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**Sub: TRAI Consultation Paper No. 04/2012 on Auction of Spectrum**

Respected Sir,


With reference to the consultation paper on Auction of Spectrum, please find enclosed herewith comments of TEMA.

In addition to the comments contained in the attachment, TEMA would like to make the following comments/ observations

1. The new recommendations for allocation of spectrum by TRAI shall have to be in consonance with the judgment of the Honble Supreme Court in the matter of allocation of 2G spectrum delivered recently.
2. National interest has to be kept in mind while framing these guidelines. Whilst the new guidelines should not be restrictive to create an impediment in the growth of the telecom industry, they should also not be so ambiguous so that people can take advantage of the same and acquire the rarest of rare resource like spectrum at throwaway prices and then trade the same in the market for unjustified and unacceptable levels of profits.
3. The new guidelines should ensure that the sanctity of the licenses were given are not violated under pressure from the vested interests and create an illegal or unconstitutional situation which is subject to challenge in the court of law.
4. A perusal of the questionnaire gives an impression that TRAI is inclined to accommodate the operators at any cost by developing some consensus through comments from the Industry Associations overlooking the well settled principles of 'No loss to Exchequer'. We feel that the approach should be fair, balanced and consistent having due regard to the law of the land

We hope TRAI would keep all these views before finalization the above guidelines.

*With regards*  
Yours sincerely,

  
Ashok K. Aggarwal  
Hony. Director General

21 March 2012

**TEMA'S COMMENTS ON TRAI CONSULTATION PAPER NO. 04/2012**

**ON 'AUCTION OF SPECTRUM'**

**Q.1 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?**

**Response:**

The fundamental approach should be to provide a level playing to the new operators (pursuant to 10.01.2008) at par with the incumbent operators (Right to Equality) and need to give them right of participation in the fresh auction. The Reserve Price for auction should also be calculated with the objective of maintaining larger public interest and a level playing field.

**Q2. What are the key objectives to be kept in mind in the auction of the spectrum?**

**Response:**

Some of the key objectives should be:

- Level Playing Field, as a corollary of right to equality must be maintained between the operators.
- Augmenting the Tele-density in rural and other areas is to be treated as the primary objective and for attaining the said objective , the role played by new operators towards achieving the same has to be given due consideration.
- Enhancing Healthy competition in the Telecom services, thus, accelerating the thrust of penetration of telecom services in terms of National Telecom Policy has to be the key underlying consideration. This necessarily calls for maintaining level playing field in the sector in terms of allowing Pre-emptory rights to new operators in the spectrum auction and suitably deciding the minimum reserve Price for commencing said auction.
- Pre-emptory right to participate in the spectrum auction to the existing operators ought to be provided in furtherance of constitutional principles.
- The Reserve Price should be fixed by striking a balance between the conflicting requirements of tele-density, level playing field and maximizing the revenue.

- Further, Auction should be carried out in such a way that it does not create monopolization and subsequent hoarding of spectrum by the incumbent operators depriving genuine needy new incumbents of their requirement of spectrum. The key objective should be kept in mind is to encourage fair competition in the market.
- Auction should not be with the sole aim of maximization of revenue but should also be in the interest of public good, affordable services etc. Hence the Government will have to find out the right balance between these two conflicting requirements.
- Design of the auction should be such that it does not create artificial scarcity of spectrum.

### **Q3. What should be the amount of spectrum, which should be auctioned?**

No single company should be allowed to bid for more than what they have contracted with Government of India & what is written in the original agreement signed with the government.

In case some companies have less than, what is assigned in their agreement, then they should be allowed to bid for the balance quantity of spectrum.

- a. For CDMA entire available spectrum should be auctioned in frequency band 824 – 844 MHz Paired with 869 to 889 Mhz .
- b. For GSM at least 20 Mhz should be kept aside for future use or some other emergency needs.

