 2001 has still not been aggressively adopted. Even in high and mid-income countries like China, Indonesia, Malaysia, Russia, etc., the adoption of 3G services is low. LTE on sub 1Gb band has not been auctioned in most developed /high income countries including China, UK, France and most European countries and developed South East Asian countries.**

IX. In fact, China has not auctioned or decided on their way forward for 4G/LTE although, they enjoy the largest mobile consumer base in the world and launched their 3G Services one to two years before India. China has no declared plans to refarm their existing 900 MHz GSM services for future technology use.

X. Further, Worldwide, UMTS/3G services have less than a 1.3 billion customers even after 10-12 years of launch, LTE serves only a few million customers mostly for well evolved broadband markets, while GSM supports more than 5 billion customers across all geographies and strata of population and continues to grow.

XI. Global standards for LTE in Sub 1 GHz band are still being formulated. The frequency band has still not been harmonized. Eco system is still not fully ready. It may take 3 to 5 years for early signs of adoption.

XII. Even in India, the launch of UMTS services has had an initial lukewarm response and Indian operators who have spend US $14 billion for purchase of 3G spectrum are not able to attract customers as devices are unaffordable, capex expensive, and the overall eco system not fully evolved. Just like in the case of GSM services which was launched as early as 1995 and actually reached its inflection point 13 to 14 years later in 2007-08, we expect the UMTS services may also take a while before there will be mass adoption.

XIII. While the UMTS HSPA+ services on 2100 MHz band have at least been launched in the country, the 4G, 2300 MHz under LTE TDD band of mobile broadband services where the operators have paid over US $ 7.5 billion has still not been launched even after 20 months of spectrum allocation. It shows that the Government in their hurry to monetize spectrum has timed the introduction of new technology much before the country is ready to adopt it. Even the most advanced countries with surplus income generation, are struggling to adopt the latest LTE technology as standards, devices and equipment are still evolving.

XIV. It is thus projected that the GSM services in India will only be abandoned after all high income and mid income countries have migrated /phased out this technology. Based on current trends, this is not expected before 2025, when the eco system of equipment, devices and applications has fully matured for futuristic technology like UMTS/LTE, and reached scale for becoming affordable to an average Indian.

3. **Operators – Is Write off of 900 MHz GSM Assets in the National Interest :**

I. It's a myth that 900 MHz operator assets have been depreciated. As the country's mobile business reached its inflection point as late as 2008, a significant portion of 900 MHz GSM operators' investments are current. If refarming is ordered by the Government, a large portion of undepreciated assets will have to be written off. Our Total assets investment (all bands included but mostly 900 MHz) is as follows:

	BTS Sites	
Financial Year	**EoP Sites**	**Additions**
1995-2006	4763	NA
2006-2008	29010	24247
2008-2010	66188	37178
2010-2012*	94832	28644

**-Till Mar,2012*

II. Most of the RF GSM equipments are tuned for a specific spectrum band and cannot be reused for example if 900 MHz refarming is ordered by the Government today, Idea Cellular will have to write off an overall investment of Rs 8000 to 12000 crores The amount to be written off by the Industry will be multiple times that of a single operator. A similar amount of money would also be expected to be spent on provisioning of additional capex and opex for providing equivalent coverage in another band , say 1800 MHz, subject to final discussions with the vendors.

III. The table below provides year-wise details of investment of Idea Cellular in 900 MHz GSM services and the same clearly shows that we have been investing recently and are continuing even now to invest (deep into rural areas) and most of the assets are currently at their near original value.

Gross block of investment in 900 MHz circles :

	BTS Sites	
Financial Year	**Cumulative Investment (Gross Block) (INR Cr)**	**For the Year Investment (INR Cr)**
FY09	11710	
FY10	13114	1404
FY11	14616	1502
FY12(9M)	16508	1892

IV. **While most of the investments in 900 MHz spectrum is by listed public limited companies given the fact that the telecom investment has a direct correlation to the GDP growth of the country, any early write off of these large investments will be a colossal national waste, and will shake investor confidence, making it difficult to attract investments for future country needs.**

V. **As these public limited and government companies today service over 500 million customers using investments from Indian banks, attracting foreign direct investments, creating direct and indirect employment opportunities for millions of Indian youth, having direct linkages to growth of related industries like mobile devices, Value added services, BPO, infrastructure industries like Steel, Cement, Electrical and Electronic manufacturing , etc. The sector has great potential to become underpinning**

for other sectors. The healthcare, utilities, energy, automotive industry and many more areas of economic life rely on telecom. The uncertainty created due to refarming, would have direct linkage to the future of the above defined sectors. Thus company's assets should be treated as national assets and any premature retiral as a national loss. The uncertainty created due to refarming, would have direct linkage to the future of the above defined sectors.

VI. **The spectrum consultation paper seems to give a choice of liberalization of spectrum to 900 MHz band user. However , there is really no choice on offer, when it is publicly known that 900 MHz band has been identified for GSM usage by all these licensees due to original mandate by the DoT in 1994/1995/1996. Given the very large voice traffic volume and huge shortage of spectrum, not only in Metros but also in mid size and small towns even a suggestion to withdraw any spectrum from current usage will result in a disruption of services and an inability to meet TRAI's QoS parameters. The operator will have no ability to meet customer expectation of exacting telecom service standard of the Regulator and telecom services across India will be in disarray.**

4. **Investors – After Unplanned losses will they reinvest for Future of India Telecom :**

I. Another view proposed on Refarming is to continue GSM services on 1800 MHz but to refarm 900 MHz for future generation services. Implicit in this belief is that the investors of these companies can take the write off of 900 MHz specific GSM equipment and make fresh investments in 1800 MHz equipment for future voice demands.

II. **This belief of the Government and the Regulator would stem from the fact that the investors in these companies will still find it profitable to make fresh investment on GSM 1800 MHz band. Given the proposed huge losses due to refarming, lowest tariff in the world , highest competition and the least allocation of spectrum with the highest degree of uncertainty , it is unlikely investors will find this business proposition strong enough to support. Therefore the belief that the Government can refarm 900 MHz and replace it with 1800 MHz spectrum, thus offering GSM services to the customer and the society at large is unsustainable as no investor would like to support this proposition.**

III. The financials of most mobile telecom companies are available and other than two 2 or 3 companies the rest of the telecom service providers are saddled with losses, high debt and very weak Balance Sheets. With the decision of refarming, even these profitable companies will turn red and their ability to attract fresh investments will be severely impaired.

5. **Society – Are we prepared to go through the Pain of Refarming ? :**

I. **Internationally for development of the rural economy sub 1 GHz band is earmarked. Rollout obligation principle is thus normally pursued for these bands so that deep rural belts are enjoying benefit of telecom services. Government /Regulator's decision to replace GSM services from existing 900 MHz band to all 1800 MHz will have a direct hit on the rural telephony and thereby growth of rural economy of the country.**

II. The mobile sector, once the poster boy of socialist inclusive growth will not be able to continue its journey of bringing a large mass of the unconnected population into the main stream economy.

III. The telecom industry, once, one of the most successful elements of the Government's liberalization and deregulation policy will be rife with legal and counter claims as stated and unstated contracts will be broken due to the aftermath of refarming.

IV. **While as per License conditions the Government has to discuss terms of extension of license, the <u>society and customers expect continuity of services irrespective of the tenure of the contract</u>. Just for reference, even in one of the country's, where the Regulator has directed the National incumbent operator to abandon 2G Services (as there were limited few thousand customers), the issue is saddled with multiple consumer cases. One can only wonder as to what may happen in similar situation in India, where more than 500 million customers are on GSM 900 MHz Voice.**

6. **<u>Competition – How does Nation Benefit ?</u> :**

I. **In the most unlikely event of 900 MHz spectrum being refarmed and auctioned, the Regulator, Government and the winner of 900 MHz spectrum will have two choices either to introduce GSM Services or by license terms allow only futuristic Mobile broadband service.**

II. **In case, the Regulator, Government and the winner of 900 MHz auction, decides to make fresh investment in GSM service for the next 20 years, it is not understood how the society and country would benefit ? The existing investment will have been written off, consumers and society would have suffered in quality during the phase of transition and long geographical stretch of no coverage for a period of time. The new operator practically will need 3 – 5 years to build GSM equivalent coverage to serve the same customers and this too is with the assumption that the investors of these companies also take a similar view as of the present incumbent to invest aggressively in the deep interior rural areas and serve the lowest income strata of the country.**

III. **In case, the winner of the refarmed 900 MHz, were to choose to invest only in future UMTS/LTE technology - it will be a signal that the Government has abandoned its objective of low cost Voice Mobile telecom services for all. A large portion of the Indian Population at the lower end of income strata, with no English education (most internet content is in English), with low need hierarchy and neither having the skill sets to fully explore the opportunities of the Web, will be forced out of their existing low cost telecom connectivity services.**

IV. Naturally , both choices cannot co-exist unless Regulator /Government refarms extended GSM band and offers it exclusively for latest UMTS/LTE services.

