

Etisalat DB Telecom Pvt. Ltd.
Corporate Office : 1st Floor, Techniplex -1, Near Veer Savarkar Flyover,
Goregaon (West), Mumbai - 400 062 T: +91-22-67858888 F: +91-22-67858759

Registered Office : 7th & 8th Floor, Techniplex - 1, Near Veer Savarkar Flyover,
Goregaon (West), Mumbai - 400 062.



Ref: TRAI/Regu/805/11
Date: 21.03.2012

Dr. J. S. Sarma
The Chairman
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg, (Old Minto Road)
New Delhi - 110002

Dear *Sir,*

Sub: Consultation Paper No. 04/2012 dated 7th March 2012 on "Auction of Spectrum"

Kindly find enclosed herewith, Etisalat DB Telecom's comments on the consultation paper, for your kind consideration.

We have responded to the questions raised, keeping in view the critical most objectives of bringing in competition, affordability and level playing field and hope that TRAI will not lose sight of these objectives in formulating its recommendations.

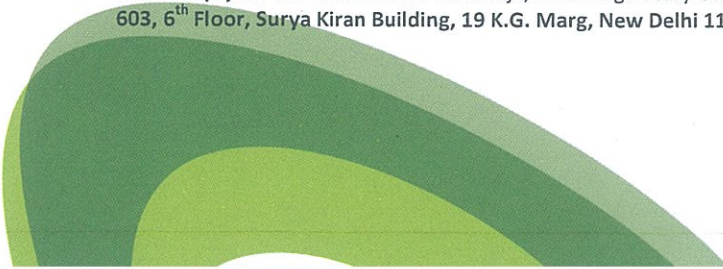
We hope that our response would merit your kind consideration

With *Sincerest Regards,*
For Etisalat DB Telecom Private Limited

(Dr. Vinod Kumar Budhiraja)
Chief Regulatory Officer & Authorised Signatory

- CC: (i) *Sh. R. Ashok (Member – TRAI)*
(ii) *Sh. R. K. Arnold (Member – TRAI)*
(iii) *Prof. H.S. Jamadagni (Part-time Member – TRAI)*
(iv) *Prof V. Ranganathan (Part-time Member – TRAI)*
(v) *Sh. Sudhir Gupta (Pr. Advisor, MS - TRAI)*
(vi) *Sh. Rajeev Agarwal (Secretary – TRAI)*

Please reply to: Dr. Vinod Kumar Budhiraja, Chief Regulatory Officer – Etisalat DB Telecom Private Limited,
603, 6th Floor, Surya Kiran Building, 19 K.G. Marg, New Delhi 110001, F: 011-23738576; M: +919711001177



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?**

COMMENT:

Inarguably, the principles outlined by Hon'ble Supreme Court in their Judgment dated 02-Feb-12 should be incorporated in the design of spectrum auction. However, to cover all the desirables viz. ensuring competition, principles of non-discrimination, doctrine of equality, concepts of justice and fairness into one single Spectrum Auction design for the Indian telecom services industry having a huge legacy of policy issues, is nearly impossible. *Hence, it is preferable to apply the relevant observations into separate auction designs for similarly placed participants in order to optimize the whole process. That is the reason why EDB, in its response to the pre-consultation paper had proposed a two-stage auction for (a) initial spectrum and (b) incremental spectrum allocation.*

Since the Government has to delicately balance multiple objectives viz. to serve the public cause in distribution of spectrum, recovering fair compensation from transfer of a public resource to private domain, safeguarding competition and avoiding cartelization, ensuring level playing field, ensuring affordability to the consumer, promoting investments etc. the primary activity would be to clearly define the objectives of the proposed Auction.

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

COMMENT:

Firstly, the Auction design should preserve the following fundamentals:

- (a) The auction of spectrum should not result in compromising competition. The grant of licenses in 2008 at prices/entry fee determined in 2001 was recommended by the Regulator and approved by the Government in the interest of competition, affordability and growth. By not revising the entry fee for licenses, the Government intended to address legacy considerations w.r.t. previous grants of license, to maintain level playing field between old & new players and to ensure sustainable competition in the market for new entrants whose subscriber acquisition costs would be far higher. In view of the aforesaid, the auction design should allow a fair opportunity to new entities to participate & qualify for grant of licenses & spectrum.
- (b) The established market players should not be able to use historical access to spectrum to gain competitive advantage in the auction – it is therefore desirable that separate auction should be held for prospective licensees who do not hold any spectrum where the block size of spectrum should be 5 MHz (FDD) and existing licensees who require only incremental spectrum and thus the block size of spectrum for them should be 1 MHz (FDD). In the event these two unequal categories of bidders are combined, the prospective entrants with no spectrum holding would

be at a significant disadvantage, since current licensees have a considerable interest in inhibiting new competition.

