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Comments:

Consultation Paper on 'Valuation and Reserve Price of Spectrum in 700, 800, 900, 1800, 2100, 2300 and 2500 MHz' Bands

Sistema Shyam Teleservices Limited (SSTL) welcomes opportunity extended by TRAI to comment on the consultation paper on 'Valuation and Reserve Price of Spectrum in 700, 800, 900, 1800, 2100, 2300 and 2500 MHz' Bands.

Our specific comment on the issues raised in the consultation paper is as below:

Q1. Whether the entire spectrum available with DoT in the 800 MHz band be put for auction? Justify your answer.

We suggest that the entire spectrum available with the DoT should be put to auction without any restriction. In addition, it is desirable to make available spectrum in contiguous blocks to the extent possible. Further, the harmonisation of 800 MHz spectrum band should be completed at the earliest in order to make spectrum available to the maximum extent possible for the forthcoming auction.

Q2. How can the spectrum in the 800 MHz band, which is not proposed to be auctioned due to non-availability of inter-operator guard band, be utilised?

There is no requirement for guard band in case 1.25 MHz is auctioned instead of 1.23 MHz, as proposed in the 800 MHz band. The 200 KHz in each side is more than sufficient for guard band. Therefore all the spectrum available with DOT should be put for auction.

Q3. What should be the block size in the 700 MHz band?

The block size in the 700 MHz spectrum band (698-806 MHz) with FDD based 2 x 45 MHz frequency arrangement should be adopted during forthcoming auction.

Further, as mentioned in the consultation paper out of 2x45 MHz available in the 700 MHz band, only 2 x 35 MHz spectrum is available for commercial



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purpose in the licensed service areas in the country in 700 MHz. Therefore, with the available spectrum in 700 MHz, we suggest that a block size of 2 x 5 MHz spectrum would accommodate 7 users thereby ensuring fair competition.

Q4. Whether there is any requirement to change the provisions of the latest NIA with respect to block size and minimum quantum of spectrum that a new entrant/existing licenses/expiry licensee is required to bid for in 800, 900, 1800 and 2100 MHz bands. Please give justification for the same.

We suggest following block size and minimum quantum of spectrum that a new entrant/existing licenses/expiry licensee is required to bid for in 800, 900, 1800 and 2100 MHz bands:

a) Block Size

The block size in 800, 900, 1800 & 2100 MHz bands should be as per the latest NIA of 9th January, 2015 i.e. 2 x 200 KHz in both 900 & 1800 MHz bands, 2 x 1.25 MHz block size in 800 MHz and 2 x 5 MHz block size in 2100 MHz band. For 800 MHz band, 1.25 MHz block size should translate into allocation of full 1.25 MHz instead of 1.23 MHz (as suggested in our reply to Q2).

b) Categorization (new entrant/existing licensees/expiry licensees)

i. 800MHz:

- **New entrant:** As mentioned in NIA dated 9th January 2015, a new entrant is required to bid:
 - (i) a minimum of four blocks in those LSAs where four or more blocks are available
 - (ii) minimum three blocks in those LSAs where less than four blocks, but equal to three blocks are available &
 - (iii) minimum of two blocks in those LSAs where less than three blocks, but equal to two blocks are available.
- **Existing Licensee:** Existing licensees holding spectrum in 800 MHz band may bid for a minimum of one block.
- **Expiry Licensee:** As per clause 2.1(a) of NIA 2015, the new entrants were required to bid minimum 5 MHz spectrum. Those licensees, whose permits were expiring in 2015-16 and did not hold any spectrum in 1800MHz through auctions held



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since November 2012, were required to bid minimum 5MHz. But the licensees whose permits were expiring in 2015-16 and held any spectrum in 1800MHz band acquired through auction since November 2012 were allowed to bid for minimum of 0.6MHz.

While the above principle has been established for 1800MHz in the March 2015 auctions, there was no such clause for 800MHz band, as there were no operators whose licenses were expiring and who had won spectrum in 800MHz band during the previous auctions.