V. **The chosen path of Indian Government in 1994/1996 directing Indian Mobile operators holding 900 MHz band to serve the Indian population with Mobile Voice connectivity on GSM services has to continue for a long period, unless the technology reaches the end of its life. The new futuristic Mobile Broadband Services can only be build on a separate Spectrum Band. We strongly urge Government to earmark 700 MHz for Mobile Broadband on LTE technology while continuing to increase additional spectrum in 2100 MHz for 3G UMTS/HSPA services and 2300 MHz for LTE - TDD services and retaining 900 MHz and 1800 MHz for GSM Services.**

7. **Idea Final Submission on Refarming**

a. Based on the ramification on the customers, investors and society, we hope Regulator and Government will see merit in our fervent submission that refarming the existing 900 MHz band from GSM Services is not an option available for a developing economy like India.

b. But, besides serving one end of the consumer segment, the Mobile industry is committed to grow the aspiring need of young India and build a robust mobile broadband network. The journey for the same has begun with the Auction of 2100 MHz spectrum earmarked for HSPA/UMTS Services. The Government /Regulator should first co-ordinate with Defence and related agencies to make more spectrum available in 2100 MHz, so that there is enough competition and services can expand into mid-towns, small towns and other rural areas.

c. Once, the already auctioned 2100 MHz and 2300 MHz spectrum has stabilized, consumer response is strong, eco system is well developed and device prices has become affordable, thereby allowing the 3G Services to reach an inflection point, the country will be ready for the next generation of Services.

d. High Speed LTE services should be specially earmarked under 700 MHz band and the auction of available spectrum allowed to all existing operators. The Regulator /Ministry of Telecommunication should make all efforts to harmonize the band, work with 'International Telecommunication Union' (ITU) and other Global Regulators to help standardize the Eco system for equipment, spectrum, devices, application.

e. Once, the Indian Regulator is satisfied the 'Long Term Evolution' Technology has matured and the capex and opex investment can meet the value seeking mass market Indian consumer's paying ability for High Speed Mobile Broadband, then 700 MHz band earmarked for this technology should be auctioned for all existing operators in a fair and transparent manner. Then, only the India Government and Regulator will realize the true value of the 700 MHz spectrum and operators will be able to meet aspirations of India on Mobile Broadband.

f. The present consultation proposal of refarming 900/800 MHz as is being postulated is a disruptive exercise and should immediately be abandoned.

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Annexure B

Idea response to specific queries – TRAI consultation on specific queries

Q1. How can the various principles outlined by the Hon'ble Supreme Court in various observations brought out in para above be sufficiently incorporated in the design of spectrum auction?

Ans. Key takeaways from the judgment of the Hon'ble Supreme Court with respect to the design of spectrum auction of India are:

a. Actions must be for public good / Object should be to serve public good

b. Actions of agencies should not be arbitrary or capricious / should ensure competition and not discrimination

c. Methods adopted should be fair and reasonable

d. Procedure should be just, non-arbitrary and transparent / should not discriminate between similarly placed private parties.

A transparent market determined auction of total spectrum open to full competition will help achieve the above objective.

Q2. What are the key objectives to be kept in mind in the auction of the spectrum? &
Q3. What should be the amount of spectrum which should be auctioned?

Ans. We recommend the following :

a. Auction the Total available 1800/800 MHz Spectrum band (including balance available with WPC/DoT).

b. Open 1800/800 MHz Auction to all Eligible Telecom Providers

We recommend that 1800/800 MHz Auction be opened to

- All holders of 'Quashed Licenses'.
- All New applicants who become eligible for new UASL licenses on currently specified terms and conditions.
- Existing Telecom Service Providers in respective service Areas.
- The suggestion of auction opened for eligible telecom operators is based on the assumption that all available spectrum as detailed in point (a) above is included in the auction.

c. Ensure Efficient Allocation of spectrum – Prevent hoarding /garnering large block of spectrum

To ensure that no individual Telecom Service Provider can block /hoard large block of spectrum and keep it idle/underutilised , we recommend the following norms be specified as upper allocation for all participants in the 1800 /800 MHz Auction.

i. Holders of 'Quashed Licenses' and New eligible applicants
   - Start up spectrum be limited to (4.4 + 4.4) MHz in 1800 MHz and 2.5 MHz in 800 MHz
   - 6.2 MHz in 1800 MHz, if the licensee has reached the defined 'Subscriber Linked Criteria' and met all the roll-out obligations.

ii. Existing operator in a specified Service Area can acquire up to a maximum limit as applicable under the 'Subscriber Linked Criteria' (as per Government Order dated 17th January 2008), if its application for same is approved by DoT before the finalisation of Auction.

iii. Maximum spectrum cap for all existing Telecom Service Provider in a specified Service Area as per existing applicable Government policy.

iv. While New applicants /holders of 'Quashed Licenses' can bid in a single block of 4.4 MHz, we recommend incumbent operators be allowed to bid in blocks of 1 MHz with upper cap as per the 'Subscriber Linked Criteria' and/or Maximum Spectrum cap whichever is lower.

d. Reserve Price for 1800 MHz Auction

- The last Market driven Auction Price was discovered in 2001. The Department of Telecom has allocated spectrum to existing GSM /CDMA operators as late as 2007/08 at the same 2001 Market discovered Auction price for GSM @ Rs. 1658 cr for the All India License.

- The maximum spectrum available for this Auction is from Telecom Service Provider who were allocated licenses in January 2008 with a clear contractual understanding of Spectrum Pricing @ Rs. 1658 cr for a nationwide 1800 MHz contracted spectrum of 6.2 MHz.

- So, if reserve price is set at any different level to existing price discovered for 1800 MHz of Rs. 1658 cr, then it will not meet the objective of 'equality' and 'level playing field' for all participants.

- As the reserve price is the starting benchmark for participants to bid and final price discovery will be through auction based on demand supply interplay, we strongly recommend reserve price for new 1800 MHz Spectrum Auction be kept at similar level for each Service Areas as discovered during 2001 1800 MHz 4th License Auction.

- Recommend Reserve Price of Rs. 1658 cr for a period of 20 years, 6.2 MHz spectrum for All India Service Areas. Reserve Price for individual Service Areas be same as prevailing in 2007/2008 allocation graded/varying across category of Circles currently defined as Metro, A, B & C Circles as per existing definition.

e. Award of New license to companies holding 'Quashed Licenses' and new applicants

- We understand from media reports, Government is in the process of finalising new licensing norms, delinking license from spectrum and announcing new norms for Unified Licenses. However, completion of finalisation of Policy for Unified license may be within the ambit of the proposed overall NTP 2012. We also believe final guidelines for Unified licenses may take its normal course of time.

- But, due to emergent situation arising out of Supreme Court Order dated 2nd February 2012, licenses are being proposed to be quashed after 4 months and the Auction process has to be completed well within the 4-month period, so that the linked licensees' investments , customers, employees, channel partners, etc., are protected.

- Therefore, we recommend just like in the case of 3G Auction case, all eligible operators whose licenses are proposed to be quashed due to the Supreme Court Order may bid separately for the 1800/800 MHz spectrum and should automatically qualify for 'UAS' license.

- Should the Government plan to introduce guidelines for migration of all Cellular Mobile Service Providers (CMPS), NLD, ISP & UASL providers to a New Unified Licensing Regime – the same can be applicable for winners of the new 1800/800 MHz spectrum auctioned in 2012, issued new UASL licenses.

- We recommend delink 1800/800 MHz Auction Process from the planned new Unified Guidelines and issue UASL license to all successful bidders – holders of 'Quashed Licenses' and new applicants.

- The above has now also been formally announced by the Government vide its press release dated 15th February 2012.

f. Frequency Band Allocation

As a large portion of the 1800 MHz spectrum is to be released by holder of licenses which are proposed to be quashed, but a number of these operating companies have rolled out the services and some of these licensee have met the defined roll-out obligation. In case these companies were to win the spectrum back in a market determined Auction Process, the Government should allocate the same band of frequency/ spots to the affected license holder whose licenses were quashed by the Supreme Court.

This 'first right' to the specific frequency band may be earmarked by the Authority for the holder of 'Quashed Licenses', as these companies had made large investments with a number of radio equipments specially tuned to the specific spectrum and frequency band allocated earlier.

g. Linkage of 1800 MHz Auction Price Discovery to Extension of licenses from 2014 onwards

- No. of existing incumbent mobile operators including Idea were winner of license Auction in 1995 /1996. A number of licenses of the incumbent operators are now due for Extension in 2014/2015.

