Dua Consulting counter-comments to TRAI Consultation Paper on method of allocation for Public Mobile Radio Trunking Service (PMRTS), including auction, as a transparent mechanism

Background

Public Mobile Radio Trunking Services or PMRTS are a way to create limited private networks for person to person and person to group communication, within a specified geographical area amongst community of interest or a public utility like Metro systems, Ambulance services etc. Such a system has no connectivity to a TSP or a PSTN, and or between two such PMRTS networks. This, of course, has uses across both public and commercial sectors. In the public sector, PMRT services are often used by law enforcement agencies, fire departments, ambulances, forest departments and other services where a closed network is essential. Commercial applications include transportation, manufacturing, construction, and delivery services, amongst others. PMRTS may be either analogue or digital. Analogue PMRT systems have been demonstrated to be less efficient and less reliable than their digital counterparts, and therefore, as has been stated in the paper and in the comments made thereon, we believe that India should follow the global trend and transition to digital PMRTS across the board, and incentivise for efficient use of the spectrum. To that end, we believe it is imperative that the TRAI takes this opportunity to bring in a transition framework and overhaul the allocation system for PMRT spectrum so as to enable this transition to be made in a smooth and painless fashion.

This could begin by making the allocation process more digital friendly such as by allocating spectrum in minimum 6.25 KHz blocks, which is more suitable for digital as opposed to analogue, which requires 25 KHz blocks (about 4 times). Another step that has been suggested in the comments and that we agree with is the removal of restrictions on the number of radios per channel and instead regulating channels on the basis of end terminals on each channelwith a reasonable (toll) quality of service.

Counter Comments

Chapter II (P.16)

Q1. Do you agree that existing License Service Area (LSA) based authorization criteria for PMRT service license is appropriate? If not, should there be a city/district based authorization aligned with spectrum assignments?

Q2. Do you suggest any other criteria/change in license/ area of authorization for PMRT service? Elaborate your suggestions with supporting facts.

Q3. Do you suggest any change in the duration of license from the present duration of 20 years? Please provide supporting justification.

Response

Prima Facie, we do not agree with the view that the existing LSA based spectrum licences could be continued, should those license be for generic service providers, who in turn would sell the PMRTS service to various categories of users, without a PSTN connectivity. However, there should be a provision for a license for captive users for example, Metros, special economic zones, industrial parks, ware houses and yards etc, where the existing practice of radial distance based licensing is prevalent. Radial Distance based licensing allows a choice to acquire a license according to a need. The way forward could be two have two categories, LSA or radial distance based.

The primary utilization of PMRT services is found in urban clusters and industrial areas. Consequently, allotment of spectrum on a License Service Area basis simply confers an advantage upon existing service providers and others with access to existing infrastructure. Further, it may also be considered that the use of PMRT services is often limited to specific areas in any given LSA and that even with proper incentives, and as has been stated in the comments, there is a limit to the growth of users for PMRT services. Therefore, it is important to ensure that there is sufficient diversity amongst the service providers and that innovation and growth are possible within this eco-system. In order to encourage the entry of new players and to create an open and competitive environment in this sector, we believe that a city/district/radial distance based system of authorization aligned with spectrum assignments would be the preferred category and that LSA based allocation should be the last option.

We believe that the present duration of 20 years for a license is justifiable on the basis of the infrastructural investments that the licensees have to undertake and the time required for them to recover their investments. However, we would also like to point out that the paper does not include any metric by which the duration may be judged in an objective manner and consequently, we would support any duration other than 20 years if such duration could be objectively demonstrated to enable service providers to recover their investment and, further, could be demonstrated to incentivize new entrants for example by attaching no penalty to early termination and no untoward costs for any extensions.

<u>Chapter IIIA (P. 24-25)</u>

Q4. Keeping in view the existing PMRT services market size and growth potential, which methodology of allocation of spectrum will be most suitable for PMRT services?

(a) Auction (or)

(b) Administrative allocation

Kindly provide supporting arguments for your choice.

Q5. Do you propose any other methodology other than the options provided in Q4. above for allocation of spectrum for PMRTS? Please provide detailed justifications.

Q6. If you have opted for auction as the methodology for allocation of spectrum for PMTRS,

(a) What criteria/norms should be there for auction of spectrum so that efficient utilization of the spectrum is ensured? Should there be preference for Digital PMRTS networks?

(b) Should the spectrum auction be held on LSA basis or city basis?

(c) What should be the effective date of allocation of spectrum (if won through the process of auction)?

(d) What should be the rollout obligations for PMRT service providers? What should be the penalty to be imposed in case of non-compliance of roll out obligation? Please provide detailed justifications?

Q7. If you feel administrative allocation is the best methodology, then

(a) Are the existing criteria of assignment of RF carriers sufficient or should there be different criteria/norms for assignment of spectrum? If existing criteria is not sufficient, what are the proposed criteria for such assignments so that efficient utilization of the spectrum is ensured?