However, the situation would be different in the forthcoming auction wherein some of the operators licenses are expiring in September 2017 in some service areas and they have secured spectrum in these service areas in the previous auctions in the 800 MHz band. In this scenario, as per the above principle of 1800 MHz band as established in March 2015 auctions, such operators should also be allowed to bid for minimum of 1.25MHz in 800MHz band instead of 5MHz.

ii. **900 MHz:**

- The spectrum availability in 900 MHz is less than 10 MHz, therefore in line with TRAI's recommendations of October 2014, we suggest a minimum block size of 2.4 MHz for New entrants/expiry licensee. For existing operators holding spectrum in 900 MHz, a minimum block size of 0.6 MHz should be allowed.

iii. **1800 MHz:**

- **New entrant** : In view of limited availability of spectrum (less than 10MHz) in all the circles and the earlier recommendation of TRAI issued in October 2014 in case of 900 MHz wherein minimum quantity of 2.4MHz was allowed to bid. Accordingly, the same principle should be followed for 1800 MHz for new entrant.
- **Existing Licensee**: Existing licensees holding spectrum in 1800 MHz should be allowed to bid for a minimum of 0.6 MHz.



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iv. **2100 MHz:**

- Block size of 5 MHz paired spectrum for a minimum of one block.

Q5. What should be the block size in the 2300 MHz and 2500 bands?

We suggest that the block size for 2300 MHz and 2500 MHz should be 20 MHz. Therefore, the spectrum in both 2300 & 2500 MHz should be auctioned in the block size of 20 MHz (unpaired).

Q6. Considering the fact that one more sub-1 GHz band (i.e. 700 MHz band) is being put to auction, is there a need to modify the provisions of spectrum cap within a band?

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Q7. Is there any need to specify a separate spectrum cap exclusively for the spectrum in 700 MHz band?

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Q8. Should a cap on the spectrum holding within all bands in sub-1 GHz frequencies be specified? And in such a case, should the existing provision of band specific cap (50% of total spectrum assigned in a band) be done away with?

The Sub-1 GHz spectrum bands (700 MHz, 800 MHz and 900 MHz) share inherently similar propagation characteristics therefore we suggest that the provision of spectrum cap rule should consider 50% of total assigned spectrum for commercial use upon clubbing together of all Sub-1 GHz spectrum bands.

Q9. Should 2300 MHz and 2500 MHz bands be treated as same band for the purpose of imposing intra-band Spectrum Cap?

Please support your suggestions for Q6 to Q9 with proper justifications.

Yes, 2300 MHz and 2500 MHz bands should be treated as same band for the purpose of imposing intra-band spectrum cap as both these bands have similar technical characteristics. Therefore, 2300 MHz and 2500 MHz



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bands should be clubbed together for the purpose of 50% spectrum cap calculation.

Q10. Suggest an appropriate coverage obligation upon the successful bidders in 700 MHz band? Whether these obligations be imposed on some specific blocks of spectrum (as was done in Sweden and UK) or uniformly on all the spectrum blocks?

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Q11. Should it be mandated to cover the villages/rural areas first and then urban areas as part of roll-out obligations in the 700 MHz band?

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Q12. In the auction held in March 2015, specific roll-out obligations were mandated for the successful bidders in 800 MHz, 900 MHz, 1800 MHz and 2100 MHz spectrum bands. Stakeholders are requested to suggest:

(a) How the roll-out obligations be modified to enhance mobile coverage in the villages? Which of the approaches discussed in para 2.58 should be used?

(b) Should there be any roll out obligation for the existing service providers who are already operating their services in these bands.

Please support your answer with justification.

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Q13. In the auction held in 2010, specific roll-out obligations were mandated for the successful bidders in 2300 MHz spectrum band. Same were made applicable to the licensee having spectrum in 2500 MHz band. Stakeholders are requested to suggest:

(a) Should the same roll-out obligations which were specified during the 2010 auctions for BWA spectrum be retained for the upcoming auctions in the 2300 MHz and 2500 MHz bands? Should both these bands be treated as same band for the purpose of roll-out obligations?

(b) In case existing service providers who are already operating their services in 2300 MHz band acquire additional block of spectrum in 2300 or 2500 MHz band, should there be any additional roll out obligation imposed on them?