- The Extension price for these licenses has to be discovered. The new 1800/800 MHz Auction gives an excellent opportunity for price discovery to be applied for Extension of licenses.

- It is proposed that the Extension price of licenses from 2014 onwards be linked to the price Government discovers in this 1800/800 MHz Auction. **This suggestion is based on the assumption that the entire available spectrum as detailed by TRAI in its consultation paper will be auctioned.**

h. Adjustment of License Fee from Auction Amount

The earlier paid Entry Fee needs to be adjusted from the final Auction Amount for the holders of 'Quashed Licenses'.

Q4. Should the spectrum be liberalized before it is put to auction?

Ans.

a. It is submitted that at present the GSM/ CDMA spectrum allocated to all licenses is bundled with the license.

b. The license is technology neutral & thus all operators are free to use the allocated spectrum for whatever technology they wish to.

c. Further the scope of UAS/ CMTS license permits the operators to provide all type of services.

While, the license has been technology neutral, the Regulator, the Government and /or WPC has historically specified the initial use of the spectrum allocated. In case of 900 MHz, based on original allocation, in 1994/1996, the use specified was 'GSM Services'. Similarly, in 2001 allocation of 1800 MHz, the expectation of use was again for 'GSM services'. The actual change of use has only been implemented in case of 800 MHz spectrum, where operators chose to 'CDMA' and the same has now been refarmed to EVDO by some operators.

d. Liberalization, as is being postulated by TRAI and its linkage with re-farming would mean a change of use of existing GSM technology to futuristic UMTS /LTE technology primarily for Wireless Broadband. Uptill now, operators have ensured while licenses are technology neutral, there is no disruption of services to the customer or society at large. Any attempt now to link the so called liberation of band with refarming of spectrum band would have disastrous impact on customers, operators, investors and overall growth of mobile sector in the country.

e. Does this country need liberalization (as is being postulated by TRAI) of spectrum by linking to refarming ?

i. The GSM services in India will be phased out only after all high income and mid income countries have migrated out of GSM 2G technology. Based on current trends, this is not expected before years 2025-2030 when the eco system of equipment, devices and applications has fully matured for UMTS/LTE, and reached scale for becoming affordable to an average mass market Indian. **(Please refer to our overarching submissions in this regard)**

ii. Informal discussions with equipment suppliers suggest that GSM services continue to grow across the globe specially in large population developing countries like India, Pakistan, Indonesia, China, African and Latin American Continents as a large mass of the remaining 1.5 - 2 billion world population still are without basic voice services.

f. **However, the liberation of 900 MHz spectrum Band can actually be achieved by Regulator /WPC auctioning the remaining 13.2 + 13.2 MHz spectrum band including the extended GSM band and ensure auction defines use exclusively for Mobile broadband with UMTS/LTE technology standards.**

g. **As regards, existing 21.8 + 21.8 MHz spectrum, currently in use of GSM services, let existing operators continue offering GSM services on existing technology until the overall eco system for future technology is ready and consumer /society demands their existing services be upgraded to future Mobile broadband services with 'Voice on IP'.**

In essence, Liberalization has to given its real meaning. Thus liberation cannot be constraining and damaging to entire telecom ecosystem of the country, but it has to be benefit of the country, its customers and society at large.

Q5. For the re-farming of 800 and 900 MHz bands from the existing licensees, which of the three options given above should be adopted? Please elaborate with full justification.

Ans. <u>On 900 /800 MHz Refarming</u>

a. **We are surprised that the Authority has suddenly chosen to link the issue of re-farming with the proposed auction process**. We believe the topic of refarming of 900 /800 MHz from its current GSM /CDMA use is a separate topic and the same needs to be properly discussed in the Public forum through a separate consultation process.

b. We strongly disagree with the Regulator in so far as it tries to subterfuge such an important topic which impacts over 500 million out of 900 million existing Indian telecom customers and has serious wide scale implication on various stakeholders, to be clubbed with a straight forward auction of 1800 /800 MHz driven primarily on the directions of the Supreme Court vide its judgement dated 2nd February 2012.

c. Inspite of our reservations and without prejudice to our contractual rights, we are providing detailed assessment on proposed refarming of 900 /800 MHz and its likely disastrous impact, if the Regulator /government were to go through with the refarming of existing GSM/CDMA Services on 900 MHz /800 MHz spectrum.

d. Without prejudice to our rights, our broad submission against stated desire of Regulator /Government for refarming are :

Currently, the 900 MHz spectrum band is being used for delivering GSM Services, primarily Voice. The proposed suggestion of Refarming of 900 MHz Band means the Regulator /DoT believes the country is ready to abandon the existing use and/or change of the use of existing 900 MHz spectrum band from the current GSM technology (use of 900 MHz GSM was specified by DoT in 1994/1995 as per original license) to futuristic UMTS /LTE technology primarily developed for Mobile Broadband services. This decision of Refarming will have wide scale implications on the customers, technology, operators, investors, competition and the society at large. We will cover below each of the ramifications of Refarming decision in greater detail.

1. **Customers - Is Refarming Anti-Consumer or Beneficial ? :**

I. Out of the existing over 900 million mobile customers in India, 900 MHz band today serve over 500 million customers (as reported by 800/900 MHz Telecom Operators for their specific Service Area). **The Voice Telephony business continues to grow in India with rural penetration still at an abysmal level of under 40%. Refarming 900 MHz band out of GSM services will result in the disruption of Mobile services to the vast majority of these customers.**

II. India currently has 10 to 12 operators per Service Area including CDMA operators and 1800 MHz licenses granted since 2001. If we study the pattern of investments, deep rural coverage has primarily been provided by 900 MHz GSM operators like BSNL, Bharti, Vodafone, Reliance, Aircel and Idea in their respective Service Areas. **If 900 MHz band is refarmed out of GSM services, there would be large geographical pockets in India with a blackout of GSM mobile services. If these sites are replaced with 1800 MHz band providing GSM services, the coverage will shrink and large portion of existing customers will go out of service or quality of service will suffer.**

III. As rural penetration is still low (below 40% as per TRAI release) and mostly existing 900 MHz GSM operators are expanding into these rural areas, refarming of this band will stop the journey of rural mobile telephony coverage expansion. This will be contrary to the stated objective of the Government. Below are the quotes from Government of India's stated policy on rural coverage :

Statement by the Honourable Telecom and IT Cabinet Minister on 29th January 2011

"People in the rural areas too are increasingly accessing the telecom services with the growth rate in the rural areas outpacing the growth rate in the urban areas"

Excerpts from Draft NTP 2011

"As of September, 2011, there are over 850 million mobile subscribers. Over 90% of villages have mobile coverage."

*" National Telecom Policy-2011 is designed to ensure that India plays this role effectively and transforms the socio-economic scenario through accelerated equitable and inclusive economic growth by laying special emphasis on **providing affordable and quality telecommunication services in rural and remote areas**".*

IV. The other complexity which arises from a customer perspective is that when the 900 MHz band is re-farmed and the operator is forced to adopt UMTS/LTE, the customer would have to junk his current GSM handset and buy the latest UMTS /LTE device to avail of the new use proposed for 900 MHz spectrum, and this too only when the re-farmed spectrum investment in UMTS/LTE actually reaches the remote /rural villages of India. As GSM is a well developed technology having reached scale, the GSM devices are affordable and available at price points from US $ 7.5 onwards while the UMTS /LTE devices, even at mass scale, are priced at above US $100. While these futuristic devices offer a lot more features, the question the customers are likely to raise is that when his basic need remains Voice Telephony , why is he being compelled to upgrade handsets, and meet this new expense. **Even assuming that the average device cost falls to half the current price, the country will need an additional device investment of US$ 25 to 30 billion if these 500 million customers who are currently on GSM 900, are to move to new**

devices. We humbly submit that this new <u>cost of device upgradation is anti consumer</u> and does not align with stated Government objectives for growth of affordable telecom services in rural and remote areas.

2. **<u>Technology – Is India ready to abandon GSM services for futuristic UMTS /LTE services?</u>** :

I. The mere suggestion of Refarming by the Regulator gives an impression that the Regulator and the Government of India believe that in the next 3 to 4 years the country will abandon GSM technology and shift to futuristic mobile technologies. Implicit in the refarming suggestion is that Indian customers across all strata of income, gender and geography will not need low cost GSM services and can upgrade to next generation services.

II. **While the spectrum auction consultation paper quotes the European example on Refarming, what it does not highlight is that nowhere in Europe has 900 MHz GSM services been asked to close down in favour of next generation technology.**

III. In Europe, the number of operators are fewer and the 900 MHz band generally has larger bandwidth of 35+ 35 MHz (India's allocation is presently a maximum 21.8 + 21.8 MHz), thereby permitting existing operators to earmark specific frequency band within 900 MHz spectrum to run GSM services and a separate 5 MHz in the 900 MHz band for future UMTS /LTE services. Thus in the same area, the same operator can offer both 900 Mhz GSM services and 900 MHz UMTS services, thereby giving a choice to the customer.

