

**From: Harkesh Gupta, MD  
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**My Background:**

I have been associated with radio broadcasting for past 42 years (27 years in AIR, 10 years in BECIL and 5 years in private). During my tenure with AIR I was associated with expansion of its' MW & SW terrestrial transmission networks. As Director in charge of Planning and Development at AIR HQ in New Delhi I was responsible for Planning/establishment of the Super Power MW transmitters (1000 kW) at Nagpur, Rajkot and Chinsurah (near Kolkata) and 6 Nos. of 500 kW Short Wave Transmitters near Bangalore besides large no. of medium/smaller power regional MW/SW transmitters. I was also responsible for induction of Digital Broadcast compatible, fully solid state MW transmitters in AIR network.

In BECIL as Director and CMD I was responsible for creation of all the Common Transmission Infrastructures for Pvt. FM Phase-I & II. I was also closely associated with policy formulation for Pvt. FM Phase-III. Was also associated with development of Community Radio policy and its' implementation by establishing a large no. of CRS.

At present as MD of Mark Media Solution Pvt. Ltd. we undertake consultancy and turn-key solutions for Pvt. FM and CRS. We have also developed our own make 50W FM transmitter and antenna for CRS.

**Comments on TRAI Consultation Paper No. 7/2017, Dt. 10-7-2017 on Issues related to Digital Radio Broadcasting in India.**

**Para 5.1: Is there a need to encourage or facilitate introduction of digital radio transmission at present? If so, what measures do you suggest and in which market?**

**Comments:** Yes there is a felt need to encourage and facilitate introduction of Digital Radio Transmission in India. AIR has already introduced it. This should be done for Pvt. Broadcasters too.

As for Pvt. the introduction of digital radio may be done in major markets (Category A+ and A cities of Pvt. FM policy) where there is unsatisfied demand for more channels and listener appetite for niche channels and value added services (VAS). However basic eco-system of 1) Policy Frame work, 2) Attractive audio content and VAS and 3) Availability of Digital Radio Receivers at affordable price needs to be accomplished.

**Para 5.2: Is there a need to frame a road map for migration to digital radio broadcasting for private FM broadcasters? If yes, which approach, mentioned in Para 4.7, should be adopted? Please give your suggestions with justification.**

**Comments:** Yes there is a need to enable Pvt. Broadcasters to migrate to digital but proposing a road map at present juncture may not be proper since time frame for development of necessary eco-system to provide support and sustenance of Pvt. Broadcasters can't be predicted right now. A realistic Road map could be framed at a later stage after adequate ecosystem is in place.

I would suggest market based approach since 1) Seeding of adequate no. of digital radio receivers will take a long time and %age of their seeding would vary in different category of cities, 2) Adequate no. of channels are already available in new cities under Ph-III policy, majority of which are small cities (category-D). All of these channels may not be sold in near future because of high cost of infrastructure/high reserve price and limited revenue potential. A limited success of auction for new cities under FM-III Batch-2 should serve as an indicator.

**Para 5.3: Should the date for digital switch over for radio broadcasting in India need to be declared? If yes, please suggest the date with suitable justification. If no, please give reasons to support your view.**

**Comments:** No, there is no need to declare a digital switch over date in India as far as Pvt. Broadcasters are concerned since India is a diverse country with people of vastly varied economic status. Many of them could afford a cheap analogue receiver but not a costly digital receiver unless highly subsidized by govt. Mandatory switch over to digital in a specified time-frame would further reduce the listenership and consequent revenue potential for Pvt. FM Broadcasters, especially in smaller cities which could result in unviable business and consequently shut down of some channels.

In my view broadcast in digital mode may be enabled by policy frame-work but not enforced, nor should a switch over date be declared as far as Pvt. Broadcasting is concerned. It should be left to market potential and dynamics. As for AIR a digital switch over mandate already exists.

**Para 5.4: Is present framework or regulatory framework is restrictive for migration to digital radio broadcasting? Please explain with justification.**

**Comments:** The present policy framework for Pvt. FM is restrictive for migration to digital radio broadcasting. Although this is not specifically mentioned in the MIB policy but relevant Para 16.3 Technical Standards of Pvt. FM Policy dated 25<sup>th</sup> July 2011 prescribes transmission standards to conform to ITU-R Recommendation 450-3, which pertains to FM broadcasting in analogue mode. Therefore FM Ph-III policy will have to be modified to allow FM broadcasting in digital mode at an appropriate time within license period chosen by Pvt. Broadcaster depending on market potential/dynamics.

