

## Annexure A

We appreciate the Authority's gesture to come out with this detailed Consultation on this subject.

**A. In our earlier response to the TRAI Consultation Paper on "Valuation and Reserve Price of Spectrum – Licenses expiring in 2015-16", Idea Cellular had submitted the following:**

- *In the 2010 auction in view of the limited availability of 2100 MHz band for 3G services, no single private operator could get 3G spectrum on a pan India basis. Given that there is uncertainty of availability of more 2100 MHz spectrum, it is natural for operators who do not have 3G spectrum in a circle to try and get 900 MHz spectrum for 3G services.*
- *However, since limited quantity of 900 MHz is available, diversion of 900 MHz from GSM to 3G usage will inevitably result in closure / disruption of GSM services on which 54% of subscribers depend for mobility services.*
- *In light of the above it is essential that the auctions of 2100 MHz be **held either prior or atleast concurrent to 900 MHz auction**. This will enable operators to complete their 3G footprint without trying to get 900 MHz spectrum for 3G, which can only be at the cost of disruption of GSM (2G) services, as explained above.*

**B. We appreciate the Authority's Recommendation under Para 4.7 of its" Recommendations on Valuation and Reserve Price of Spectrum: Licences Expiring in 2015-16" echoed the same sentiment:**

- *The Authority is of the view that the forthcoming auction should be scheduled only after the above issues are resolved and supply constraints are removed. As adverted to above, short-term fiscal imperatives should not be the primary motivating factor in scheduling the spectrum auctions. It should be ensured that auction in the bands of 800 MHz, 900 MHz, 1800 MHz and 2100 MHz are conducted simultaneously. As such, **the Authority recommends that the forthcoming auction should be scheduled after the above issues are resolved and auction in the 800 MHz, 900 MHz, 1800 MHz and 2100 MHz band be conducted simultaneously**".*

**C. Further, in the Present Consultation on "Valuation and Reserve Price of Spectrum: 2100 MHz Band", the Authority has correctly highlighted and acknowledged the following:**

- **At Para 1.1 of the Consultation:** *In its Recommendations of 15<sup>th</sup> October 2014, the Authority emphasized inter-alia, the need for making additional spectrum available in the 900/1800 MHz bands as well as in the 2100 MHz band. The Authority recommended that auctions in the 2100 MHz band should be carried out along with the auction of spectrum in the 900/1800 MHz bands.*
- **At Para 2.2 of the Consultation:** *In its recommendations of 15<sup>th</sup> October, the Authority recommended that the entire 2x60 MHz in the 2100 MHz band should be made available for commercial use.*
- **At Para 3.4 of the Consultation:** *At the same time, the fact that the 2010 auction was conducted in a supply-constrained scenario cannot be lost sight of; and that The demand for spectrum in the 2100 MHz band was conditioned by the excessive competition engendered by entry of new licensees in 2008.*

**D. As has been acknowledged by the Authority itself, the 2010 auction was conducted in a supply-constrained scenario and excessive competition that resulted in realization of auction prices many times that of the reserve price. Naturally none of the bidders could obtain the spectrum on a pan-**

India basis. **The forthcoming auctions offer such operators an opportunity to expand their limited 2100 MHz 3G footprint to a pan-Indian one.**

- E. It is also a fact that in the 2010, 2100 MHz auctions, as many as 7 bidders won spectrum in different service areas out of which one has exited post cancellation of licenses. None of the remaining six operators who are currently providing 3G services have a pan-India footprint and between them they have 68 blocks in 22 service areas. There is a need for atleast 64 more blocks of spectrum to enable all these players to complete their pan India foot print or about 3 blocks per service area on an average, besides need for more spectrum for any new player.
- F. Further, keeping in view TRAI's consistent approach on making more spectrum available, we request TRAI to strongly re-emphasize the need for making available the entire 2\*60 MHz in 2100 MHz band for commercial use. In this regard, the TRAI may also kindly consider recommending that one slot of 5 MHz available in Bihar, Odisha & Himachal Pradesh (post quashing of STel) be also put up for auction.
- G. The Authority may kindly note that even with 3 blocks availability of 2100 MHz the total quantum of spectrum will remain insufficient and thus TRAI should encourage use of 3G ICR permitted by TDSAT to increase proliferation of broadband services across the country and to achieve optimum utilization of spectrum.
- H. We suggest that the better approach to determine the value of 2100 MHz spectrum should be based on the value of the 1800 MHz spectrum using the technical efficiency factor. The rationale of using this approach is covered in detail in our responses.
- I. We also request the Authority that present consultation may also address the issues regarding Transmit power for 2100 MHz band. The TSPs should be allowed to configure transmit power in 3G Node B beyond 20W (up to 80W), while maintaining compliance to the EMF norms. Detailed submissions on this issue are highlighted as "additional comments" at page 7 (subsequent to our response to query no. 10 of the consultation).