- (c) The auction should preclude opportunity for cartelization in bidding. As has been witnessed in the recently concluded auction of 2100 MHz spectrum, the winners of spectrum should not be able to pre-agree on quantum / geographies where they would bid / acquire spectrum and subsequently engage in spectrum sharing / ICR.
- (d) The auction should fetch a fair market price for spectrum to compensate the Government but not at the cost of dissuading serious & interested players.
- (e) The auction design should allow foreign investors to bid for and acquire spectrum s. t. post-facto collaboration with Indian Investors to meet the FDI norms applicable to Telecom Sector

Hence, in our assessment the key objective of the auctions should be as listed below and in that order of preference:

Auction One (to grant start-up spectrum for new licensees):

- a. Affordability and new competition through technology neutrality
- b. Transparent and efficient allocation of spectrum through market mechanism
- c. Optimize revenue proceeds from the auctions

Auction Two (to grant incremental spectrum for existing licensees):

- a. Maximize revenue proceeds from the auctions
- b. Transparent and efficient allocation of spectrum through market mechanism
- c. Proliferation of new services to masses and spectrally efficient technologies
- d. Prevent spectrum hoarding and cartelization

Two separate set of objectives and auctions will address many issues some of which have been identified & discussed by TRAI subsequently in the consultation paper, as the approach in one auction will set the reforms agenda for re-farming, level playing field etc.

3. What should be the amount of spectrum which should be auctioned?

COMMENT:

Assuming a spectrum block size of 5 MHz (FDD) and eligibility to participate being limited to entities that do not hold any spectrum, the Auction pool for 800/1800 MHz spectrum bands should comprise, at the minimum, the total spectrum as has been released by virtue of the Supreme Court Judgment. The spectrum already available with DoT may also be pooled for this auction. Refer

Table 1.1 and 1.2 of the Consultation Paper for spectrum released in 800MHz and 1800MHz bands pursuant to cancellation of 122 licenses issued in 2008.

The minimum number of blocks of 5 MHz (FDD) to be put for auction should equal the number of licenses cancelled per LSA or number of spectrum blocks freed pursuant to license cancellation.

Partial spectrum available in any LSA should also be put for auction else it would lie idle and serve no useful purpose. In LSAs where partial spectrum is available, Government should explore possibility for facilitating full coverage through ICR at cost-plus rates to be determined by TRAI. Other options for utilization of partial spectrum should be explored by TRAI instead of excluding it from the auction pool.

4. **Should the spectrum be liberalised before it is put to auction?**

COMMENT:

One of the objectives of draft NTP-2011 announced by the Government was *“4.10. To make best use of spectrum in line with technological advancement, an appropriate regulatory framework will be established for progressive liberalization of spectrum utilization with a view to make spectrum utilization voice/data/video neutral”*.

To achieve this objective and to ensure a globally harmonized use of spectrum, it is necessary to liberalize the use of spectrum acquired through Auction by paying a market determined price. This would enable that the spectrum can be put to the most efficient and optimal use through newer and better spectrally efficient technologies like UMTS/LTE. The choice of technology for provision of service using spectrum acquired through auction, should be left to the Licensee, to enable it to earn greatest possible benefits. This will in turn ensure early availability of appropriately priced commercial services to the consumer.

A corollary to the above is that any spectrum allocated basis SLC or at a non-recent market price cannot be liberalized even in the name of level playing field, unless all such spectrum whether start-up or beyond start-up is charged a market-linked rate retrospectively from the date of allocation of such spectrum.

In our view, conducting two separate auctions i.e. one for start-up spectrum and another for incremental spectrum will address this dichotomy. For initial spectrum grants, liberalization of spectrum can accompany the auction since the bidders would pay a market-linked price. For existing players, rate for incremental spectrum can be applied for other holding as well before liberalization.

5. **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.**

AND

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

COMMENT:

First of all, in reference to the Para 3.21 of this Consultation Paper, we would like to submit that the amount of spectrum in 1800 MHz band which stands vacated from cancellation of licenses by Hon'ble Supreme Court cannot be considered for the process of re-farming of 900 MHz band as the same spectrum has to be auctioned for grant of fresh licenses as mandated by Hon'ble Supreme Court in its Judgment dated 02-Feb-2012.

Regarding the three options given by TRAI for re-farming of 800 and 900 MHz bands from the existing licensees, we are of the opinion that:

- **First Option:** As accepted by TRAI in the Consultation Paper itself, this option of re-farming will absorb around 220.2 MHz (FDD) of spectrum in 1800 MHz band after its allocation to the existing licensees in lieu of re-farmed 900 MHz spectrum. Thus, an insufficient amount of spectrum will be left for allocation to fresh licensees through auction. Therefore this option of re-farming would result in non-compliance to Hon'ble Supreme Court's direction. We do not support this option.
- **Second & Third Option:** The basic difference between these two options is that in the former, re-farming is proposed for the licenses whenever they come up for renewal as per their expiry date. Whereas in the latter, re-farming exercise is proposed during the currency of the license i.e. irrespective of their expiry date. In both second & third options, TRAI has proposed that licensees having spectrum in 900 MHz should be allowed to retain only up to 5 MHz (FDD) in 900 MHz band and the excess (over and above 5 MHz) should to be replaced by 1800 MHz band spectrum. Table-3.5 & 3.6 of the Consultation Paper, indicate the amount of spectrum in 1800 MHz that will be required for re-farming the spectrum in 900 MHz (i.e. holding above 5MHz). Going by TRAI's estimate, option 2 and 3 would require 45.8 MHz and 78.8 MHz in 1800 MHz band respectively to carry out the re-farming. *This would reduce the spectrum available for fresh auction of licenses as directed by Hon'ble Supreme Court thereby vitiating the very purpose of this consultation.* Assuming auction for a minimum of 5 MHz (FDD) in 1800 MHz band for fresh licenses, since 5 MHz (FDD) of spectrum is considered a bare minimum to support UMTS/LTE, these options (2nd & 3rd) will significantly reduce the spectrum available for the auction directed by the Supreme Court lowering the number of service providers per service area and hence lessening of competition.

In view of the above findings, we do not support these options either. We therefore propose *an alternative approach* towards re-farming as follows:

- A. Auction spectrum vacated from 122 License cancellation and spectrum already available with DoT in 1800 MHz band.
- B. Participation should be restricted to only new applicants: Companies whose licenses have been cancelled on 02-Feb-2012 and Licensees having no start-up spectrum.
- C. Spectrum obtained through auction above should be liberalized to use.
- D. Existing licensees having spectrum in 900 & 1800 MHz bands should be required to pay this market determined price if they also want a technology neutral spectrum. It is clarified that the price for 900 MHz should be suitably indexed to reflect the higher value of this band.
- E. Existing Licensees who are not able to pay market determined price, should be restricted to only 2G use of these spectrum bands till their licenses expires.
- F. On expiry, the spectrum will automatically come back to the government for re-farming.

Any proposal for re-farming for 900 MHz spectrum which attempts to partially replace the holding of 900 MHz with 1800 MHz, will perpetuate the competitive advantage which a licensees holding spectrum in sub-1 GHz band like 800/900 MHz has over licensees who hold spectrum in 1800 MHz band in spite of paying market determined price. We therefore strongly recommend that the Indian Government auctions spectrum in another sub 1 GHz band i.e. 700 MHz band wherein the licensees having spectrum in 900 MHz band are precluded from participation.

- 7. **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?**

COMMENT:

Since this process of consultation for “Auction of Spectrum” is undertaken by TRAI pursuant to the directions from Hon’ble Supreme Court, auction of spectrum for grant of fresh licenses should be the priority of TRAI & the Government. Any other allocation like additional allocation above 4.4/2.5 MHz should be dealt with later. For such additional allocations, the spectrum left after the above mentioned auction may be allocated to eligible applicants at market price.

We would also like to mention that if the intent of TRAI is to allocate a minimum of at least 5 MHz which is the minimum amount of spectrum required for new technologies like UMTS/LTE, the most challenging task before the TRAI is to make available a contiguous block of 5 MHz spectrum as additional allocation from any part of the spectrum band to make it 5 MHz from 4.4/2.5 MHz will not suffice the purpose.

8. **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?**

COMMENT:

If fragmentation is present in the assignment of frequencies then this will lead to inefficiencies in the utilization of those frequencies. This would not be in line with the Government's objective for the efficient use of frequencies and their planned liberalization. Fragmentation inefficiencies caused by non-contiguous assignments include the unnecessary need for additional guard bands between operators, more complicated border control coordination and limitation on the use of frequencies as well as unnecessary additional complexity in the radio network configuration and planning.

It is also essential that the procedures, by which frequencies are currently used for non-commercial purposes are brought into commercial use, are established prior to the commencement of a reconfiguration exercise. This will ensure transparency for all concerned and assist in the management of the exercise.

9. **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?**

AND

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

COMMENT:

A comprehensive approach should be adopted for all sub-1 GHz bands auction / re-farming. We propose a combination of the two approaches outlined by the TRAI as follows:

- a) Apply a Spectrum Cap of 10 MHz (FDD) on total holding in Sub-1 GHz bands which include bands like 450, 700, 800, 900 MHz.
- b) Auction 700 MHz band with a block size of 5 MHz (FDD) and restrict participation in the auction for Service Providers already having spectrum above 5 MHz (FDD) spectrum in sub-1 GHz bands.
- c) If an existing Service Provider wants to participate in auction of 700 MHz band spectrum, it must be asked to surrender the excess spectrum above 5 MHz (FDD) in sub-1 GHz band as a pre-condition for participation in the auction.
- d) For calculating the 5 MHz (FDD) cap on sub-1GHz spectrum, holding in any sub-1GHz band should be considered.