The operators have already carried out extensive rollout in all service areas both for voice and data. In the present technology agnostic era wherein various bands are being combined to deliver telecom services, band wise rollout obligation should not be a precondition. Therefore, rollout obligation should be linked to the license and not to spectrum bands/blocks.

The rollout obligation as per the license agreement has already been carried out by the existing service providers. There is no necessity of any additional rollout obligations to be imposed on some specific blocks of spectrum purchased through auction if the service provider has already completed the rollout obligation. Accordingly, for such service providers, rollout obligation should not be mandated to villages/ urban areas separately.

Q14. Keeping sufficient guard band or synchronization of TDD networks using adjacent spectrum blocks are the two possible approaches for interference management. Considering that guard band between adjacent spectrum blocks in 2300 MHz band is only 2.5 MHz in a number of LSAs, should the network synchronization amongst TSPs be mandated or should it be left to the TSPs for the interference free operation in this band? Please support your suggestion with proper justifications.

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Q15. In case, synchronization of the TDD networks is to be dealt by the regulator/licensor, what are the parameters that the regulator/licensor should specify? What methodology should be adopted to decide the values of the frame synchronization parameters?

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Q16. If synchronization of the TDD networks is ensured, is there a need for any guard band at all? If no guard band is required, how best the spectrum left as inter-operator guard band be utilised?

The issue of TDD networks regarding sufficient guard band or synchronisation etc. should be left to the service provider for mutual discussion and resolution. We do not foresee involvement of licensor/regulator for the purpose of synchronization etc. is required in the first instance. In case the same is not resolved mutually then both the service providers can approach licensor/WPC.



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Q17. Whether the ISP category 'A' licensee should be permitted to acquire the spectrum in 2300 and 2500 MHz bands or the same eligibility criteria that has been made applicable for other bands viz. 800 MHz, 900 MHz, 1800 MHz and 2100 MHz band should be made applicable for 2300 MHz and 2500 MHz bands also?

We suggest that ISPs should not be permitted to acquire 2300 and 2500 MHz spectrum. We understand that many of the ISPs who had acquired spectrum in 2300 MHz band in earlier auction did not make any deployment and sold the spectrum to the UASL/Unified Licensees. Also, the pan India spectrum holder of 2300 MHz has migrated to Unified License. We, therefore, do not find any reason for permitting ISPs to acquire spectrum in 2300 and 2500 MHz bands.

Q18. Stakeholder are requested to comment on

(a) Whether the guidelines for liberalisation of administratively allotted spectrum in 900 MHz band should be similar to what has been spelt out by the DoT for 800 and 1800 MHz band? In case of any disagreement, detailed justifications may be provided.

(b) Should the liberalization of spectrum in 800, 900 and 1800 MHz be made mandatory?

The guidelines for liberalisation of administratively allocated 900 MHz should be similar to the guidelines issued for liberalization of spectrum in 800 MHz and 1800 MHz bands.

The liberalisation of spectrum in 800, 900 and 1800 MHz bands should not be made mandatory and operators should have the choice to liberalize their spectrum holding based on their business requirements.

Q19. Can the prices revealed in the March 2015 auction for 800/900/1800/2100 MHz spectrum be taken as the value of spectrum in the respective band for the forthcoming auction in the individual LSA? If yes, would it be appropriate to index it for the time gap (even if this is less than one year) between the auction held in March 2015 and the next round of auction and what rate should be adopted for indexation?



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Q30. Should the realized prices in the recent March 2015 auction for 800/900/1800/2100 MHz spectrum bands be taken as the reserve price in respective spectrum bands for the forthcoming auction? If yes, would it be appropriate to index it for the time gap (even if less than one year) between the auction held in March 2015 and the forthcoming auction? If yes, then at which rate the indexation should be done?

SSTL is of the view that the March 2015 auction determined price for 800/900/1800/2100 should be taken as the reserve price for the forthcoming auction in the individual LSA. Further, in March 2015 auction wherever the spectrum block in a band remained unsold, the last available price/reserve price of March 2013 by indexing at the applicable rate of SBI PLR should be considered as the reserve price of such spectrum blocks for the forthcoming auction.