To sum up, the following criterion should be used:

- a. 800 MHz auction:
  - i. All available spectrum should be auctioned
- b. 1800 MHz auction:
  - i. Out of total available spectrum, about 5 MHz should be earmarked for future use or emergency needs, and rest should be auctioned. This should include the spectrum that would be vacated by the companies as per the SC order.
  - ii. Portion of The spectrum to be vacated by defence in GSM 1800 band may be utilized for refarming 900 MHz band after the expiry of the current license period.
- c. In order to facilitate the development and testing of new products / technologies by indigenous telecom equipment manufacturers, some small spectrum say 1 – 2 MHz in each of the frequency bank may be earmarked for this sole purpose. This will be in line

with the Government policy to promote domestic R&D and Manufacturing. Therefore this spectrum should be kept reserved and not to be auctioned.

- d. A small chunk of spectrum say about 3-5 MHz should be de-licenced for deployment of In-buidling solutions (IBS), i.e., buildings campuses, industry, remote townships etc.

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

Liberalization of spectrum should be carried out after completion of auction of 2G spectrum.

Policy for liberalization of spectrum needs to be addressed at two levels:

- a. Spectrum that has been auctioned (3G and BWA) or will be auctioned in the future:
  - i. The successful bidder must be allowed to use the spectrum with any technology chosen by it
- b. Spectrum that is linked to licenses awarded in the past for 2G services:
  - i. Spectrum linked to old 2G licenses must not be liberalized till due for renewal Operators who got the spectrum bundled with licenses or subsequently based on the subscriber linked criteria should be restricted to providing 2G services only. (Spectrum for mobile services in India has been assigned for 20 years)
  - ii. 900 MHz 2G spectrum linked to old 2G licenses must be refarmed, auctioned and then liberalized
  - iii. 1800 MHz linked to 2G licenses and 900 MHz spectrum linked to old 2G licenses that cannot be accommodated on 1800 MHz as a part of refarming can be liberalized on renewal of licenses.

**Q5. For the refarming 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**

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**Q6. What are the issues that may arise in the above mentioned refarming process?**

Regarding refarming of 800 MHz and 900 MHz bands, there should be a separate consultation process. At present, refarming of spectrum is not an appropriate decision due to the urgency of

implementing Hon'ble Supreme Court judgment 's mandate of allocation of spectrum in 2G band in 22 Service Areas by auction.

We feel, refarming should be a separate exercise to avoid any delay in the process of auction suggested by the Hon'ble Supreme Court as refarming is a time consuming exercise

**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?**

The minimum Spectrum (*to be allocated to an operator.*) In any freq band should be 5 Mhz.

Those who have only 4.4 Mhz, they should be allowed to bid for the balance un allocated spectrum as per the agreement they have with Government of India.

**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?**

Frequency reconfiguration should be done immediately & all operators should have spectrum as per their license agreement.

Reconfiguration is a simple exercise.

**Q9. Should the refarming 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?**

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

700 MHz band should be independently auctioned , consequent to auctioning of 2G spectrum in 22 service areas.

800 MHz and 900 MHz to be refarmed at the time of expiry of the duration of the license and then auctioned.

**11-13 linked**

**Q11. When should 700 MHz spectrum be auctioned?**

1. Auction of 700 MHz band spectrum should be scheduled after the allocation of 2G licenses;
2. Government should ensure auction of 700 MHz within 12 months after the auction of 800/1800 MHz band to realize its full potential by enabling the operators to focus on deployment of advanced technologies in this band
  - a. Current focus of operators will be to expand 3G and BWA rollouts and to get additional spectrum in 800/1800 MHz
  - b. Moreover, operators are likely to focus on spending a majority of their funds on 2G/3G technologies due to comparatively more developed ecosystem of these technologies
  - c. Ecosystem on 700 MHz is still nascent and will take time for it to reach scale needed for cost conscious Indian market
  - d. This may also result in underinvestment in 700 MHz technologies if spectrum is auctioned immediately after 800/1800 MHz
  - e. The realization of 700 MHz auction may be lower for the government if auctioned simultaneously with 800/1800 and so soon after 2100/2300 auctions
    - a. Operators have committed to invest in 2100/2300 MHz band for offering high speed data services
    - b. Operators will be committed to invest in 2G services by bidding for 800/1800 MHz auctions
3. The clear roadmap to 700 Mhz auction and government commitment to stick to the roadmap would be critical for operators to arrive at a fair value for the auctioned spectrum.