- e) In cases of surrender of excess spectrum in sub-1 GHz band for participation in 700 MHz auction, there may be a possibility that such a Service Provider does not emerge a winner. To address this issue, such Service Providers should be given an option to acquire equal amount of surrendered spectrum in above-1 GHz bands.
- f) Same principle will have to be maintained for all future allocation of spectrum in sub-1 GHz bands so that total holdings in sub-1 GHz bands comply to the capping of 10 MHz (FDD)
- g) Government may decide to auction only 5 blocks of 5 MHz (FDD) each and reserve the remaining 4 blocks for any additional demand for spectrum in future.

11. When should 700 MHz spectrum be auctioned?

COMMENT:

700 MHz Spectrum band should be auctioned at the earliest possible along with the proposed auction in 1800 MHz band as directed by the Hon'ble Supreme Court.

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

COMMENT:

At the outset, we reiterate that licensees holding >5MHz (FDD) in 800/900 MHz band should be precluded from participation in auction for 700MHz band spectrum. Secondly, spectrum allocated in any band cannot be permitted for liberalized use till it is obtained through market mechanism like auction and with clear understanding that this is for liberalized use and not restricted to any specific technology. For the spectrum already allocated in 800/900 MHz bands, Service Providers must be required to pay a market price retrospectively from date of allocation for its liberalized use. Lastly, auction of 700 MHz band should not be tied up with liberalization of 800/900 MHz band. Auction of 700MHz band should be held at the earliest.

13. 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?

COMMENT:

Since only 45 MHz (FDD) of spectrum is available in 700 MHz band (as per the Table-1.4 in the Consultation Paper), FIVE slots of 05 MHz each in FDD mode should be put to auction. A bidder should be allowed to bid for only ONE slot of 5 MHz (FDD) in 700 MHz band. Remaining 20 MHz (FDD) may be reserved for any additional demand for the spectrum in future.

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

AND

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

AND

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

COMMENT:

A multi-criteria sealed bid auction should be reserved for operators whose licenses were cancelled due to the Supreme Court's decision of February 2nd, 2012 as well as to new investors currently without a license to operate terrestrial mobile services in the Indian market. This approach can benefit the Indian market by: 1) correcting the licensing anomalies of 2008; 2) enhancing the attractiveness of the Indian telecom industry to new players; 3) stimulating and protecting downstream service and price competition; 4) ensuring fair valuation of scarce resources, and; 5) protecting long-term impact on public finance and avoid economic distortions of one-off revenues from auctions. This approach promotes economic efficiency in the assignment of spectrum by minimizing artificial barriers to entry that may occur as a consequence of incumbent spectrum hoarding or economically irrational bidding in order to exclude new entrants and consequently limit the development of sustainable competition. At the same time it will ensure the necessary transparency and fairness in the assignment process.

The multi-criteria sealed bid auction can ensure fair valuation of the frequencies with low risk of irrational bidding. Bidders will set the maximum perceived value for the slots of frequencies. Moreover, the bidders will be able to make simultaneous offers for slots, which will produce immediate results to the benefit of transparency and certainty. Fair value of the frequencies will definitively encourage service and price competition and permit new operators to prepare a rational business case, coverage and service proposition that will positively impact competition and socioeconomic welfare.

The alternative approaches to spectrum auctioning do not satisfy Indian industrial and public policy objectives. In particular, the Combinatorial Clock Auction (CCA), Simultaneous Multi Round Ascending Auction (SMRAA) and Open Ascending Auction (OAA) have all proven to stimulate irrational value of frequencies (UK and Germany) with, as result, reduction of competition and higher CAPEX for new network development.

Both the SMRAA and OAA approaches have the inherent risk of high over-bidding due to price discovery, and signaling during the bid. The use of SMRAA in Germany ended with a record high price paid for frequencies that reduced temporally service and price competition and forced Mannesmann's shareholders (the main competitor of the national incumbent, Deutsche Telekom)

to sell-off their stakes to Vodafone. The auction was not successful in promoting new entrants as two of the six successful bidders, Group 3G/Quam and Mobilcom gave back their licence.

The CCA approach has the drawback of encouraging over-bidding as the short timeframe for putting a bid might stimulate irrational behaviour. The complicated design with multiple rounds might reduce transparency on the process and it might be possible for opponents to gain insight into their rival's bidding strategy, thus reducing price competition.

The multi-criteria sealed bid auction process

To ensure transparency and to meet various telecommunications and revenue-return related policies, the auction process should be in three main phases:

- Phase 1:
 - *Eligibility screening*, this step defines whether the applicant is eligible to participate in the auction; Any Existing holder of spectrum cannot place a bid.
 - *Binding lot application*, every bidder may apply for one single block of frequencies in each service area to ensure fair evaluation of resources;
- Phase 2:
 - *Sealed bid auction*: candidates will place a sealed bid auction, and the bid price of n^{th} highest bid shall be paid by all “ n ” highest bidders where “ n ” is the total number of blocks put on auction. *In order to preclude frivolous bidding, the difference between highest and lowest bid should not be more than “ x ” % as may be fixed by TRAI. If the difference between the highest and lowest is greater than $x\%$ then all bidders should be made to pay equal to $(n-1)^{\text{th}}$ highest bid. The $(n-1)^{\text{th}}$ highest bid will also be evaluated against the same criteria.*
- Phase 3:
 - *Unallocated Spectrum*: spectrum available in the auction that was unsold will be placed in pool for the Second Auction which is for incremental spectrum in block sizes of 1 MHz (FDD).