The DoT guidelines dated 5th November 2015 for Liberalization of administratively allotted spectrum in 800 MHz and 1800 MHz frequency bands stipulates *"If the auction determined price is more than one year old then the prevailing market rates would be determined by indexing the last auction price at the rate of SBI PLR"*. Therefore, it would not be appropriate to index it for the time gap between the auction held in March 2015 and the next round auction as the time gap from last auction has not yet completed one year.

Q20. If the answer to Q.19 is negative, should the valuation for respective bands be estimated on the basis of various valuation approaches/methodologies adopted by the Authority (as given in Annexure 3.1) in its Recommendations issued since 2013 including those bands (in a LSA) for which no bids were received or spectrum was not offered for auction?

Not Applicable in view of our response to above question.

Q21. Should the value of 700 MHz spectrum be derived on the basis of the value of 1800 MHz spectrum using technical efficiency factor? If yes, what rate of efficiency factor should be used? Please support your views along with supporting documents/literature.

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Q22. Should the valuation of 700 MHz spectrum be derived on the basis of other sub-GHz spectrum bands (i.e. 800 MHz/900 MHz)? If yes, what rate of efficiency factor should be used? Please support your views along with supporting documents/literature.

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Q23. In the absence of financial or non-financial information on 700 MHz, no cost or revenue based valuation approach is possible. Therefore, please suggest any other valuation method/approach to value 700 MHz spectrum band along with detailed methodologies and related assumptions.

TRAI in its recommendations on auction of spectrum dated April 23, 2012 had mentioned that relative Capex as a percentage required for network infrastructure investments in 700 MHz is 25% lesser than 800 MHz band. We therefore suggest that the same factor may be used to calculate the price of 700 MHz for the forthcoming auction. The valuation of 700 MHz spectrum should be 25% higher than 800 MHz as the same is being adopted as a prime band for Long Term Evolution (LTE) technology. Further, spectrum in 700 MHz band is vital for proliferation of broadband in India. Moreover, due to its adoption by large number of countries, harmonisation can be achieved resulting in lower price of devices in this band due to economy of scale and quick penetration of services.

Q24. Should the value of May 2010 auction determined prices be used as one possible valuation for 2300 MHz spectrum in the next round of auction? If yes, then how? And, if not, then why not?

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Q25. Should the value of the 2300 MHz spectrum be derived on the basis of the value of any other spectrum band using the technical efficiency factor? If yes, please indicate the spectrum band and technical efficiency factor with 2300 MHz spectrum along with supporting documents.

The value of 2300 MHz spectrum in the next round of auction may be based on the value of May 2010 auction determined price with applicable SBI PLR rates.



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The 2300 MHz spectrum has already been auctioned earlier therefore there is no requirement of considering any technical efficiency factor for determining the Reserve Price.

Q26. Should the valuation of the 2500 MHz spectrum be equal to the valuation arrived at for the 2300 MHz spectrum? If no, then why not? Please support your comments with supporting documents/ literature.

Yes, the valuation of the 2500 MHz spectrum be equal to the valuation arrived at for the 2300 MHz spectrum

Q27. Is there any other method/approach than discussed above that could be used for arriving at the valuation of 700/800/900/1800/2100/2300/2500 MHz spectrum bands or any international auction experience/ approach that could be used for valuation of any of these bands? Please support your suggestions with detailed methodology and related assumptions.

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Q28. As was adopted by the Authority in September 2013 and subsequent Recommendations and adopting the same basic principle of equal-probability of occurrence of each valuation, should the average valuation of the spectrum band be taken as the simple mean of the valuations obtained from the different approaches/methods attempted for that spectrum band? If no, please suggest with justification that which single approach under each spectrum band, should be adopted to value that spectrum band.

We have no comments to offer in view of our response to Q19 to Q26 and Q30 above.

Q29. What should be the ratio adopted between the reserve price for the auction and the valuation of the spectrum in different spectrum bands and why?

- i. The spectrum valuation should not be taken as the reserve price as theoretical valuation could be an over-estimation. This may lead to inefficient pricing and would impact consumer as spectrum cost is ultimately passed on to consumers.



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- ii. The Authority has earlier recommended that the reserve price for the forthcoming auction should be fixed at 80% of the average spectrum valuation. We suggest using of same benchmarks for forthcoming auction.

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