**Our responses to TRAI queries are as follows:**

**Q1. In the auction for 2100 MHz spectrum held in 2010, certain roll-out obligations were mandated for the successful bidders. Stakeholders are requested to suggest if any changes are required or whether the same roll-out obligations should be mandated in the forthcoming auction, along with justification.**

**Idea Response:**

We would like to submit that for any market driven auctions, there exists no rationale for insisting on any roll-out obligation. However, since roll-out obligations were already prescribed for the 2100 MHz auction held in 2010, the same may be made applicable even for the forthcoming 2100 MHz auctions.

In this regard, we have also highlighted to TRAI earlier that:

- *The actual 3G rollout obligation process remains incomplete because of the delay in issuance of TSTP and the non-clarity on various aspects prescribed in the provisional TSTP issued by the DoT. As a joint industry initiative, these discrepancies in the 3G TSTP have already been brought to the notice of DoT/TEC, as well as TRAI. We would request that these to be clarified before the auction.*
- *Further, the Authority may note that list of Rural SDCAs (as on 01st September, 2010) was only provided to us by the DOT in Dec 2013 for 17 service areas i.e. after more than 3 years of allocation of 3G*

spectrum. However, since the list contained numerous errors, the DoT was apprised of the discrepancies and we continue to await clarifications on the same. These should also form part of the Auction document.

- The Authority will agree that the Test Schedule Test Procedure (TSTP) which prescribes the process and method for measurements and tests to be carried out to ensure required roll-out of 3G network is critical for roll out testing. However, a provisional TSTP for roll-out obligations of 3G spectrum was released by the DoT on 04<sup>th</sup> September, 2012, viz., after two years of allocation of 3G spectrum. This document has still not taken a final form due to many practical difficulties which have been highlighted by the Industry at various forums.
- In view of the above, we request the TRAI to kindly have the issue of TSTP addressed at the earliest.

**Q2. Whether a bidder should be allowed to bid for more than one block of spectrum, in case a sufficient quantum of spectrum (more than one block in LSA) is put to auction?**

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**Q3. Whether the spectrum caps (of 50% of total spectrum in a band/25% of total spectrum assigned across bands) prescribed in recently held auctions in the 800/900/1800 MHz bands should also be prescribed for the upcoming auctions in the 2100 MHz band?**

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**Q4. In case only one block of 5 MHz of spectrum in 2100 MHz is available in an LSA, should only those TSPs be allowed to participate who do not have 2100 MHz spectrum in that LSA at present?**

**Idea Response:**

**a. At the outset, The Authority has itself highlighted and acknowledged the following:**

- **At Para 3.4 of the Consultation:** *At the same time, the fact that the 2010 auction was conducted in a supply-constrained scenario cannot be lost sight of.*
- **At Para 2.4 of the Consultation:** *None of the bidders could obtain the spectrum on a pan-India basis.*
- **At Para 2.11 of the Consultation:** *At present, no TSP has a pan-India presence with 2100 MHz spectrum.*
- **At Para 2.11 of the Consultation:** *In case only one block of 5 MHz is available for auction, one option could be that only those TSPs be allowed to participate in the auction that do not have 2100 MHz spectrum in the LSA. This may lead to an increase in the number of TSPs providing services using spectrum in the 2100 MHz band.*
- **At Para 1.10 of the Consultation:** *The auction prices realized were many times more than the reserve price.*

b. As has been acknowledged by the Authority itself, the 2010 auction was conducted in a supply-constrained scenario. Naturally none of the bidders could obtain the spectrum on a pan-India basis. The forthcoming auctions offer such operators an opportunity to expand their limited 2100 MHz 3G footprint to a pan-India status. This is succinctly captured by TRAI itself at Table 2.1, page 7, 8 of this consultation.

