

Date: 22/03/2018

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SUB: **Comments to Consultation Paper on " Method of allocation of spectrum for PMRTS Including auction as a transparent mechanism ."**

Dear Sir ,

We would like to introduce our company as the first Digital Public Mobile Radio Trunking Service (PMRTS) Service Provider providing Push To Talk Trunking Services for business critical and mission critical applications such as Manufacturing, Power, Oil and Gas, Mines, Steel plants, Municipalities and many such customers for their efficient, reliable and secure communication.

We are pleased to submit in reply to your consultation paper dated 08/02/2018 regarding subject mentioned above.

We sincerely hope that you shall consider our comments favourably.

Thanking You
For Inative Networks Private Limited

Director (Marketing)



Enclosure: Comments on "Method of Allocation of Spectrum for PMRTS, including auction as a transparent mechanism ."

REPLY TO ISSUES FOR CONSULTATION

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 allocations?

[Inative Networks] The main subscribers of PMRT service due to the special features it provides are mostly in remote areas including industrial areas. The service is also not limited by the limitations of city coverage therefore it is most appropriate to have License Service Area based authorization criteria.

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

[Inative Networks] We don't believe there is any other improved criteria at this stage to determine area of authorization for PMRT service than based on License Service Area.

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

[Inative Networks] Most of the subscription contracts with customers are for long term basis considering the deployment in critical industries and remote areas. As the number of subscribers are comparatively limited, Return on Investments made in network roll out by the service providers also can typically vary from 10-14 years. Therefore, it is suggested that the duration of the license should be for 20 years. Long term allocation will also provide comfort to the customer that the Service Provider shall be obliged to provide service for a reasonable period of time.

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 ?

- Auction
- Administrative allocation

Kindly provide supporting arguments for your choice.

[Inative Networks] We support method of allocation which is transparent, does not cause loss to the regulator and also at the same time is economically viable for the service provider.

The characteristics of requirement for spectrum allocation for PMRT services are as follows -

- a. *Additional spectrum is required for rolling out services in new and current areas to cater to new subscribers in a wider geographical area. In a lot of cases, the current allocated spectrum for digital PMRT can be re-used within the telecom circle.*
- b. *The spectrum requirement is relatively low but should cater to high geographic area.*
- c. *Requirement is extremely fragmented in each telecom circle.*
- d. *Digital technologies are extremely spectrum efficient and this has potentially reduced the overall spectrum requirement significantly.*

Hence, the overall requirement of spectrum for PMRT service providers is historically low and in the future also not grow significantly in comparison to available spectrum. Hence, it is proposed that the spectrum allocation is continued to be done administratively until atleast 25% of the available spectrum is consumed. After such time, a review may be done and decision taken appropriately. Until then, it is requested that support should be provided to PMRT service provider by way of reduction of spectrum charges, AGR and timely allocation of spectrum to be able to deliver cost effective and timely services to larger number of subscribers and in wider geographic area.

Kindly also note that since PMRTS is a specialized on-demand service, we provide the following suggestions for spectrum allocation -

- *Spectrum allocation should be done within a maximum of 2 weeks for timely provisioning of service to end customer.*
- *Import License should be a part of the Spectrum Allocation (Decision Letter). Import License for Subscriber terminals **must not be limited by numbers of RF carriers allocated** as there is no logical relationship between number of subscriber terminals deployed and RF carriers. This is due to the fact the PMRT is essentially a specialized On-demand service with customized coverage, reliability and features for the end users.*
- *Operating License should not be required separately and should be part of the Spectrum Allocation Decision Letter.*

Presently with the current allocation process, it would take more than a year to provision service to a new customer.

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.

[Inative Networks] No other alternate methodology for spectrum allocation is proposed.

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

- (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?

[Inative Networks] Only digital technologies must be promoted for PMRT Services due to spectrum efficiency and reusability.

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

[Inative Networks] Not applicable since auction method is not proposed.

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

[Inative Networks] Not applicable since auction method is not proposed.

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

[Inative Networks] Not applicable since auction method is not proposed. Current roll out obligations in Unified License are proposed to be retained. No additional conditions for roll out are proposed.

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?