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

1. Auction in 700 MHz band should not be linked to permission for liberalized use of 800/900 MHz band as they differ significantly

Hon'ble Supreme Court of India in its judgment has directed that TRAI shall make fresh recommendations for grant of licence and allocation of spectrum in 2G band in 22 Service Areas by auction in a very short span of time.

Adding 700 Mhz by TRAI at this stage will mean, that TRAI is helping the incumbent operators.

**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?**

These have already been answered in the Consultation paper No 6/2011 on “IMT Advanced Mobile broadband services” in Nov, 2011.

**Q14. What should be the structure of the auction process?**

**Q15. Should auction be held in single stage or multi stage?**

Auction should be structured in such a way that the auction process is completed as early as possible because of the time constraints.

We suggest that there should be multi stage auction separate for both GSM and CDMA technologies.

In order to uphold the judgment of the Hon’ble Supreme Court wherein it has said that to provide equal opportunity to the new entrant, it is imperative that the framework for issuance of the proposed unified license is put in place as early as possible. It will make possible for those willing operators out of these whose licenses have been cancelled to obtain the USL license so that they can participate in the auction.

In the first stage of auction, there should be two categories

- (i) for the new entrants and for the licensees whose license has got cancelled should be allowed to participate and bid upto 4.4 MHz GSM spectrum and 2.5 Mhz of CDMA spectrum
- (ii) auction of spectrum of 1.8 MHz to GSM operators who already got 4.4 MHz so as to reach 6.2 MHz GSM spectrum and 1.25 MHz for CDMA operators who have secured 2.5 Mhz of spectrum.

In the second stage, operators who have 6.2 MHz GSM spectrum may bid 1.8 MHz spectrum reach upto the prescribed limit of 8/10 MHz GSM spectrum in circles and metros respectively.

This is further explained below :

1. Government should hold the 2G spectrum auction in two separate steps:
  - a. Step 1 (Start up spectrum auction)
  - b. Step 2 (Add on spectrum auction)
2. Step 1 (Start up spectrum auction): Only new players eligible
  - a. In this step spectrum be auctioned in startup lots of 2\*4.4 MHz for 1800 MHz band and for 2\*2.5 MHz in the 800 MHz band
  - b. A minimum of 2 startup blocks be made available for 800 MHz band and up to 4 start up blocks be made available for the 1800 MHz band
  - c. Each participant should be eligible to bid for only 1 start up block for each of the spectrum bands (800 MHz/1800 MHz) at this round
3. Step 2 (Add on spectrum auction): all players eligible
  - a. At this step all available spectrum, including any residual unsold spectrum from previous rounds gets auctioned in add on blocks of 2\*1.25 MHz at 800 MHz band and 2\*1.8 MHz at 1800 MHz band.
  - b. Each participant should be able to bid for multiple add on blocks in this round
  - c. Auction format for the start up spectrum auction can be a simple ascending auction. For add on spectrum auction, the auction format can be similar to 3G/BWA auctions with appropriate modifications to allow for a bidder to bid for more than 1 lot of spectrum band

**Q16. Should there be a simultaneous auction for spectrum in 800 and 1800 MHz bands?**

1. Auctions for 800 MHz and 1800 MHz frequency should be treated as two separate auctions just like 2100 MHz and 2300 MHz auctions were treated previously.
2. A separate market price discovery mechanism i.e. two different auctions need to be carried out for 800 MHz and 1800 MHz bands, for the following reasons.
  - a. These two spectrum bands have very different ecosystems associated with them
  - b. The revenue/MHz for GSM and CDMA spectrum is significantly different



- c. Hence any price calibration of one band based on market price discovery of the other band would be inappropriate.
3. In this regard, it is proposed that 800 MHz spectrum auction should precede 1800 MHz spectrum auction given the fact that 800 MHz auction is expectedly simpler auction given lower relative level of interest in the 800 MHz band than the 1800 MHz band

**Q17. What should be the block size of the spectrum?**

1. The block size of startup spectrum should be kept at 4.4/2.5MHz for 1800 and 800 MHz bands respectively.
2. Add on spectrum which should be auctioned separately should have the block size of 1.8/1.25 MHz for 1800 MHz and 800 MHz bands respectively.
3. This is in line with the spectrum allocation done in the past

**Q18. Should the block size be dependent on the frequency? If so, what should be the block size in each band?**

1. Yes, block size should be dependent on the frequency
2. The block size of startup spectrum should be kept at 4.4/2.5MHz for 1800 and 800 MHz bands respectively.
3. Add on spectrum which should be auctioned separately should have the block size of 1.8/1.25 MHz for 1800 MHz and 800 MHz bands respectively.