- c. We thus recommend that the forthcoming auctions (irrespective of the quantum of spectrum put to auction) be only used as an opportunity for operators to complete their 3G footprint to a pan India operation.
- d. The TRAI would acknowledge that in 2010, 2100 MHz auction, as many as 7 bidders won spectrum in different service areas out of which one has exited post cancellation of licenses. None of the remaining six operators who are currently providing 3G services have a pan-India footprint and between them they have 68 blocks in 22 service areas. There is a need for atleast 64 more blocks of spectrum to enable all these players to complete their pan India foot print or about 3 blocks per service area on an average, besides need for more spectrum for any new player.
- e. **In view of the above, we suggest that only those TSPs be allowed to participate who do not have 2100 MHz spectrum in that LSA at present and any such bidder should be allowed to bid for only one block of spectrum i.e. the total spectrum in 2100 MHz spectrum should be restricted to 5 MHz (including spectrum allocation in 2010) for each TSP in a LSA.**
- f. Accordingly, the spectrum cap of 25% of total spectrum assigned across bands prescribed in recently held auctions in the 800/900/1800 MHz bands should also be used for the upcoming auctions in the 2100 MHz band. However, the spectrum cap of 50% of total spectrum in a band should be substituted by 5 MHz cap in 2100 MHz band as mentioned above.
- g. In addition, we would also like to bring out that in LSAs like J&K, Punjab and even Gujarat, there is interference in the spectrum allocated to the current users. The interference in Jammu region is so high that we have not been able to launch the Services in the Jammu region despite having been ready from Jan 2011 onwards. This has already been brought to the notice of the DoT many times. We recommend that in such LSA where the Operators are facing interference and not able to launch 3G Services, their spectrum be changed with interference free spectrum before putting the additional spectrum in these LSAs for auction.
- h. Further, keeping in views TRAI's consistent approach on making more spectrum available, we request TRAI to strongly re-emphasize the need for making available the entire 2\*60 MHz in 2100 MHz band for commercial use. In this regard, the TRAI may also kindly consider recommending that one slot of 5 MHz available in Bihar, Odisha & Himachal Pradesh (post quashing of STel) be also put up for auction.
- i. The Authority may also kindly note that even with 3 blocks availability of 2100 MHz the total quantum of spectrum will remain insufficient and thus TRAI should encourage use of 3G ICR permitted by TDSAT to increase proliferation of broadband services across the country and to achieve optimum utilization of spectrum.

**Q5. Should the indexed value of May 2010 auction determined prices of 2100 MHz spectrum be used as one possible valuation for 2100 MHz spectrum in the forthcoming auction? If not, why not? And, if yes, what rate should be adopted for the indexation?**

**Idea Response:**

- a. The Authority has correctly highlighted the following flaws in Auction determined price of May 2010 for 2100 MHz spectrum :

**At Para 3.4 of the Consultation:** *The demand for spectrum in the 2100 MHz band was conditioned by the excessive competition engendered by entry of new licensees in 2008.*

b. It is our submission that :

- The 2010 auction was conducted in a supply-constrained scenario
- The demand for spectrum in the 2100 MHz band was conditioned by the excessive competition engendered by entry of new licensees in 2008
- There has been change in the techno-economic circumstances since the time of 2010 auction

c. The comparative price for 3 metro circles where auction of 1800 MHz (technically more efficient) discovered in the Feb'14 auctions are as under –

LSAs	2100MHz – May '10 Auction(Rs. Crs / MHz)	1800 MHz - Feb'14 Auction (Rs.crs/MHz)	2100 MHz Ratio w.r.t. 1800 MHz
Delhi	663	364	1.82
Mumbai	649	272	2.39
Kolkata	109	73	1.49

d. The fact that the price discovered in 2010 for 2100 MHz spectrum is significantly higher than the price of technically more efficient 1800 MHz discovered in Feb'14 auctions clearly shows that the price of 2010 was way too inflated on account of the supply constraint. Hence, 2010 auction determined prices of 2100 MHz spectrum cannot be used as possible valuation.

e. Since the auction winning price of 2100 MHz was not the right indicator of spectrum value, there is no rationale for using it and the question indexing the price determined in 2010, to arrive valuation of spectrum does not arise.

**Q6. Should the value of the 2100 MHz spectrum be derived on the basis of the value of the 1800 MHz spectrum using the technical efficiency factor (0.83) as discussed in Chapter III?**

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**Q7. Should the value of spectrum in the 2100 MHz band be estimated on the basis of the producer surplus model outlined in Chapter III? Please provide your views on the assumptions made. Please support your response with justification, calculations and relevant data along with the results.**

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**Q8. Should the value of spectrum in the 2100 MHz band be estimated on the basis of the growth in data usage outlined in Chapter III? Please provide your views on the assumptions made. Please support your response with justification, calculations and relevant data along with the results.**

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**Q9. Would it be appropriate to value the 2100 MHz spectrum as the simple mean of the values arrived from different valuation approaches as discussed in Chapter III? If no, please suggest with justification which single approach should be adopted to value the 2100 MHz spectrum?**

**Idea Response:**

a. We suggest that the better approach to determine the value of 2100 MHz spectrum should be based on the value of the 1800 MHz spectrum using the technical efficiency factor. The rationale of using this approach and not using other approaches are :

- i. **The valuation was done recently**- The Authority has, in its recommendation dated 15th October, 2014 on "Valuation and Reserve Price of Spectrum: Licenses Expiring in 2015-16", has done a fresh valuation of 1800 MHz spectrum for all 22 service areas.