IV. However, in India there is a maximum of 21.8 + 21.8 MHz of 900 MHz spectrum allotted to telecom operators. Further, given that India is the 2nd largest market for GSM Voice in the world and that too with the lowest tariff, the volume of traffic carried by 900 MHz GSM operators in India is far in excess of their counterparts in Europe. Hence, if Government directs Refarming it is not possible to offer a choice of both GSM services and future services from UMTS/LTE unless the Regulator refarms the remaining 13.2 + 13.2 MHz spectrum in the extended GSM band and auctions the same exclusively for UMTS /LTE.

V. **The liberation of spectrum will be to refarm the remaining 13.2 +13.2 MHz (including extended GSM band) and auction the same for mobile broadband using UMTS/LTE technology standards and for the existing 21.8 + 21.8 MHz, let existing operators offering GSM services continue on existing technology until the overall eco system is ready and consumer /society demands their existing services are upgraded to future mobile broadband services with 'Voice on IP'. Current expert projections for GSM Technology usage in the country suggest that GSM as technology will continue for the next 15-20 years and may only be completely abandoned in favour of other futuristic technologies around 2025-30 time frame.**

VI. Informal discussions with equipment suppliers suggest that GSM services continue to grow across the globe as a large mass of the remaining 1.5 - 2 billion world population remain deprived of basic voice services. They further opine , that large population countries like India, Pakistan, Indonesia, China and continents of Africa and Latin America are still investing and expanding GSM 900 MHz services.

VII. Even in the high income countries like United States, UK, Germany, France, etc., there is no near term projection of GSM Voice services to be closed down /phased out. Given the per capita income of India, it is natural to assume that low income countries phase out of GSM services is at least 1 to 2 decade away. Expediting the Refarming process will thus be at complete variance with the stated Government objectives of inclusive growth and affordable universal services especially in deep rural and remote areas.

VIII. In comparison to GSM services, **UMTS services which was launched Worldwide, as early as 2001 has still not been aggressively adopted. Even in high and mid-income countries like China, Indonesia, Malaysia, Russia, etc., the adoption of 3G services is low. LTE on sub 1Gb band has not been auctioned in most developed /high income countries including China, UK, France and most European countries and developed South East Asian countries.**

IX. **In fact, China has not auctioned or decided on their way forward for 4G/LTE although, they enjoy the largest mobile consumer base in the world and launched their 3G Services one to two years before India. China has no declared plans to refarm their existing 900 MHz GSM services for future technology use.**

X. Further, Worldwide, UMTS/3G services have less than a 1.3 billion customers even after 10-12 years of launch, LTE serves only a few million customers mostly for well evolved broadband markets, while GSM supports more than 5 billion customers across all geographies and strata of population and continues to grow.

XI. **Global standards for LTE in Sub 1 GHz band are still being formulated. The frequency band has still not been harmonized. Eco system is still not fully ready. It may take 3 to 5 years for early signs of adoption.**

XII. Even in India, the launch of UMTS services has had an initial lukewarm response and Indian operators who have spend US $14 billion for purchase of 3G spectrum are not able to attract customers as devices are unaffordable, capex expensive, and the overall eco system not fully evolved. Just like in the case of GSM services which was launched as early as 1995 and actually reached its inflection point 13 to 14 years later in 2007-08, we expect the UMTS services may also take a while before there will be mass adoption.

XIII. **While the UMTS HSPA+ services on 2100 MHz band have at least been launched in the country, the 4G, 2300 MHz under LTE TDD band of mobile broadband services where the operators have paid over US $ 7.5 billion has still not been launched even after 20 months of spectrum allocation. It shows that the Government in their hurry to monetize spectrum has timed the introduction of new technology much before the country is ready to adopt it. Even the most advanced countries with surplus income generation, are struggling to adopt the latest LTE technology as standards, devices and equipment are still evolving.**

XIV. **It is thus projected that the GSM services in India will only be abandoned after all high income and mid income countries have migrated /phased out this technology. Based on current trends,this is not expected before 2025, when the eco system of equipment, devices and applications has fully matured for futuristic technology like UMTS/LTE, and reached scale for becoming affordable to an average Indian.**

3. Operators – Is Write off of 900 MHz GSM Assets in the National Interest:

I. It's a myth that 900 MHz operator assets have been depreciated. As the country's mobile business reached its inflection point as late as 2008, a significant portion of 900 MHz GSM operators' investments are current. If refarming is ordered by the Government, a large portion of undepreciated assets will have to be written off. Our Total assets investment (all bands included) is as follows:

	BTS Sites	
Financial Year	**EoP Sites**	**Additions**
1995-2006	4763	NA
2006-2008	29010	24247
2008-2010	66188	37178
2010-2012*	94832	28644

**-Till Mar,2012*

II. Most of the RF GSM equipments are tuned for a specific spectrum band and cannot be reused for example if 900 MHz refarming is ordered by the Government today, Idea Cellular will have to write off an overall investment of Rs 8000 to 12000 crores The amount to be written off by the Industry will be multiple times that of a single operator. A similar amount of money would also be expected to be spent on provisioning of additional capex and opex for providing equivalent coverage in another band , say 1800, subject to final discussions with the vendors.

III. The table below provides year-wise details of investment of Idea Cellular in 900 MHz GSM services and the same clearly shows that we have been investing recently and are continuing even now to invest (deep into rural areas) and most of the assets are currently at their near original value.

Gross block of investment in 900 MHz circles :

	BTS Sites	
Financial Year	**Cumulative Investment (Gross Block) (INR Cr)**	**For the Year Investment (INR Cr)**
FY09	11710	
FY10	13114	1404
FY11	14616	1502
FY12(9M)	16508	1892

IV. While most of the investments in 900 MHz spectrum is by listed public limited companies given the fact that the telecom investment has a direct correlation to the GDP growth of the country, any early write off of these large investments will be a colossal national waste, and will shake investor confidence, making it difficult to attract investments for future country needs.

V. As these public limited and government companies today service over 500 million customers using investments from Indian banks, attracting foreign direct investments, creating direct and indirect employment opportunities for millions of Indian youth, having direct linkages to growth of related industries like mobile devices, Value added services, BPO, infrastructure industries like Steel, Cement, Electrical and Electronic manufacturing , etc. The sector has great potential to become underpinning for other sectors. The healthcare, utilities, energy, automotive industry and many more areas of economic life rely on telecom. The uncertainty created due to refarming, would have direct linkage to the future of the above defined sectors. Thus company's assets should be treated as national assets and any premature retiral as a national loss. The uncertainty created due to refarming, would have direct linkage to the future of the above defined sectors.

VI. **The spectrum consultation paper seems to give a choice of liberalization of spectrum to 900 MHz band user. However , there is really no choice on offer, when it is publicly known that 900 MHz band has been identified for GSM usage by all these licensees due to original mandate by the DoT in 1994/1995/1996. Given the very large voice traffic volume and huge shortage of spectrum, not only in Metros but also in mid size and small towns even a suggestion to withdraw any spectrum from current usage will result in a disruption of services and an inability to meet TRAI's QoS parameters. The operator will have no ability to meet customer expectation of exacting telecom service standard of the Regulator and telecom services across India will be in disarray.**

4. **Investors – After Unplanned losses will they reinvest for Future of India Telecom :**

I. Another view proposed on Refarming is to continue GSM services on 1800 MHz but to refarm 900 MHz for future generation services. Implicit in this belief is that the investors of these companies can take the write off of 900 MHz specific GSM equipment and make fresh investments in 1800 MHz equipment for future voice demands.

II. **This belief of the Government and the Regulator would stem from the fact that the investors in these companies will still find it profitable to make fresh investment on GSM 1800 MHz band. Given the proposed huge losses due to refarming, lowest tariff in the world , highest competition and the least allocation of spectrum with the highest degree of uncertainty , it is unlikely investors will find this business proposition strong enough to support. Therefore the belief that the Government can refarm 900 MHz and replace it with 1800 MHz spectrum, thus offering GSM services to the customer and the society at large is unsustainable as no investor would like to support this proposition.**

III. The financials of most mobile telecom companies are available and other than two 2 or 3 companies the rest of the telecom service providers are saddled with losses, high debt and very weak Balance Sheets. With the decision of refarming, even these profitable companies will turn red and their ability to attract fresh investments will be severely impaired.