The exhibit below shows the three proposed phases:

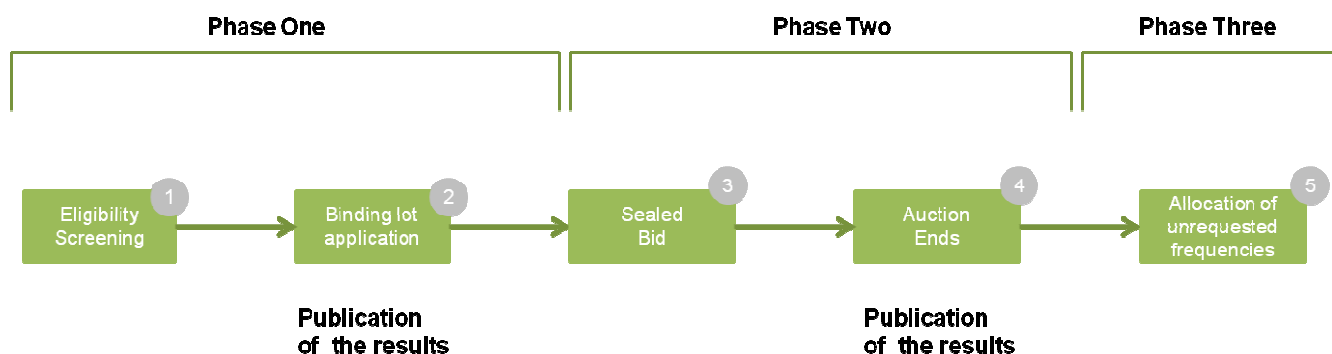


Exhibit 1: Auction Process

Phase 1 Eligibility Screening

In order to be able to participate in the auction, all candidates must demonstrate in advance that they meet the legal conditions for granting the license and specific obligations of the tender. The candidate should show:

- *Understanding of the market:* The candidate shall present its assessment and planning relating to the future development and introduction of new mobile radio technologies and services. In addition, it shall indicate its assessment of the overall future development of the Indian mobile market.
- *Efficient use of frequencies:* the candidate shall specify its frequency requirement and describe how frequencies will be used. Each candidate must submit the completed frequency allocation application in order to be able to take part in the auction. The frequency allocation application lists all categories of frequency blocks, the number of blocks in a category and the corresponding minimum bids as well as the eligibility points for each frequency block. The completed form should constitute a binding bid.
- *Financial capability:* Candidates should submit a bank guarantee at least 50% of the value of the frequencies applied for related to the reserve value (minimum bid). The candidate should demonstrate financial capability with a turnover in the telecom market of above [USD1 billion]/year in the last 5 years.
- *Technical capabilities and technical planning:* The candidate should indicate the extent to which it, its partners or its agents possess the necessary technical capabilities. The bidder should show past experience in network development and planning.
- *Effects on competition:* The award of a radio communication licence should not significantly impede effective competition. If the participation of a candidate might adversely affect effective competition, it should be excluded from participation. Candidates should demonstrate that by acquiring the frequency effective competition will not be significantly reduced.

Binding Lot Application

The candidate should commit to acquire, at the reserve prices, frequencies. The DoT should then publish the result of the application to improve fair evaluation of slots and efficient allocation of resources.

Phase 2

Each bidder submits one sealed bid stating the number of service areas for which it intends to bid at the given prices, subject to the overall spectrum caps. Frequencies should be assigned to all the 'n' number of bidders where "n" is the number of blocks at the lowest bid of nth applicant. In order to preclude frivolous bidding, the difference between highest and lowest bid should not be more than "x" % as may be fixed by TRAI. If the difference between the highest and lowest is greater than x% then all bidders should be made to pay equal to (n-1)th highest bid. The (n-1)th highest bid will also be evaluated against the same criteria. Each winning bidder is then notified by the DoT and assigned a license to operate. Information about the result of the auction should be published.

Phase 3

Spectrum allocations that have not been successfully auctioned can be reserved, at market price, for assignment to existing or the new licensees who are in need of additional spectrum to strengthen service quality needs. The need should be demonstrated to the satisfaction of the concerned Authority and the request should demonstrate that by acquiring the frequency effective competition will not be significantly reduced

Other considerations:

Licence –

To ensure efficient use of resources and avoid irrational trading of spectrum a frequency holder should receive a license to operate communication service.

The DoT should in the first instance explain how it intends to distribute licences to the winning bidders in order that frequency ownership gives also clear rights to receive a licence to operate communication services.