(b) Should administrative price of spectrum be calculated LSA wise? If yes, what should be the basis and formula for determination of administrative price? Suggest alternate calculations, if any.

Response

As stated in the paper, the demand of PMRT services is fragmented across the country. PMRTS is not equivalent to Access services in any form. Unlike Access services, there is not a shortage of spectrum for PMRTS. In fact, as has been stated in the comments, even the existing PMRTS spectrum has not been allocated completely. Given all the above factors, it is unlikely that the use of auction to allocate this spectrum would justify the additional investment. For the above reasons, we believe that spectrum for PMRT services should be allocated administratively. This is the line taken by regulators in Singapore and in France as well, wherein both continue to allocate spectrum administratively. As stated in the paper, this is done due to the niche nature of the market for PMRTS and the absence of a highly competitive field therein.

Given the above arguments, the adoption of an auction mechanism at this point might be detrimental to the further development and maturity of the PMRTS services in the country.

We would reiterate that we don't believe that auction is the appropriate method for allocating PMRTS spectrum. However, in case the authority chooses to allocate spectrum through auction, we believe that there should be no roll-out obligations. Instead, the service providers may be charged from the date of allocation in either case. Further, geographically, the allocation

shouldn't be LSA or city-based. Instead, we believe a geographical allocation on the basis of radial distance would be the way forward. Additionally, we believe that the effective date of allocation of spectrum should be when assignment is made.

Coming to the setting of the administrative price, we believe that it is important to have a pricing mechanism that is fair, transparent with minimal human discretion and one which does not result in the imposition of additional costs on the end user. We believe that this may be achieved by creating a set of public parameters and determining the allocation price on the basis of the said parameters.

The ITU recommends that the following parameters be taken into account when creating a pricing mechanism for spectrum allocation:

- fiscal context;
- relevant principles and objectives for certain types of spectrum fees;
- funding regulator operations;
- demand and supply for spectrum;
- technological change;
- type and duration of the spectrum authorization and renewal options

We believe that the existing criterion of assignment of RF carriers is insufficient as much as this criterion does not take into account the abilities and characteristics of digital PMRT technology into account.

For administrative allocation, the ITU also believes that the imposition of fees associated with the frequency assignment process such as processing of applications for receipt and renewal of licences, as well as charges imposed on spectrum users for spectrum use are also a part of the final price.

We would also add that we believe the restricted and disaggregated nature of usage of PMRT spectrum, the fact that the demand for PMRTS is not expected to grow by a large margin and the need for incentivizing service providers should be kept in mind while setting the administrative price. Perhaps the use of base/repeater stations and frequency pairs, as has been suggested with the comments, should be considered.

Perhaps the best would be to revisit the current methodology of spectrum charge, which though for analogue systems, but could be fine-tuned for more efficient digital systems. In addition, the spectrum charges could be in radial distance slabs. We do not support LSA based allocation, unless for service provider who re-distributes the services.

<u>Chapter IIIB (P.30)</u>

Q8. Out of the bands discussed in Table 3.2 above, which are the preferable bands for the PMRT services in India? List out in the order of priority. Are the bands

suggested by DoT as mentioned in the Table 3.3 will be adequate to cater for the spectrum requirements of PMRTS?

Q9. Taking into consideration the existing allocation by DoT and Authority's latest recommendation for delicensing spectrum for M2M, would it be feasible to consider the band 819-824 MHz/ 864- 869 MHz for allocation to PMRTS licensees?

Q10. Which other candidate band will be most suitable for PMRTS if the band 819-824 MHz/ 864-869 MHz (5 MHz) is not to be considered for allocation to PMRT services? Please support your answer with facts.

Response

We believe that the following bands should be preferred, in descending order of preference:

(i) 814-819 MHz/859-864 MHz
(ii) 336-338 MHz/346-348 MHz; 338-340 MHz/348-350 MHz

We believe that the above bands do not seem to be utilized to their full extent at the moment and allow the authority to achieve its objective of a clear division between spectrum for captive and public radio trunking services.

We also believe that the recommended de-licencing of 819-824/864-869 for M2M, and the availability of only 7 MHz of spectrum in this band, it would be counter-productive to allocate the said spectrum, as per DoT's recommendation in Table 3.3, since the authority believes that there is potential for growth for Mobile Radio Trunking Services.

Further, the said band is the global standard for M2M communication, a rising sector which also requires global interoperability. PMRT Services are localized by their very nature and consequently, the allocation of M2M spectrum in consonance with the globally accepted spectrum standard for M2M would be a step in the right direction for the authority.

As seen in Table 3.2, and Table 3.4, the 806-819 MHz/851-864 MHz block falls within the prescribed PMRTS spectrum under the National Frequency Allocation Plan (NFAP)-2011, and by the ITU respectively. Use of this block would allow the authority to be in step with global norms as well as being compliant with visions of the NFAP 2011 and the DoT reference. It also allows the authority to separate spectrum for PMRTS and CMRTS which has been stated as a preferred outcome in this paper and have sufficient spectrum available for the future. Hence, we believe that allocating spectrum in the 806-819 MHz/851-864 MHz band would be beneficial.