- ii. **Different approaches were used** - The valuation exercise for 1800 MHz spectrum was done using 4 different approaches, including producer surplus method.
- iii. **Higher value was considered for 1800 MHz** - While arriving at the expected value of 1800 MHz spectrum, authority **has taken higher of the two figures**- simple mean of different valuation approaches or price realised in February 2014 auction. In the last spectrum auction, the value of 1800MHz was determined higher in circles where the spectrum quantity was low, while in all other circles the spectrum was sold at Reserve Price.
- iv. **Data capability of LTE is higher than 3G** – The price discovery of 1800 MHz was higher since the primary purpose of acquiring 1800MHz of spectrum was to offer LTE services. The capability of 1800MHz LTE is significantly higher than 2100 MHz 3G.
- v. **Technical Factor was considered for 900 MHz earlier** - The Authority while determining the Value of 900 MHz, in October 2014, has considered the factor of 1.5 times and 2.0 times of 1800 MHz, as technical efficiency factor (page 61 of October 2014 consultation paper)

**b.** In light of the above facts, like in the case of 900 MHz where the value for 1800 MHz was adjusted for technical efficiency factor, similarly the price of 2100 MHz should also be derived by applying adjustment for technical efficiency factor to the value of 1800 MHz recommended on October 15, 2014.

**c.** Further, if possible, the Authority should also apply an economic efficiency premium for 1800 MHz while calculating the value for 2100 MHz in view of the following fact :

- i. 1800 MHz will be used for LTE which is a more efficient technology than WCDMA technology for which 2100 MHz will be deployed.
- ii. Based on the above, the actual value of 2100 MHz vis-a-vis 1800 MHz will work out to a factor less than 0.83.

**d.** Further, since the base data of 1800 MHz has already been derived after taking average of valuations based on methods like “Producer Surplus Model, Production Function and Revenue Surplus”, there is no merit in averaging it again with similar approaches. It would be logically incorrect to do so.

**Q10. What should be the ratio adopted between the reserve price for the auction and the valuation of the spectrum of 2100 MHz band?**

**Idea Response:**

- a. The Authority, while determining the reserve price for 1800 MHz and 900 MHz, in October 2014, had considered 80% of Value as Reserve Price. The rationale for setting lower Reserve Price than the expected value of the spectrum is to enable market price discovery. Accordingly, the reserve price for 2100 MHz should be fixed at 80% of 2100 MHz spectrum value.
- b. Here it is pertinent to note that in the Feb’14 auction for 1800 MHz wherever sufficient spectrum was available ( $\geq 15$  MHz in 10 circles), the winning price was equal to reserve price. This clearly indicates that the reserve price was actually set unrealistically high and the fair value was actually below the

reserve price. Hence, there is a case for using a percentage of less than 80% for the reserve price. However, in no case should it be higher than 80%.

## **Idea Cellular's additional submission on the issue of 2100 MHz band**

### **Input on Power Output of a 3G Node B.**

- a. Currently the spectrum allocation letter issued by the WPC Cell for 2100 MHz, stipulates the following as the usage of the allocated spectrum

"2/20W power, emission 5M00G7W."

- b. This implies that the radiation of the Node B cannot exceed 20 W. While the WPC has changed the channeling plan from 200 KHz to 5 MHz to cater for the change in technology, they have not taken into account the power requirement with the change in technology.
- c. There is significant difference between GSM (narrowband technology) and 3G (broadband technology) which necessitates different treatment of RF Power related to these technologies. GSM has continuous power transmission irrespective of the traffic in the BTS, while 3G has discontinuous power transmission and only pilot power, which is typically 10% of the total transmit power, is continuous and total power transmitted is based on the amount of voice and data traffic in the Node B.
- d. 3G as a wideband technology needs higher transmit power for coverage & capacity. Global deployments in US, Europe, China and APAC markets for 3G are using 40W to 80W of transmit power in the Node B irrespective of bands (900 or 2100) as increase in power is a means to increase the capacity of the Node B in 3G and thus improve customer experience.
- e. Power density (RF power per MHz) in 3G is much lower than GSM even when Node B RF Power is 60W/80W. Both calculation method and field measurement results for a heavy loaded site have shown that the EIRP/EIRPth values of 60W/80W power of 3G sites are well within the limits of EMF guidelines prescribed DoT. We have shared detailed measurements / calculations on this to DoT in the past for relaxing the present guidelines.

**In view of the above facts, TSPs should be allowed to configure transmit power in 3G Node B beyond 20W (up to 80W), while maintaining compliance to the EMF norms.**

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