National vs. Regional frequency allocation –

Whilst the country has been divided into "circles" for licensing purposes, regional segregation does not guarantee countrywide competition, innovation and access by the same quality of services. This practice introduces complexities in spectrum management, and also enhances the digital divide and a reduction in the ability of less developed areas to access the benefits of communication, the digital economy and society.

Nationwide assignment of spectrum would enhance its true value, reducing the risk of some circles are underserved by competitive firms and ensuring that new entrant operators can effectively

compete in the country. In addition nationwide assignment of spectrum will improve network efficiency minimizing guard band and control channel inefficiencies and allowing more frequencies to be used to better support quality of service.

17. What should be the block size of the spectrum?

AND

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

COMMENT:

There should be two separate Block Sizes for the two auctions:

- i. For auction of initial start-up spectrum: The minimum block size should be 5MHz (FDD) as per the norm for minimum GSM allocations to ensure basic Quality of Services. This is also the minimum quantum of spectrum required to build a viable and sustainable network.
- ii. For auction of incremental spectrum: The minimum block size should be 1 MHz (FDD) to ensure efficient allocation of spectrum.

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

COMMENT:

In the first Auction, assuming a spectrum block size of 5 MHz (FDD) and eligibility to participate being limited to entities that do not hold any spectrum, the ceiling on the amount of spectrum that one can bid should be a single block.

In the second Auction for incremental spectrum, assuming a spectrum block size of 1 MHz (FDD) and eligibility to participate being open to all, the ceiling on the amount of spectrum that one can bid should be the overall cap of 8MHz (FDD) in circles and 10 MHz (FDD) in Delhi & Mumbai.

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

COMMENT:

Spectrum is a scarce natural resource subject to competing claims for both commercial and non-commercial uses. Imposition of a cap on the quantum of spectrum that can be held by an entity is essential to encourage adoption of spectrally-efficient techniques to promote efficiency in spectrum utilization.

The cap on overall spectrum holding recommended by TRAI in cases of M&A may be adopted for spectrum acquired through market mechanism. For administratively allocated spectrum, the cap of 8MHz (FDD) in circles and 10 MHz (FDD) in Delhi & Mumbai may be adopted.

21. 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?

COMMENT:

It is appropriate to place a cap on the amount of spectrum that can be held by an entity in the highly-valued sub-1 GHz band. Additionally, the spectrum assigned in sub-1GHz band was specifically earmarked for provision of 2G-GSM services and they should not be permitted to suo moto re-use that spectrum for provision of 3G, 4G or other services. The Licensees holding gilded 900 MHz spectrum which is presently permitted to be used for 2G-GSM services should compete for the same in an auction once their license term expires. If the incumbents with larger spectrum holdings, presently used for 2G-GSM, attempt to re-use the same for newer technologies without transiting through a legitimate open market process, the prospective entrants will be put at a serious disadvantage and competition will suffer.

Differential caps should be placed on sub-1 GHz and above-1 GHz bands to maintain a level playing field and avoid hoarding of spectrum in a particular band leading to a competitive advantage over others. We suggest a cap on total holding of 10 MHz (FDD) and 25 MHz (FDD) on sub-1 GHz and above-1 GHz bands respectively. For the spectrum allocated in TDD mode, equal amount of Uplink & Downlink bandwidth to be assumed for conversion to FDD mode.

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

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

COMMENT:

The question of eligibility to participate in the auction is part of a larger agenda to enable optimal utilization of a finite public resource and promote sustainable competition. Various factors feed into the determination of this question such as legacy policy on spectrum allocation, rationale for license cancellation through judicial process, government's long term policy objectives for the telecommunications sector etc.

In case only the spectrum released upon cancellation of 122 Licenses alongwith spectrum currently available with DoT is put for auction, then only licensees awaiting start-up spectrum, new entrants

and licensees whose licenses were cancelled on 02-Feb-2012 should be permitted to participate. This would enable the licensees who have been impacted by the Hon'ble Supreme Court's Judgment to win-back spectrum after paying a fair market-linked price. It would also grant an opportunity for fresh players to gain an entry into the Indian market. Any other composition would defy all notions of parity with legacy allocations, since contractual spectrum (i.e. upto 6.2MHz) has previously been granted by the DoT under FCFS policy at entry fee of 2001, which were not current market rates.

To summarize:

(a) Eligibility for Auction of Start-up/initial spectrum

- Operators whose licenses have been cancelled
- Licensees awaiting start-up spectrum and
- New entrant

Caveat: This auction must exclude all the existing licensees who already have spectrum allocated

(b) Eligibility for Auction for incremental spectrum

- Open to all licensees new and old

Caveat: For auction of spectrum in sub 1-GHz band, licensees holding spectrum in sub-1GHz band should be precluded from participation.