[Inative Networks] We propose the following criteria for RF assignment area –

- Each RF carrier at a particular site should be minimum of 200 KHz apart for each PMRT service provider. However, there is no separation required between two or more service providers in the same area.*
- There should be no limit to number of subscribers per RF carrier. It must simply be abolished as QOS and SLA is subjective on the basis of customer requirements and cannot be determined by one single formula perhaps relevant for other telecom services. PMRT services are extremely specific, on demand and tailored services in terms of redundancy, availability, coverage and traffic volumes and therefore it is not possible to govern or pre-determine the maximum number of subscribers that can be loaded on a single RF carrier. The number also varies depending on analog or digital technology and the type of technology itself.*
- Service provider should be allowed to re-use spectrum within the LSA.*

- (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 calculation, if any.

*[Inative Networks] The current administrative price of spectrum for PMRT Services is extremely high. This is the main reason that it has limited the adoption and growth of PMRT services in India. For easy of deployment, the spectrum may be allocated with both options of either **District wise** use to cater to smaller deployments such as industries, airports, smart cities etc. or **LSA wise** for larger deployments such as highways, waterways and smart grids.*

However, the price of the spectrum must be substantially reduced to ensure that there is atleast a growth of 10-15% CAGR in the PMRT industry every year.

- Q8.** Out 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 ?

[Inative Networks] Bands proposed for allocation in order of priority are –

- **811-814 / 856-859 MHz (this is already allocated for spectrum efficient PMRTS)**
- 816-819 / 864-869 MHz
- 819-824 / 864-869 MHz
- 336-340 / 346-350 MHz

Note that 814-819/ 859-864 MHz is primarily for PMRTS as per NFAP. It is written predominantly for CMRTS in Table 3.2 Page 27.

- Q9.** Taking into consideration the existing allocation by DOT and authority 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 licenses?

[Inative Networks] It may not be feasible as users may have M2M devices as well as PMRT subscriber devices co-working together. Therefore to avoid interference, licensed allocation may not be done when the band has been delicensed.

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

[Inative Networks] PMR Network equipments are widely available in all harmonized bands. Prevalent bands for allocation to PMRT services except 819-824 / 864-869 MHz are:

- **811-814 / 856-859 MHz (this is already allocated for spectrum efficient PMRTS)**

- 816-819 / 864-869 MHz
- 380-389.9 / 390/399.9 MHz
- 336-340 / 346-350 MHz

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

[Inative Networks] Spectrum must be allocated administratively. However for the administrative allocation, allocation should be done with minimum spectrum band of one 25 KHz block. Contiguity of the band can be ensured as the separation between each carrier is proposed to be 200 KHz to each operator at each location. However, next carrier without any separation can be given to other operator in same location or same operator in other location.

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 .

[Inative Networks] We propose that spectrum should be allocated administratively.

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

[Inative Networks] We propose that spectrum should be allocated administratively.

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

[Inative Networks] Intra-band Spectrum cap is applicable where market size is very big as compared to the spectrum available. In case of PMRTS operator the situation is entirely different where market size is small as compared to spectrum available. However, in order to ensure no dominance of single large service provider, spectrum cap should be proposed.

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?

[Inative Networks] Intra-band and Overall cap should be able to suffice. No single operator should be able to hold more than 25% of the spectrum within each band and of all bands.

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.

[Inative Networks] Most of the subscription contracts with customers are for long term basis considering the deployment in critical industries and remote areas. As the number of subscribers are comparatively limited, Return on Investments made in network roll out by the service providers also can typically vary from 10-14 years. Therefore, it is suggested that the duration of the spectrum allocation should be for 20 years. Long term allocation will also provide comfort to the customer that the Service Provider shall be obliged to provide service for a reasonable period of time. There should also be no requirement of renewal of Operating Licenses each year. Upon payment of fees, automatic receipt should be generated of the payment which should include renewal also.

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 ?

[Inative Networks] Spectrum should be allocated for 20 years subject to payment every year. We also propose that the tedious issue of Operating Licenses which needs to be obtained for each spectrum allocation should be abolished. Upon payment of fees, automatic receipt should be generated of the payment which should include renewal also.

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