The bands chose should be such where a mature ecosystem exists as well as in line with spectrum allocations in other countries. Choosing any newer bands would be counter productive for these niche services.

<u>Chapter IIIC (P. 34)</u>

Q11. What should be the minimum block size of spectrum to be put for auction? How contiguity of spectrum can be ensured?

Response

We should begin by stating that, as stated in the responses above, we don't believe that the spectrum for PMRT Services should be allocated by auction. However, regardless of the mode of allocation, we would recommend the use of a spectrum block size corresponding to 6.25 KHz as has been recommended by the Authority itself. A block size of 6.25 KHz would enable the Authority to have greater flexibility in allocation, in addition to ensuring sufficient availability for present and future needs. Further, as we have stated above, we believe that the use of this block size would also encourage the shift to digital PMRTS.

Chapter IIID (P. 37 and 39)

Q12. In case spectrum is to be auctioned, which methodology / approach(s) should be adopted for valuation and associated reserve price of Spectrum for PMRTS and why? Please justify your answer.

Q13. In case spectrum is to be auctioned, which methodology/ approach(s) should be adopted for calculation of spectrum usage charge? Please justify your answer.

Response

As stated above, we firmly believe that the present state of the market means that auction is not an efficient method of allocation of spectrum for PMRT services. Auction serves no purpose in this case since the primary objective is to provide a public good and not commercial exploitation. Instead, we believe that the present methodology should be refined to take care of the Digital Dividend i.e. digital technology.

Chapter IIIE (P. 41-42)

Q14. Whether the concept of spectrum cap shall be applicable on assignment of spectrum to the licensees for PMRTS? Justify your answer.

Q15. In case you are of the view that provision of spectrum cap should be there, what should be the mechanism for applicable spectrum cap?

(a) Whether any one of the spectrum cap i.e. intra-band or overall shall suffice the requirement as of now? Or

(b) both caps should be made applicable simultaneously?

(c) What should be the appropriate criteria for spectrum cap?

Response

We believe that the present situation of market in PMRT services does not support the need for spectrum caps. The market is a niche one with the authority not expecting any disruptive changes in the future. While close to 61.5% of the total spectrum is held by a single player, there has been no evidence of anti-competitive practices. Rather, it seems to be a reflection of the market given the niche nature of PMRTS and the geographically dispersed nature of the demand. Further, it should also be taken into account that there is evidence to suggest that it is the dominant position of the lead player that deters new entrants or that spectrum caps in this sector could possibly encourage new entrants as opposed to simply distorting the market.

As stated in the paper, there seems to be sufficient spectrum available for assignments even within the current system. In other words, despite the growth exhibited over the past few years, the demand itself is not strong enough to support a highly competitive field. In light of the above, we would reiterate that spectrum caps should not be made applicable at present in the PMRTS sector.

If at all capping is to be considered, it should be only to bring in competition and reduce barriers for entry for newer players.

Chapter IIIF (P. 42)

Q16. What should be the duration/validity of assignment of spectrum to PMRT service provider? Should it be with the same duration as that of the license (20 Years)? Please support your answer with facts.

Q17. If the duration of validity of spectrum is to be made lesser than the validity of license, should there be an option with the licensee to renew? What should be the specific conditions for such renewal?

Response

We agree with the view of the authority that the duration of assignment of the spectrum should be such that a service provider should be able to recover the cost and able to sustain itself in the market. Given the same, we believe that the low demand for PMRTS presents limited opportunities for scaling as compared to commercial spectrum assignments. However, at the same time, the authority has not provided with clear data with regard to costs incurred, revenue earned over the assignment period by existing service providers. In the absence of the same, we believe that the duration/validity of the assignment should be based on objective and transparent criteria and be fixed at a number that incentivizes the service providers to invest in this sector.

Conclusion

In summary, our views with regard to the allocation for spectrum for PMRT services are as follow:

- **Administrative allocation should continue to be the method of allocation and not auction.**
- **The allocation framework should be designed to enable a shift to digital PMRTS systems.**
- **The duration of the licence should continue to be 20 years, with easy extensions and no penalties for early surrender.**
- **Allocation based on a radial distance measure should be preferred. LSA based could be for a bulk service providers in certain cases, not for captive.**
- **There should be not be any spectrum caps for PMRTS spectrum, except where a lack thereof is preventing entry of new players.**
- **The block sizes for allocation should be of 6.25 KHz.**
- **There should be no PSTN connectivity, and no linkage of two PMRTS systems.**
- **May be royality fee for number of terminals used, and**
- **There should be a fine-tuning of the present radial distance based charging policy taking into account the characteristics of current digital technology-unlike with the present system where charges are analogue –based and often result in unfairly high prices for service providers or users who use digital technologies.**

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