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

AND

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

AND

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

COMMENT:

Setting a reserve price too high or too low has its obvious shortcomings - setting reserve price too low can lead to collusion and setting it too high can deter even serious bidders from participation. An established player may place a higher premium on spectrum than a green-field player. Hence an appropriate price must be set according to the auction objective. *Most importantly, a reserve price cannot be the price of the spectrum itself, for which purpose the auction is held.*

The reserve price is used to give a price signal to bidder. In the case of a reserve price is perceived as to be too high (e.g. in the 2010 bid for the Italian 3G auction) this may give rise to a weak competitive auction, on the other hand, if it has been set low (e.g. UK and Netherland) the price can reach considerable levels.

The following table shows the outcome of selected 3G auction in Europe.

Table 1: Selected European 3G auctions

Country	Date of auction	Bidders / licenses available	Reserve price per capita (euros)	Price per capita (euros)
UK	Apr 2000	14/5 (1 reserved)	2.9	128.5
Netherlands	Jul 2000	5/4	2.7	33.7
Italy	Oct 2000	6/5	35.8	42.2
Denmark	Sep 2001	5/4	12.6	23.9

Auction Reserve Price for start-up spectrum:

Reserve Price must be reasonable so that entry barriers are kept lower (as telecom services sector investment itself is capital intensive) and at the same time sufficient enough to deter/weed out spurious participants. Price set in such a fashion will ensure enough competition in bidding else the objective of auction would fail. Consequently, the DoT should set a reserve price at the low end to promote open evaluation of the spectrum and increase auction competition.

Further, *reserve price must not be for per MHz block* for this auction rather for a block of say 5MHz (FDD) since per MHz calculations are always post-facto analysis only. Also since no Service Provider can give basic wireless communications services with 1 MHz or 2MHz block, and QoS norm is 5MHz (FDD) spectrum, the reserve price must be for this quantum only. Per MHz will be an incorrect notion here, and that is more valid from additional spectrum acquisition perspective. Hence in our view, an appropriate reserve price of INR 1658 crores which was the last auction determined price should be fixed suitably apportioned to spectrum block size.

If this auction also involves 700/800/900 MHz spectrum block as well, then the reserve price for the same should be suitably indexed between 1.25 to 1.5 times depending upon the technical and commercial aspects of the band on offer (i.e. if the 900 MHz is more efficient than 700 MHz then the 1.5 time reserve price should be for 900 and 700 MHz should be 1.25 times of 1800 MHz)

Auction Reserve Price for additional spectrum:

There is no reserve price for the additional spectrum as there is already a market price set by the previous auction.

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

COMMENT:

The rollout obligations in case of spectrum acquired through auction cannot be more onerous than the existing licensees' obligations w.r.t. roll-out. The obligations must be reasonable considering that there are already multiple service providers in the market and any onerous rollout obligations will only lead to duplicacy of critical infrastructure and investments. In case TRAI proposes any rural area based rollout obligations or sparsely populated inhabitation based obligations, then the funding of such obligations must be provided to players from USO Fund.

In fact, the low density and rural rollout obligations must not be linked to new entrants with start-up spectrum atleast in 1800 MHz; rather it should be clubbed with additional spectrum over and above start-up spectrum or for players who already have 5 MHz (FDD) of sub-1GHz spectrum.

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

AND

28. 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?

COMMENT:

Licensees who acquire spectrum through market mechanism should not be required to pay escalating spectrum usage charges (SUC). For such licensees, DoT should recover only its administrative cost related to spectrum management. Therefore a nominal rate of 1% of AGR may be applied as SUC for spectrum assigned through the market.

The graded/escalated charges must be applied to Service Providers who have obtained spectrum allocations whether start-up or incremental bundled with the license and/or on the basis of SLC criteria. Also these Service Providers must also pay one time spectrum charge retrospectively from the date of allocation of any spectrum received without any market mechanism.

29. What should be the period of validity of spectrum?

COMMENT:

Since government has decided to accept TRAI recommendations to delink spectrum from license and all future spectrum allocation will be through market mechanism, the validity for the spectrum should be 20 years.

30. What should be the period of price of spectrum?

COMMENT:

A period of 20 years for the price of spectrum allocated through market mechanism is appropriate for the telecom services sector, since the bidder would commit investments over a defined horizon with an anticipation of return over a medium to long term.

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

COMMENT:

In order to ensure investments and roll out, government should allow the winners to have a deferred payment plan in an economically increasing manner (cash-flow related).

- Year 1: 10%
- Year 2: 10%
- Year 3: 20%
- Year 4: 30%
- Year 5: 30%

However, this facility should only be given to players who are purely new entrants and/or obtaining their start-up spectrum, since their gestation period would be higher.

32. Should Spectrum trading be allowed in India?

AND

33. (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.

AND

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

AND

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

COMMENT:

Spectrum trading is an important practice that enables the reallocation of resources according to market demands. New licensee should be given enough time to roll out service and gain market share before spectrum trading is allowed. Since the TRAI has stated that spectrum trading will not be in place for the planned spectrum auction being addressed in this consultation, and also that the significance of this issue merits a consultation on its own. Spectrum trading is a very complex and important issue that would require a separate consultation and needs to be effectively implemented. In particular the DoT should ensure that 'traders' do not reduce competition incentives and impact the competitive landscape.