5. **Society – Are we prepared to go through the Pain of Refarming ? :**

I. **Internationally for development of the rural economy sub 1 GHz band is earmarked. Rollout obligation principle is thus normally pursued for these bands so that deep rural belts are enjoying benefit of telecom services. Government /Regulator's decision to replace GSM services from existing 900 MHz band to all 1800 MHz will have a direct hit on the rural telephony and thereby growth of rural economy of the country.**

II. The mobile sector, once the poster boy of socialist inclusive growth will not be able to continue its journey of bringing a large mass of the unconnected population into the main stream economy.

III. The telecom industry, once, one of the most successful elements of the Government's liberalization and deregulation policy will be rife with legal and counter claims as stated and unstated contracts will be broken due to the aftermath of refarming.

IV. **While as per License conditions the Government has to discuss terms of extension of license, the society and customers expect continuity of services irrespective of the tenure of the contract. Just for reference,**

even in one of the country's, where the Regulator has directed the National incumbent operator to abandon 2G Services (as there were limited few thousand customers), the issue is saddled with multiple consumer cases. One can only wonder as to what may happen in similar situation in India, where more than 500 million customers are on GSM 900 MHz Voice.

6. **Competition – How does Nation Benefit ?** :

I. **In the most unlikely event of 900 MHz spectrum being refarmed and auctioned, the Regulator, Government and the winner of 900 MHz spectrum will have two choices either to introduce GSM Services or by license terms allow only futuristic Mobile broadband service.**

II. **In case, the Regulator, Government and the winner of 900 MHz auction, decides to make fresh investment in GSM service for the next 20 years, it is not understood how the society and country would benefit ? The existing investment will have been written off, consumers and society would have suffered in quality during the phase of transition and long geographical stretch of no coverage for a period of time. The new operator practically will need 3 – 5 years to build GSM equivalent coverage to serve the same customers and this too is with the assumption that the investors of these companies also take a similar view as of the present incumbent to invest aggressively in the deep interior rural areas and serve the lowest income strata of the country.**

III. **In case, the winner of the refarmed 900 MHz, were to choose to invest only in future UMTS/LTE technology - it will be a signal that the Government has abandoned its objective of low cost Voice Mobile telecom services for all. A large portion of the Indian Population at the lower end of income strata, with no English education (most internet content is in English), with low need hierarchy and neither having the skill sets to fully explore the opportunities of the Web, will be forced out of their existing low cost telecom connectivity services.**

IV. Naturally , both choices cannot co-exist unless Regulator /Government refarms extended GSM band and offers it exclusively for latest UMTS/LTE services.

V. **The chosen path of Indian Government in 1994/1996 directing Indian Mobile operators holding 900 MHz band to serve the Indian population with Mobile Voice connectivity on GSM services has to continue for a long period, unless the technology reaches the end of its life. The new futuristic Mobile Broadband Services can only be build on a separate Spectrum Band. We strongly urge Government to earmark 700 MHz for Mobile Broadband on LTE technology while continuing to increase additional spectrum in 2100 MHz for 3G UMTS/HSPA services and 2300 MHz for LTE - TDD services and retaining 900 MHz and 1800 MHz for GSM Services.**

7. **Idea Final Submission on Refarming**

I. Based on the ramification on the customers, investors and society, we hope Regulator and Government will see merit in our fervent submission that refarming the existing 900 MHz band from GSM Services is not an option available for a developing economy like India.

II. But, besides serving one end of the consumer segment, the Mobile industry is committed to grow the aspiring need of young India and build a robust mobile broadband network. The journey for the same has begun with the Auction of 2100 MHz spectrum earmarked for HSPA/UMTS Services. The Government

/Regulator should first co-ordinate with Defence and related agencies to make more spectrum available in 2100 MHz, so that there is enough competition and services can expand into mid-towns, small towns and other rural areas.

III. Once, the already auctioned 2100 MHz and 2300 MHz spectrum has stabilized, consumer response is strong, eco system is well developed and device prices has become affordable, thereby allowing the 3G Services to reach an inflection point, the country will be ready for the next generation of Services.

IV. High Speed LTE services should be specially earmarked under 700 MHz band and the auction of available spectrum allowed to all existing operators. The Regulator /Ministry of Telecommunication should make all efforts to harmonize the band, work with 'International Telecommunication Union' (ITU) and other Global Regulators to help standardize the Eco system for equipment, spectrum, devices, application.

V. Once, the Indian Regulator is satisfied the 'Long Term Evolution' Technology has matured and the capex and opex investment can meet the value seeking mass market Indian consumer's paying ability for High Speed Mobile Broadband, then 700 MHz band earmarked for this technology should be auctioned for all existing operators in a fair and transparent manner. Then, only the India Government and Regulator will realize the true value of the 700 MHz spectrum and operators will be able to meet aspirations of India on Mobile Broadband.

VI. The present consultation proposal of refarming 900/800 MHz as is being postulated is a disruptive exercise and should immediately be abandoned.

As pointed above as also in our response to query no. 4 above and our primary submissions on spectrum re-farming, in our view, the country is not ready for any of the three options proposed by TRAI for spectrum re-farming.

Option 1:

In this option, TRAI is suggesting that the entire spectrum in 900 MHz is returned back in lieu of spectrum in 1800 MHz band. Since the operators have invested in building the networks in 900 MHz band with special focus to deep rural penetration, and the whole eco-system is developed around these networks, such move on the part of the Regulator will not only be catastrophic to the telecom sector, but will result in complete disruption of the GSM mobile telephony services being currently used by more than 500 mn subscribers in the country. This will also be against the Govt. policy of mobile telephony penetration in the rural & remote areas of the country. (Please refer to our overarching submissions on refarming)

It is not clear from the consultation paper in terms of what is being planned out of the 900 MHz spectrum being returned back and how the option is more beneficial to the country, then the existing arrangement.

To avoid wide scale ramification to the customer, operator, development of technology, investors, bankers and society at large, the Option 1 is impractical to implement and should be permanently dropped.

Option 2:

This option allows operators to keep up to 5 MHz spectrum in 900 MHz & the excess spectrum is required to be returned back on the Extension of the existing licenses. The use of retained spectrum can be either for continuing existing GSM services or for refarming to futuristic LTE /UMTS services.

a. <u>If retained spectrum is refarmed to UMTS/LTE technology</u>

We would like to draw attention of the Authority to the fact that the country will need lot of time to develop the eco-system for future UMTS/LTE technology. As, neither the Govt. nor operators can afford to disrupt the GSM mobile services refarming of the retained spectrum to futuristic technology is not practical nor advisable.

b. <u>If retained spectrum is used for continuing GSM services</u>

The proposed option of TRAI to reduce existing spectrum quantity unnecessarily forces sub optimal splitting of the 900 MHz spectrum resulting into spectral inefficiency and steep drop in quality of service. Considering the existing & growing voice traffic volumes, this will also impact the TRAI prescribed telecom standards. India is the second largest telecom market and 900 MHz today carriers over 60% of Indian mobile traffic and GSM 900 Services countinues to grow rapidly. The country has the lowest spectrum allocation when compared to similar sized operations.

Implicit in this option is the belief that the investors of these companies can take the write off of 900 MHz specific GSM equipment and make fresh investments in 1800 MHz equipment for future voice demands.

This belief of the Government and the Regulator stems from the fact that the investors in these companies will still find it profitable to make fresh investment on GSM 1800 MHz band. Given the proposed huge losses due to refarming, lowest tariff in the world , highest competition and the least allocation of spectrum with the highest degree of uncertainty , it is unlikely investors will find this business proposition strong enough to support. Therefore the belief that the Government can refarm 900 MHz and replace it with 1800 MHz spectrum, thus offering GSM services to the customer and the society at large is unsustainable as no investor would like to support this proposition.

It is not clear from the consultation paper in terms of what is being planned out of spectrum being returned by the operators. Thereby, the Option 2 is impractical to implement and should be rejected.

<u>**Option 3**</u>:

This option is similar to Option 2 except that the excess spectrum is returned back upfront instead of being returned on the Extension of the existing licenses. This option also seems to be based on the wrong assumption as above & therefore is not viable. **In fact this option is worst than Option 2 since it pre-pones the service disruptions & will result in massive disruption of huge investments made in the network upfront without any corresponding benefit to customers, operators, investors as well as Govt. The Option 3 should be rejected.**

Q6. What are the issues that may arise in the above mentioned re-farming process?

Ans. As highlighted in our primary submission, refarming of 900 MHz spectrum as postulated by TRAI would have wide scale disruption of customer services and series of related ramifications for various stakeholders. The telecom sector a protégé of Indian economic liberation, would get into deep recession and lose well earned loyalty of the customers, investors, bankers and society and looming possibility exists of anarchy. The country would be pushed behind for ages and the sector ability to expand existing Mobile Services and introduce aggressively future Mobile broadband services will be significantly impaired.

