



RSM/COAI/2019/127  
July 22, 2019

**Shri. S.T. Abbas**  
**Advisor – Networking, Spectrum & Licensing**  
Telecom Regulatory Authority of India  
Mahanagar Doorsanchar Bhawan  
Jawahar Lal Nehru Marg  
New Delhi - 110002

**Subject: COAI Response to the TRAI Consultation Paper on Allotment of Spectrum to Indian Railways for Public Safety and Security Services**

Dear Sir,

1. This is with reference to the TRAI Consultation Paper on "Allotment of Spectrum to Indian Railways for Public Safety and Security Services" issued on June 24, 2019.
2. In this regard, please find enclosed COAI Response to the Consultation Paper as Annexure – 1.

We believe our inputs will merit your kind consideration.

Regards,

**Rajan S. Mathews**  
**Director General**



**Response to Consultation Paper on Allotment of Spectrum to Indian Railways  
for Public Safety and Security Services**

**Q.1 Whether spectrum in 700 MHz band should be assigned to Indian Railways for RSTT in India? Please provide justification for your response.**

**COAI Response**

1. 700 MHz band is extensively used for commercial mobile services globally and a comprehensive eco-system is available for this band. Many countries are also carrying out 5G trials in this band.
2. In India, 700 MHz band has already been identified for IMT. Given the importance of this band, it has also been identified as one of the key bands for deployment of 5G in India by the 5G High Level Forum constituted by DoT.
3. It is important to understand that in India, out of 45 MHz (paired) of 700 MHz band, 10 MHz (paired) has already been assigned to MoD. This leaves only 35 MHz (paired) amongst four TSPs. In case any new TSP plans for 5G in this band in India, then 35 MHz (paired) is grossly inadequate. Thus, it would not be appropriate to fragment the band any further.
4. It is recommended that principle of global harmonization be kept in mind before assigning spectrum for any such other service like RSTT. Currently, WP5A of Study Group 5 (ITU-R) is studying these requirements vide PDN RECOMMENDATION ITU-R M.[RSTT\_FRQ] on harmonization of frequency bands for railway radiocommunication systems between train and trackside.
5. It is pertinent to note that work is also going on in WRC-19 cycle on RSTT under Agenda Item 1.11 –
 

*1.11 to take necessary actions, as appropriate, to facilitate global or regional harmonized frequency bands to support railway radiocommunication systems between train and trackside within existing mobile service allocations, in accordance with Resolution 236 (WRC-15)*
6. Therefore, COAI strongly recommends that no spectrum from 700 MHz band which has for long been identified for IMT in India should be given to Railways for any kind of services.

**Q.2 In case your answer to Q1 is in affirmative, how much spectrum should be assigned to Indian Railways?**

NA

**Q.3 In case your answer to Q1 is negative,**

**i) what are the other bands (including 450-470 MHz) in which spectrum can be assigned for RSTT,**

**ii) how much spectrum should be assigned to Indian Railways?**

**COAI Response**

1. As mentioned above, there is work in progress in ITU-R regarding harmonization of spectrum bands for RSTT. In the current draft recommendation for RSTT in WP5A, most common bands in use on Global Basis are as tabulated below –

Application	Band	Spectrum
Train Radio	150 MHz	Simplex: 138-140 MHz, 150.5-153MHz; 417-418 MHz; 443-444 MHz Duplex: 141-143 MHz/146-148 MHz; 153-154 MHz/158-159 MHz; 387-390/397-399.99 MHz; 415-417/425-427 MHz; 876-880 MHz /921-925 MHz; 452.5-457.475MHz/462.5-467.475MHz; 876-880 MHz / 921-925 MHz
	400 MHz	335.4-470MHz
	700 MHz	Nil
	900 MHz	873-960MHz

2. We would like to recommend that the Authority should wait for the outcome of WRC-19 (scheduled to be held between 28<sup>th</sup> October 2019 to 22<sup>nd</sup> November 2019) so that Indian Railways can get benefitted with globally harmonized spectrum bands for meeting their requirements of RSTT. As shown in the table above, most commonly used band is the 400 MHz band and Railways should plan their requirements accordingly.

**Q.4 In case it is decided that spectrum in IMT bands which have already been earmarked for mobile services, be assigned to Indian Railways for RSTT in India, what should be the methodology (including price) of allotment of spectrum?**

&

**Q.5 In case it is decided to assign spectrum in other spectrum bands (including 450-470 MHz band), what should be the methodology (including price) of allotment of spectrum?**



**COAI Response**

1. We submit that as per the directions of Hon'ble Supreme Court, if any IMT commercial spectrum band is assigned to any agency/entity, it should be put up for auction.
2. In case of allotment of spectrum to Indian Railways, the primary utility of this strategic resource would be to deploy LTE based RSTT and not for any commercial usage. Hence, we are of the view that the spectrum in 400 MHz band may be allocated on administrative basis. Any spectrum identified for commercial services and recommend by TRAI to be kept for sale in upcoming auction shall be allocated via auction process only.

**Q.6 Do you foresee any challenges, if IR makes internet services available onboard i.e. within the train using spectrum allocated for signaling purpose?**

**COAI Response**

1. It is submitted that the provision of Internet services is part of the licenses issued to TSPs/ISPs. If Railways needs these or similar other commercial services, then that should be provided by the authorised licensees (TSPs/ISPs) similar to the provision of In-flight connectivity. The In-flight service providers use the Infrastructure of TSPs to provide the In-flight communication /Internet services. The same model may be replicated for Railways too in case the intention is to provide internet to the onboard passengers.
2. COAI strongly recommends that Railways should seek spectrum for RSTT purpose only and provision all commercial services be left to authorised licensees (TSPs/ISPs).

**Q.7 Whether the requirement of IR for RSTT can be fulfilled using the following alternate methods:**

**i) Alternate method suggested in para 4.47, wherein a TSP could build, deploy and maintain LTE-R network for IR; while the control, use and operation of the LTE-R network may be with IR.**

**OR**

**ii) Alternate method suggested in para 4.48, wherein there could be a common integrated network (with common spectrum) for Public Safety i.e. Public Protection and Disaster Relief (PPDR) and Railways, using PS-LTE and LTE-R technology respectively.**

**OR**

**iii) Any other method as may be suggested by the stakeholders. (Please provide detailed response with justifications and required enabling provisions.)**

**COAI Response:**

IR can approach any TSP for building, deploying and maintaining RSTT basis the tender given by Railways. The LTE based network shall be used by railways only for the requirement of RSTT and not for providing the internet services. The created infrastructure

should be allowed for sharing with existing telecom service providers for installation of their equipment for providing their mobile internet services to the passengers. However, as recommended in response to Q1, commercial bands such as 700 MHz should not be assigned for captive use by Indian Railways for LTE based RSTT.