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

1. For startup spectrum 800/1800 MHz:
  - a. No operators should be allowed to bid for more than one block of startup spectrum (4.4/2.5 MHz) respectively.
  - b. The cap should be as per their license agreement.

2. For add-on spectrum

Maximum 25% of the assigned spectrum as per their license agreement for bidding.

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

Amount of spectrum that one can hold should be limited to 25% more over the assigned spectrum limit as per their license agreement to allow for expansion of subscriber base and eliminate the possibility of hoarding thereby depriving genuine needy operators from obtaining spectrum.

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

1. *Option G* should be adopted
  - a. Creating level playing field for all new eligible entrants.
  - b. This is likely to result in increased competition in the sector.
  - c. If all players are allowed to bid seamlessly, then this is expected to unfairly benefit the incumbents who have been allocated spectrum based on subscriber linked criteria.
  - d. Incumbents may try and reduce competition in the industry by trying to outbid the new entrants through a strategic purchase of spectrum

**23-25 linked**

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

**A** The reserve price should be different for 5 Mhz for CDMA & 6.2 Mhz for GSM

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**B** An additional 1.6 Mhz for GSM ( CDMA does not have spectrum beyond 20 Mhz – so a maximum of only 4 operators can be operational )

**For A :** The reserve price should be at least just 25% of 2001 price, because the 95% of the existing market is with the incumbenent operators & government should encourage the new players to give competition to the existing one.

**For B :** The reserve price should be ten times than the 2001 price, because only the operators who have minimum spectrum ( as per there contract ) & they want to maximize there profits, should pay a much higher money to Government.

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

1. The reserve price per MHz of spectrum in 700/800/900/1800 MHz bands needs to be set differently
  - a. Different ecosystems and technology roadmaps for different bands suggest the use of different reserve price for each of the bands
  - b. Reserve price must also account for the difference in the economic potential and advantages/disadvantages of respective bands
  - c. Specifically speaking, disadvantages of 800 Mhz are lower adoption rate, weaker ecosystem, higher prices for equipment and devices priced, lower ARPU, smaller market for international roaming, etc.
  - d. In addition, the technology roadmap for the Indian range of 800 Mhz with operators is also unclear whereas 700 MHz and 900 MHz have relatively clear evolution paths
2. 900 MHz price
  - a. Can be set based on 1800MHz auction in India adjusted upwards for better economics of 900 vs. 1800 MHz)
    - i. 900 MHz more attractive than 1800 and thus should be priced higher than 1800 MHz
3. 800 MHz price
  - a. In setting the price for 800 MHz spectrum, various limitations of 800 MHz vs. 1800 MHz should be kept in mind. Disadvantages of 800 Mhz are lower adoption rate, weaker ecosystem, higher prices for equipment and devices priced, lower ARPU, smaller market for international roaming, etc. The above could be seen even in 2007, when there were no takers for 800 MHz of spectrum. The last assignment of spectrum in 800 MHz was in year 2006, before allotment to SSTL and TTSL for 3 circles. TRAI while recommending 1.5 times pricing for CDMA compared to GSM had gone only by the radio efficiency factor and not by the development of eco system. In fact it is the eco system plays a bigger role in realizing value from any spectrum. There continues to be significant price differential between GSM and CDMA entry level handsets. In spite of the fact that CDMA tariffs are lower compared to GSM, however the initial entry price of handsets makes GSM more attractive and better positioned to penetrate to the bottom of the pyramid. Further the cost of CDMA BTS and other infrastructure equipments are almost 1.5 times more expensive compared to GSM. In the light of the above mentioned facts, we strongly request TRAI to keep the reserve price, at least at the same level of

2007, i.e Rs. 1659 Crs for 5 MHz of spectrum for 20 yrs. In case the initial block is for 2.5 Mhz or any alteration of license period, the same should be reduced proportionately.