In this regard, you may also kindly refer to our overarching submissions on reframing, wherein we have highlighted various issues on following aspects :

a) **Customers - Is Reframing Anti-Consumer or Beneficial ?**
b) **Technology – Is India ready to abandon GSM services for futuristic UMTS /LTE services?**
c) **Operators – Is Write off of 900 MHz GSM Assets in National Interest**
d) **Investors – After Unplanned losses will they reinvest for Future of India Telecom**
e) **Society – Are we prepared to go through Pain of Reframing ?**
f) **Competition – How does Nation Benefit ?**

In view of the above, we state the following ;

I. Based on ramification on the customers, investors and society, we hope Regulator and Government will see merit that reframing existing 900 MHz band from GSM Services is no option available for a developing economy like India.

II. But, besides serving one end of the consumer segment, the Mobile industry is committed to grow the aspiring need of young India and build a robust mobile broadband network. The journey for the same has begun with the Auction of 2100 MHz spectrum earmarked for HSPA/UMTS Services. The Government /Regulator should first co-ordinate with Defence and related agencies to make more spectrum available in 2100 MHz, so that there is enough competition and services can expand into mid-towns, small towns and other rural areas.

III. Once, the already auctioned 2100 MHz and 2300 MHz spectrum has stabilized, consumer response is strong, eco system is well developed and device prices has become affordable, thereby the 3G Services reach an inflection point, the country will be ready for next generation of Services.

IV. High Speed LTE services should be specially earmarked under 700 MHz band. The Regulator /Ministry of Telecommunication should make all efforts to harmonize the band, work with 'International Telecommunication Union' (ITU) and other Global Regulators to help standardize the Eco system for equipment, spectrum, devices, application.

V. Once, the Indian Regulator is satisfied the 'Long Term Evolution' Technology has matured, the capex and opex investment can meet the value seeker mass market Indian consumer paying ability for High Speed Mobile Broadband, then 700 MHz band earmarked for this technology should be auctioned for all existing operators in a fair and transparent manner. Then, only the India Government and Regulator will realize the true value of the 700 MHz spectrum and operators will be able to meet aspirations of India on Mobile Broadband.

VI. The present consultation proposal of reframing 900/800 MHz as being postulated is a disruptive exercise and should immediately be abandoned.

Q7. For new technologies e.g. UMTS/LTE, 5 MHz is the minimum amount of spectrum required. Certain licensees have only 4.4 MHz spectrum in 900 MHz band and 2.5 MHz spectrum in 800 MHz band. What are the possible options in case of such licensees?

Ans. Since the entire proposal of spectrum re-farming of TRAI is based on the wrong assumption that 900 MHz spectrum once liberalized will be immediately used by operators for UMTS/LTE, the question as to what will happen to the operators who have got only 4.4 MHz spectrum in 900 MHz band does not arise. In our view whether operator has got 4.4 MHz or even more than 5 MHz spectrum, at this stage no one can afford to migrate from GSM to UMTS/LTE network given the ramifications of such decision as explained in detail in our primary submission on spectrum refarming.

Q8. Some GSM spectrum allocations may be interleaved between operators; to avoid fragmentation, reconfiguration between operators may be required. Whether frequency reconfiguration is required and what are the challenges and possible solutions?

Ans. It prima facie appears that TRAI has raised this question again on the basis of wrong assumption that spectrum in 900 MHz bands once liberalized will be immediately used for UMTS/LTE. The GSM spectrum interleaved between operators will be required to be reconfigured only if they plan to use one continuous 5 MHz block of frequency for UMTS/LTE. Since this migration is not feasible in the near future, the question of frequency reconfiguration to avoid fragmentation is not very relevant at this stage.

Q9. Should the re-farming of spectrum in 800/900 MHz bands be dealt independently or should a comprehensive approach be adopted linking it with the availability and auctioning of 700 MHz band?

Ans. As already pointed out in our response to questions on spectrum re-farming, the re-farming of 900 MHz spectrum is not a viable option for the country since it will disrupt the GSM services for more than 500 mn customers in the country, severely affect the rural telephony & make the investment made by public/institutional shareholders in the GSM networks completely **unviable. Hence, the subjects of re-farming & the auction of 700 MHz should not be linked & need to be dealt with independently on their own merits. The Regulator needs to independently evaluate whether the country is ready for either spectrum re-farming or even for auction of 700 MHz spectrum band.**

In this regard, we reiterate the following :

a. The UMTS services which was launched Worldwide, as early as 2001 has still not been aggressively adopted. Even in high and mid-income countries like China, Indonesia, Malaysia, Russia, etc., the adoption of 3G services is low. LTE on sub 1Gb band has not been auctioned in most developed /high income countries like China, UK, France, most European countries and rich South East Asian countries.

b. In fact, China has not auctioned or decided on their way forward for 4G /LTE services, although they enjoy the largest Mobile consumer base in the world and had launched their 3G services about one to two years before India. China has no declared plans to refarm their existing 900 MHz GSM services for future technology use.

c. LTE services has duly attracted few million customers, mostly from well evolved broadband markets, therefore the eco system for equipment, devices and applications is not ready or too expensive for value seeking market like India.

d. Global standards for LTE in Sub 1 GHz band are still being formulated. The frequency band has still not been harmonized. Eco system not fully ready.

e. Even in India, the launch of UMTS services has had an initial lukewarm response and Indian operators who have spend US $14 billion for purchase of 3G spectrum are not able to attract customers as devices are unaffordable, capex expensive, and the overall eco system not fully evolved.

f. While the UMTS HSPA+ services on 2100 MHz band have at least been launched in the country, the 4G, 2300 MHz under LTE TDD band of mobile broadband services where the operators have paid over US $ 7.5 billion has still not been launched even after 20 months of spectrum allocation. Even the most advanced countries with surplus income generation, are struggling to adopt to the latest LTE technology as standards, devices, equipment are still evolving.

Given the above and our primary response, it is strongly urged that –

I. There is no case of refarming of 800/900 MHz band in the country.

II. There can be no linkage of auction of 700 MHz with 800/900 MHz band refarming.

III. The 700 MHz band should be specially earmarked for Mobile Broadband high speed LTE services.

IV. Before planning auction, the regulator /WPC/Ministry should make all efforts to harmonise the band work with organizations like 'International Telecommunication Union' (ITU) and other global regulators to help standardize the Eco system for equipment, spectrum, devices, application and others.

V. Once, the TRAI is satisfied the LTE technology has matured, the capex and opex investment can meet the value seeker mass market Indian consumer paying ability, the high speed Mobile Broadband with primary benefit of video and higher end application is in big demand, then only 700 MHz band earmarked for this technology should be auctioned for all existing operators in a fair and transparent manner.

VI. If the timing for 700 MHz is right and participation global, open to all telecom companies, then only the Indian Government, regulator and Indian consumers will be able to realize the true and full value of the 700 MHz spectrum and operators will be able to meet the aspiration of India specially its next generation technology savvy youth.

Q10. Which of the two approaches outlined above be adopted?

Ans. As explained in our detailed response to query no. 11 on the timing of the auction, in our view the country today is not ready for 700 MHz spectrum due to multiple reasons cited above as also in our overarching response submitted to the Authority.

a. However, whenever the country is ready in future, out of the two approaches outlined by TRAI viz., not allowing only those licensees having spectrum in 800/900MHz to participate in 700 MHz spectrum Vs allowing all the licensees to take part in the auction after defining a spectrum cap in sub 1 GHz band & also overall spectrum cap on total spectrum a licensee can hold, we would like to submit that both the approaches are completely unviable for the simple reason that 900 MHz band is today used for GSM mobile

telephony services by millions of customers while 700 MHz band should be earmarked for dedicated mobile broadband services using LTE technology.

b. Since both the bands i.e. 900 MHz and 700 MHz are recommended for use of different services namely GSM services for 900 MHz and LTE Mobile broadband services for 700 MHz, linking the two independent uses are not desirable.

We would also like the Authority to note that Worldwide, out of the limited LTE spectrum allocation, 90% of the allocation /auction has been to existing Mobile Operator. Remaining 10% allocation of LTE also is only to Fixed line, Wimax or related operators. Thus any option to restrict incumbent players from 700 MHz is also contrary to prevalent International experience.

c. Barring incumbent operators would not only be arbitrary and malafide but not desirable for the country. The existing operators have extensive existing investment in fibre, Transmission backhaul, Telecom Core which is a prerequisite for expanding future mobile broadband services. The incumbent operators, whenever they offer, LTE services on 700 MHz would be able to offer better value to Indian consumers and their market presence would encourage competition.

Q11. When should 700 MHz spectrum be auctioned?