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

COMMENT:

Mortgaging assumes a degree of ownership. Since spectrum remains under the ownership of the state and since the right to use spectrum allocations is authorized to specific licensees, mortgaging spectrum by a licensee should not be allowed. In particular, the mortgager cannot hold the spectrum 'intangible asset' and use, re-sell or re-allocate it as it wishes, but can only give it back to the DoT for re-farming.

ANNEX

Spectrum Auction Types

Regulators around the world have adopted four major formats of spectrum auctions to assign frequencies:

Auction Type	Definition	Objectives	Process	Price Paid	Pros	Cons	Examples
Combinatorial Clock Auction (CCA)	<ul style="list-style-type: none"> Usually conducted online due to complexity of bidding type Two main stages: an allocation stage and an assignment stage Bids on combinations of lots across multiple categories All lots simultaneously offered 	<ul style="list-style-type: none"> Provide bidders with flexibility to bid on different combinations of lots from different categories Incentivize bidders to bid their full value for lots (so as not to be outbid) Ensure competitive price for spectrum and maximize the public benefits derived from use of spectrum by ensuring efficient allocation of spectrum 	<ul style="list-style-type: none"> Principal allocation round determines how many lots each bidder wins in each category Supplementary allocation round allows bidders to make their best and final offers for all combinations they want with restriction on bid from principal round Single sealed-bid assignment stage determines which lots each bidder will obtain 	<ul style="list-style-type: none"> The second highest bid price 	<ul style="list-style-type: none"> Low aggregation exposure risk Low over-bidding risk Simultaneous lots bidding 	<ul style="list-style-type: none"> Complicated design with two stages and multiple rounds Low transparency High prices and over bidding due to limited time frame and stimulation of irrational behaviors Reduction of competition and lower CapEx for network deployment 	<ul style="list-style-type: none"> Netherlands Denmark Austria UK
Simultaneous Multi Round Ascending Auction	<ul style="list-style-type: none"> Usually conducted online due to bid complexity in case of many lots Multiple rounds yield to final price Bids on one lot or a combination All lots simultaneously offered 	<ul style="list-style-type: none"> Allocate many spectrum lots simultaneously across a range of geographic areas and band segments 	<ul style="list-style-type: none"> At the end of each round, highest bids are disclosed and bidders can bid again to become the highest bidder 	<ul style="list-style-type: none"> The highest bid price 	<ul style="list-style-type: none"> High Transparency Low design complexity Simultaneous lots bidding 	<ul style="list-style-type: none"> High aggregation exposure risk High over-bidding risk due to price discovery, signaling and demand reduction Highest prices Reduction of competition and lower CapEx for network deployment 	<ul style="list-style-type: none"> Norway Germany USA Canada Singapore

Auction Type	Definition	Objectives	Process	Price Paid	Pros	Cons	Examples
						<ul style="list-style-type: none"> Over bidding risk due to price discovery, signaling and supply reduction 	
Open Ascending Auction	<ul style="list-style-type: none"> Usually conducted face-to-face Multi-round auctions for each lot yielding to auction price Bids on one lot at a time Each lot offered sequentially 	<ul style="list-style-type: none"> Allocate spectrum at market price where there is one or a small number of lots within a band, none of which substitutable or complementary for their intended business use 	<ul style="list-style-type: none"> Participants bid openly against one another for each lot until 1 bidder remains Successive bidder must bid higher than previous bidder, sometimes by a specified increment 	<ul style="list-style-type: none"> The highest bid price 	<ul style="list-style-type: none"> High Transparency Low design complexity 	<ul style="list-style-type: none"> High aggregation exposure risk High over-bidding risk due to price discovery, signaling and demand reduction Sequential bidding 	<ul style="list-style-type: none"> UK
Multi Criteria Sealed Bid Auction	<ul style="list-style-type: none"> Qualification studied across set criteria Anonymous bid submissions Can be simple or combinatorial All lots simultaneously offered 	<ul style="list-style-type: none"> Encourage participation of smaller players, as uncertain strategy for incumbents may create opportunity for entry Ensure low cost approach for regulator 	<ul style="list-style-type: none"> Applications are studied across set criteria Bidders place their bids in sealed envelopes and hand them to auctioneer at the same time Winners and price are determined through scoring system 	<ul style="list-style-type: none"> The highest or second highest bid price 	<ul style="list-style-type: none"> Low aggregation exposure risk Low over-bidding risk Simultaneous lots bidding Encourage participation and create opportunity for entry Fair valuation Produce almost immediate results 	<ul style="list-style-type: none"> Could be overly complicated depending on non-price criteria and scoring method 	<ul style="list-style-type: none"> France Spain Brazil Denmark Ireland Indonesia Greece Qatar Kuwait