4. In this regard, it is to be noted that in case of the cancelled licenses, if any of the licensees win back the spectrum in a particular license area, then the money already paid while acquiring the (now cancelled) licenses should be adjusted from the auction determined price of the spectrum for the license area.
5. In case such licensees
  - a. either fail to acquire spectrum in the auction for a license area where they earlier had the spectrum (before the cancellation of licenses as per supreme court order) or
  - b. decides not to participate in the auction for spectrum in a license area, the money paid to the government in lieu of license fees in 2008, should be returned to such parties, after due indexation for the amount of period lapsed between receiving the money (2008) and return of the money.

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

1. The reserve price should be set area wise per the potential of the service area.
2. Setting a similar reserve price for all service areas may result in operators deciding to not bid for low potential service areas thus limiting the growth of telecom ecosystem in these areas

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

Roll out obligations as per the license agreement should be linked to the auctioned spectrum

**27-28 linked**

**NOTE: Q27 onwards in WIP**

**Q27. What should be the annual spectrum usage charge for the spectrum being auctioned?**

The spectrum usage charge should be just 3% for the spectrum which licensee has as per the license agreement.

The additional spectrum usage charge should be at the rate of 3% per additional Mhz ( over & above the quantity of spectrum as in his licenses agreement ).

**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?**

As answered above

**29-31 linked**

**Q29. What should be the period of validity of spectrum?**

Validity of spectrum should be co-terminus with the license validity period.

**Q30. What should be the period of price of spectrum?**

The price of spectrum should be determined from the auctions which take place from time to time.

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

Yes please. Deferred payment schedule may be permitted. However, Government should specify the options for upfront payments or a deferred payment schedule (quantum & timing) before the auction to eliminate any subjectivity or discretion after the auction is made.

**Q32. Should Spectrum trading be allowed in India?**

Spectrum trading aspect should be segregated into two parts :

a) Spectrum which has been acquired as part of License agreement.

Spectrum which has been allocated as part of License agreement without any auction process (initially or subsequently thereafter) should not be allowed to be traded as basically its ownership remains with the Government.

b) Spectrum Purchased through the auction process

Only such spectrum purchased by the Licensees through the Government auction should be allowed to be traded as market price for the same has already been paid. The Government may, however, fix a transfer fee to authorize such a transaction in order to keep a full record of spectrum with each Licensee and also mandate that trading of such spectrum would be permitted either way after the lapse of the roll out period.

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

The eligibility conditions for spectrum trading can be as follows:

- a. Both operators need to have valid license to operate in the circle
- b. In case of 2100 and 2300 spectrum bands, the acquirer of such spectrum through spectrum trading should not already be holding spectrum in similar bands so as to prevent creation of a monopolistic/near monopolistic situation in the market. This is necessary to sustain a healthy competitive free market place governed by market forces only so that consumer interest is protected.

In case of 700 MHz bands, if the number of market participants is equal to less than 3 (given the quantity of spectrum being put up for auction), similar restrictions as in 2100/2300 MHz bands would apply.

- c. In case of spectrum trading in 800/900/1800 Mhz bands, the acquirer operators should have completed the rollout obligation before acquisition of new spectrum through trading routes

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

In India very limited quantity of 3G and BWA spectrum has been auctioned till now. In this situation if spectrum trading gets allowed there is a risk of number of 3G operators in a circle reducing below 3 or 2 in case of 3G and BWA spectrums respectively. That can lead to a significantly monopolistic market conditions with regards to 3G and BWA operators. This in turn may hamper the spread of these services among the mass market. Thus it is proposed that trading in 3G and BWA spectrum be allowed only after new spectrum gets available through auction route and after the number of market participants have increased post such auction keeping in view our suggestions contained in answer to Q.32 above.

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

Yes, subject to the following condition:

- *only that portion of spectrum should be allowed to be mortgaged which has been acquired through the Government auction route.*

Lending Institutions may be permitted to give due credit to the value of the spectrum of the borrower and may use that as collateral subject to covenants of the auction / sale of spectrum and the conditions specified in the licence agreement for the ownership / usage of the spectrum