Ans. We would like to draw attention of the Regulator to few international experiences in terms of timing of 3G & LTE spectrum auctions.

a. In advanced countries like UK, Germany, France etc. the 3G auction was conducted in the year 2000-01 while the 800 MHz spectrum for LTE is happening around 2011-12.

b. Over the last decade, despite somewhat maturing of 3G technology, worldwide there are only 1.4 bn 3G subscribers as against the total mobile subscribers of 5.6 billion. As against 3G customers, the world's total 4G LTE subscribers are only 6.4 million & out of this 6.4 mn subscribers, 86% subscribers are serviced by only 2 operators i.e. Verizon Wireless & NTT DoCoMo.

c. The total world-wide LTE subscribers are expected to reach only around 600 million by the end of 2016 (*Source: Global Telecom Business – Feb 2012*).

d. It is submitted that the telecom operators in India have still not recovered from the huge investments in 3G/HSPA for auction and therefore network expansion deep in small and mid-sized towns are slow.

e. In India the adoption of 3G technology is slow given the device and capex prices resulting into a very weak business case for existing 3G operators who have obtained 3G spectrum at very high prices paying over US $ 14 billion for 2100 MHz Auction.

f. Despite winning spectrum in the BWA auction and paying to DoT over US $7.5 billion, being saddled with Debt, still no operator in the country has been able to launch 4G services due to lack of eco-system & lack of economic viability.

Under these circumstances, any untimely auction of spectrum in 700 MHz band may accrue revenue to the Govt., but the commercial exploitation of such scarce resource for the larger interest of the society may be permanently impaired if the operators are forced to bid for such auction ahead of its commercial viability & in the process they may become sick & unviable.

To add to the misery, if such auction is linked to spectrum re-farming, that will not only negatively impact the business case for the operators for Mobile broadband, but it will also hugely undermine the business case for existing GSM mobile telephony services, more particularly in the rural & remote areas of the country.

In our assessment, it will take 2-3 years for 3G UMTS to stabilize & reach the mass market. 3G after stabilizing will co-exist with LTE for few more years & the real commercial scale volumes for mobile broadband using LTE technology will be achieved only around 2015-2017. In view of this, it is submitted that the auction of 700 MHz band should be delayed by at least 2-4 years

Q12. Should the auction in 700 MHz band be linked with the granting permission for the liberalised use of 800/900 MHz band?

Ans. As already pointed out in our specific response to a question on spectrum re-farming as also in our overarching response on issue of reframing, even if the permission for the liberalized use of 900 MHz band is granted, it has no benefit to the operators since the existing GSM mobile telephony service cannot be disrupted due to multiple reasons cited by us (pl. refer our reply on re-farming) & operators will not be in a position to commercially justify the decision of using 900 MHz band for UMTS services by write off of huge investments made by them in building 900 MHz network.

It is submitted that the subject of auction in 700 MHz band be dealt with independently on its own merit without linking it with the grating permission for the liberalized use of 800/900 MHz band.

Q13. How much spectrum in 700 MHz band should be put to auction initially and what should be the amount of spectrum which a licensee should be allowed to win in that auction?

Ans. a. Please refer to our primary submissions on re-farming of 800/900 MHz band. Re-farming is completely disruptive and an unviable option for this country. Hence 700 MHz band has to be treated independently . Further, considering that 800/900 MHz are primarily used for providing 2G GSM /CDMA Services, it is recommended that 700 MHz & its usage earmarked exclusively for next generation Mobile broadband service.

b. We have already highlighted that the country is not ready for 700 MHz auction. Operators have yet to find any intrinsic value from the 2010 Auction for 2100 MHz and 2300 MHz Mobile Broadband auctions – wherein some operators have yet to even commence their services.

c. Once the country is ready for commercial exploitation of this spectrum, we recommend auctioning of the entire spectrum available in this band without creating any artificial scarcity. The intrinsic & the most optimum & fair value of the spectrum is discovered through auction process only when the demand & the supply equation is set right.

d. In each circle, minimum 5-6 operators should be allocated spectrum in this band to have a healthy competition.

e. Each licensee should be permitted to bid for one or two blocks of 5 MHz FDD spectrum subject to a condition that no single operator group can hold more than 10MHz spectrum in any Service Areas.

Q14. What should be the structure of the auction process?
Q15. Should auction be held in single stage or multi stage?
Q16. Should there be a simultaneous auction for spectrum in 800 and 1800 MHz bands?

Ans. The Government managed a hugely successful 3G & BWA Auction in 2010. The experience garnered from that should position the DoT to manage the process in the shortest period of time.

It is recommended that 1800/800 MHz spectrum contract should be -

- As large investment have to be committed, the award of spectrum and license should be for a minimum period of 20 years from the date of award.
- The use of spectrum should be technology agonistic, and the choice of technology should be left to the operator.
- All existing terms and conditions of UASL license which came bundled with start-up spectrum should be applicable to successful bidders in the auction who do not already hold a license for the given Service Area.

We recommend that 1800/800 MHz Auction be opened to

- All holders of 'Quashed Licenses'.
- All New applicants who become eligible for new UASL licenses on currently specified terms and conditions.
- Existing Telecom Service Providers in respective service Areas.
- The suggestion of auction opened for eligible telecom operators is based on the assumption that all available spectrum as detailed in point 1 above is included in the auction.

Q17. What should be the block size of the spectrum?
Q18. Should the block size be dependent on the frequency? If so, what should be the block size in each band?

Ans. To ensure that no individual Telecom Service Provider can block /hoard large block of spectrum and keep it idle/underutilised , we recommend the following norms be specified as upper allocation for all participants in the 1800 /800 MHz Auction.

a. Holders of 'Quashed Licenses' and New eligible applicants
   - Start up spectrum be limited to (4.4 + 4.4) MHz in 1800 MHz and 2.5 MHz in 800 MHz
   - 6.2 MHz in 1800 MHz, if the licensee has reached the defined 'Subscriber Linked Criteria' and met all the roll-out obligations.

b. Existing operator in a specified Service Area can acquire up to a maximum limit as applicable under the 'Subscriber Linked Criteria' (as per Government Order dated 17th January 2008), if its application for same is approved by DoT before the finalisation of Auction.

c. Maximum spectrum cap for all existing Telecom Service Provider in a specified Service Area as per existing applicable Government policy.

d. While New application /holders of 'Quashed Licenses' can bid in a single block of 4.4 MHz, we recommend incumbent operators can bid in blocks of 1 MHz with upper cap to the 'Subscriber Linked Criteria' and/or Maximum Spectrum cap whichever is lower.

   As a large portion of the 1800 MHz spectrum is to be released by holder of licenses which are proposed to be quashed, but a number of these operating companies have rolled out the services and some of these licensee have met the defined roll-out obligation. In case these companies were to win the spectrum back in a market determined Auction Process, the Government should allocate the same band of frequency to the affected license holder whose licenses were quashed by the Supreme Court.

   This 'first right' to the specific frequency band may be earmarked by the Authority for the holder of 'Quashed Licenses', as these companies had made large investments with a number of radio equipments specially tuned to the specific spectrum and frequency band allocated earlier.

Q19. Should there be a cap on amount of spectrum one can bid? If so, what should it be?

Ans. To ensure that no individual Telecom Service Provider can block /hoard large block of spectrum and keep it idle/underutilised, we recommend the following norms be specified as upper allocation for all participants in the 1800 /800 MHz Auction.

- **Holders of 'Quashed Licenses' and New eligible applicants**
  - Start up spectrum be limited to (4.4 + 4.4) MHz in 1800 MHz and 2.5 MHz in 800 MHz
  - 6.2 MHz in 1800 MHz, if the licensee has reached the defined 'Subscriber Linked Criteria' and met all the roll-out obligations.

- **Existing operator in a specified Service Area:**

  - Can acquire up to a maximum limit as applicable under the 'Subscriber Linked Criteria' (as per Government Order dated 17th January 2008), if its application for same is approved by DoT before the finalisation of Auction.
  - Maximum spectrum cap for all existing Telecom Service Provider in a specified Service Area as per existing applicable Government policy.

Q20. Should there be a separate cap on the total amount of spectrum one can hold; if so, what amount should it be?

Ans. At the outset, it is submitted that that current Regulatory policy does not define any specific spectrum cap. Considering that spectrum needs to be equally available to all and no operator should gain any competitive advantage with additional spectrum, the maximum restriction which can be visualised is that the operator spectrum cap be kept at 25% of total spectrum available in given service area or as per any existing Government policy. However the entitlement for spectrum, even upto the cap should be linked to existing subscriber linked criteria as per the Government policy dated 17th January 2008 and modification thereof , if any. No non-serious telecom operator should be allowed to procure spectrum and keep it idle and the Regulator/ Government should ensure that there are atleast 6 operators in each service area.

Q21. Should there be a cap on the amount of spectrum one can hold in respect of sub-GHz spectrum? If so, what should it be?

Ans. Whenever, the 700 MHz spectrum is auctioned, it should be in blocks of 5 MHz ensuring minimum 6 Telecom operators. The entire spectrum should be auctioned with upper cap of 10 MHz. Please also refer to our response to query no. 13 in this regard.

Q22. Who all should be eligible to participate in the auction?

a. All licensees whose licences have been cancelled;
b. All eligible applicants as on 10.01.2008;
c. Only licensees whose licences have been cancelled and all new eligible entrants at the time of auction; or
d. Open to all including the existing Licensees.

Ans. We recommend that 1800/800 MHz Auction be opened to

- All holders of 'Quashed Licenses'.
- All New applicants who become eligible for new UASL licenses on currently specified terms and conditions.
- Existing Telecom Service Providers in respective service Areas.

Q23. What should be reserve price per MHz of spectrum in the year 2012 for 1800 MHz band?

Ans. **Reserve Price per MHz for 1800 MHz Band**

- The last Market driven Auction Price was discovered in 2001. The Department of Telecom has allocated spectrum to existing GSM /CDMA operators as late as 2007/08 at the same 2001 Market discovered Auction price for GSM @ Rs. 1658 cr for the All India License.

- The maximum spectrum available for this Auction is from Telecom Service Provider who were allocated licenses in January 2008 with a clear contractual understanding of Spectrum Pricing @ Rs. 1658 cr for a nationwide 1800 MHz contracted spectrum of 6.2 MHz.

- So, if reserve price is set at any different level to existing price discovered for 1800 MHz of Rs. 1658 cr, then it will not meet the objective of 'equality' and 'level playing field' for all participants.

- As the reserve price is the starting benchmark for participants to bid and final price discover will be through auction based on demand supply interplay, we strongly recommend reserve price for new 1800 MHz Spectrum Auction be kept at similar level for each Service Areas as discovered during 2001 1800 MHz 4th License Auction.

- Recommend Reserve Price of Rs. 1658 cr for a period of 20 years, 6.2 MHz spectrum for All India Service Areas. Reserve Price for individual Service Areas be same as prevailing in 2007/2008 allocation.

Q24. What should be the reserve price per MHz of spectrum in the 700/800/900 MHz bands.

Ans. **<u>Reserve Price for 700/800/900 MHz</u>**

- Our recommendation on 700 MHz has been the auction should be deferred till the country is ready for High Speed UMTS. Whenever the 700 MHz Auction is conducted, the reserve price is similar to 2010 3G Auction reserve price of All India Rs 3500 crores for 5 MHz spectrum for 20 years, as per current practise of having graded reserve price for Metro /A circle /B Circle and C Service Areas.

- We have given detailed submission of existing 900 MHz spectrum under use for GSM Services should not be refarmed to prevent large scale disruption of services.

- If TRAI/WPC/Ministry is able to refarm remaining 13.2+13.2 MHz spectrum and earmark specially for UMTS/LTE use, the reserve price for some should be the original reserve price kept during the 2010 3G Auction of nationwide Rs 3500 crores for 5 MHz spectrum for 20 years, as per current practise of having graded reserve price for Metro /A circle /B Circle and C Service Areas.

- Similarly, as 800 MHz spectrum has a declared use for 3G services under EVDO, the reserve price for the same should be original reserve price kept during the 3G Auction of nationwide Rs. 3500 crores for 5MHz spectrum for 20 years, as per current practise of having graded reserve price for Metro /A circle /B Circle and C Service Areas.

Q25. Whether the reserve price should be uniform across the country or service area wise?

Ans. We recommend the current practice of graded reserve price for Metro /A circle /B Circle and C Service Areas for period of 20 years, based on growth of telecommunication services and overall per capita income of the population, should continue.

Q26. What should be the roll out obligations linked to the auctioned spectrum?

Ans. The competitive situation forces the operators to roll-out services. In any case TRAI QoS norms ensure grade of service. Hence , ideally roll-out obligations are not essential. However the TRAI can visualize lenient steps to ensure that operators with spectrum do not indulge in hoarding of spectrum.

Q27. What should be the annual spectrum usage charge for the spectrum being auctioned?
&
Q28. Should the spectrum usage charge be in line with present criteria of escalating charge with the amount of spectrum holding or a fix percentage as was done for 3G and BWA spectrum?

Ans. **The annual spectrum charge should be uniform.** The DoT Committee in its 2010 report has provided reasons and basis for a uniform spectrum usage charge, and we concur with the same . Briefly stated :

a. Currently the annual spectrum charge depends not only on the quantum of spectrum but also on technology. These charges are currently based on an escalating percentage of AGR depending on spectrum held. The escalating rate approach is appropriate to discourage substitution of physical infrastructure by spectrum when spectrum is assigned based on administratively determined subscriber thresholds. **Once the value is being determined through an auction mechanism, there is no rationale for continuing with an escalating charge approach.**

b. There is a second reason why an escalating charge approach is unsuitable when there is an auction. In an auction, the bidder would factor in both the upfront fee payable through the auction as well as the recurring usage charges. If usage charges were to be different at different levels of spectrum holding the entire auction process would be compromised. A person paying a higher usage charge on account of holding a larger block of spectrum prior to the auction would be compelled to place a lower upfront value for the bid and will not have a level playing field in bidding. Under these circumstances, it would be incorrect to determine the winning bidder only on the basis of the auction price. **Therefore, once an auction approach is introduced for spectrum allocation, in order to ensure that all bidders compete and bid on equal terms, spectrum usage charges must be prescribed at a flat / uniform level so as to ensure level playing field in the bidding and allocation of spectrum.**

Q29. What should be the period of validity of spectrum? &
Q30. What should be the period of price of spectrum?

Ans. It is recommended that 1800/800 MHz spectrum contract should be -

- As large investment have to be committed, the award of spectrum and license should be for a minimum period of 20 years from the date of award.

- All existing terms and conditions of UASL license which came bundled with start-up spectrum should be applicable to successful bidders in the auction who do not already hold a license for the given Service Area.

Q31. Should the government allow deferred payment schedule of the spectrum auction fee, or should the payment be upfront in nature?

Ans. The government should follow the payment schedule similar to what was followed in case

of 3G/BWA auctions.

The payment should be upfront immediately on declaration of Auction winner.

Q32. Should Spectrum trading be allowed in India?

Ans. In the current context where there are so many open issues and the spectrum is scarce, the purpose of acquiring spectrum should only be to use the same for provision of telecom services. Allowing spectrum trading may lead to hoarding of spectrum with profit motive and may defeat the stated objective of the Government to provide affordable telephony to the common man and defeat TRAI objective to increase competition.

Q33. (a) Among the various models discussed above, in your opinion which model of spectrum trading is best suited for India?

(b) In your opinion is there any other model which can be implemented in India? If yes, please describe.

Q34. What should be the eligibility criteria to trade the spectrum?

Ans.

a. We should continue the current Government stated stand of not permitting Spectrum Trading.

b. We believe only after the 'Merger & Acquisition' policy announced by the Government, results in overall consolidation of Telecom Operators resulting in large chunks of spare spectrum available with the few operators, then only the detailed consultation process on Spectrum Trading should be initiated.

c. The Government has recently announced liberation of Spectrum Sharing Policy. We recommend TRAI should presently focus on making Spectrum Sharing Policy a success and if necessary modify the existing terms so that industry is encouraged to share spectrum.

d. Announcement of Spectrum Trading can only follow after the country has a robust and thriving following policies.

   i. MVNO Policy - encouraging operators to expand reseller of services in the market.

   ii. Exit Policy – encouraging service operators or telecom business entrepreneurs hoarding excess spectrum to return back to the Government for reuse by the existing /active service telecom operators.

Q35. Whether the spectrum assigned for 3G and BWA services be allowed to trade? If yes, give reasons.

Ans. As only limited spectrum has been auctioned in 3G/BWA and as the number of operators offered 2100 MHz is limited to 4 (as against M&A desire of 5-6 operators) and 2300 MHz to 3 operators, , the auction resulted in

fragmented spectrum allocation. Now, unless Government is able to increase the spectrum availability/ competitive intensity for these services, no spectrum trading should be permitted.

Immediate objective of the Regulator /WPC/DoT should be to co-ordinate with the defence and other related users on 2100 and 2300 MHz and refarm the same for the next generation UMTS and LTE services. Availability of Nationwide Spectrum for minimum 5-6 operators should be the Authority's priority and trading currently should not be permitted.

Q36. Can spectrum be allowed to be mortgaged for raising capital for telecom purposes?

Ans. Once the spectrum is allocated to the winning operators, they should be free to deal with the same in line with the license conditions/ spectrum allocation conditions.

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