**Para 5.5: Should single digital technology be adopted for entire country or choice of technology should be left to radio broadcasters? Support your reply with justification?**

**Comments:** Yes single digital technology should be adopted for the entire country, as done world over. Choice of technology to radio broadcasters will not only increase interference but also chaos for the listener.

**Para 5.6: In case a single digital radio broadcast technology is to be adopted for the entire country, which technology should be adopted for private FM radio broadcasting? Please give your suggestions with full justification.**

**Comments:** Out of 4 technologies being discussed HD Radio and ISDB-Tsb are proprietary standards of US and Japan respectively whereas DAB+ and DRM+ are open standards. Since DAB/DAB+ operates in different freq. band (VHF-III), existing infrastructure of Pvt. Broadcasters can't be utilized. Therefore DRM+, which operates on same FM frequencies in VHF-II currently allotted to Pvt. FM Broadcasters, is the most suitable and cost effective technology. Moreover DRM+ covers VHF-III also, which can be allotted to Pvt. FM Broadcasters in future under a separate policy.

**Para 5.7: How issues of interference and allocation of appropriate spectrum allocation be settled in case option to choose technology is left to radio broadcasters?**

**Comments:** No comments in view of my suggestions under Para 5.6 above.

**Para 5.8: Should the permission for operating FM channel be delinked from technology used for radio broadcasting? If yes, please provide a detailed framework with justification.**

**Comments:** Yes the permission for operating FM channel should be delinked from technology used. The broadcaster should be given an option to operate in fully analogue, simulcast or fully digital mode in the freq. spectrum allotted to him. The broadcaster should be permitted flexibility to choose the duration of broadcast in different modes and date of switch over to complete digital as per market potential/dynamics e.g. in bigger cities where demand exists for more channels broadcaster may choose to broadcast in simulcast mode immediately, whereas in smaller cities he may choose to continue broadcast in analogue mode for entire period of license, especially in new cities of FM Ph-III which are not exposed to FM service as even AIR doesn't have FM broadcast at most of the new cities.

**Para 5.9: Should the existing operational FM radio channels be permitted to migrate to digital broadcasting within assigned radio frequency? If yes, should there be any additional charge as number of available channels in digital broadcasting will increase? Please provide a detailed framework for migration with justification.**

**Comments:** Yes the existing operational FM radio channels should be permitted to migrate to digital broadcasting at additional incremental charge in order to encourage Pvt. Broadcasters choosing to switch over to digital. However additional charge may be levied only when the broadcaster chooses to migrate to digital broadcasting i.e. from date of permission for digital switch over during license period. In other words policy may enable broadcast in digital mode but charge may be levied from date of permission for digital broadcast.

**Para 5.10: Should the future auction of remaining FM channels of Phase-III be done delinking it from technology adopted for radio broadcasting? Please give your suggestions with detailed justifications?**

**Comments:** Yes. The justification is already covered in replies to various paras above.

**Para 5.11: In case future auction of remaining FM channels of Phase-III is done delinking it from technology, should the present auction process be continued? If no, what should be the alternate auction process? Please give your suggestions with detailed justification?**

**Comments:** Yes the present auction should continue after necessary amendment in the policy for delinking channels from technology as discussed above.

**Para 5.12: What modification need to be done in FM radio policy to use allocated FM radio channels in technology neutral manner for radio broadcasting?**

**Comments:** Para 16.3 Technical standards of Pvt. FM Ph-III should be modified to allow digital radio broadcasting specifying the particular standard (DRM+) to be employed.

**Para 5.13: What measures should be taken to reduce the prices of digital radio receivers and develop ecosystem for migration to digital radio broadcasting?**

**Comments:** Listener uses 3 types of devices for radio reception 1) Car radio, 2) Built in receiver in mobile set and 3) Stand-alone radio. Chip sets for digital radio reception have already been developed and these are readily available in India at very reasonable cost. The software is application specific and mostly developed by respective manufacturer. Major car manufacturer Hyundai has already started fitting digital radio receivers as a standard factory fitted accessory from last year at very little additional cost to the customer. Others may also follow soon.

In order to bring down the price of digital radio receiver and develop ecosystem for migration to digital radio broadcasting following steps are suggested:

- 1- Make it mandatory to fit only digital radio receivers in new cars.
- 2- Mobile set manufacturers may be given incentives by way of tax concessions to encourage incorporation of digital radio reception capability in mobile sets.
- 3- Govt. should support stand-alone digital radio receiver manufacturers by assuring order for critical volume to bring down cost to affordable level and distribute same through public distribution network like being done for LED bulbs, tube lights and 5 star rating ceiling fans. Besides better listening quality digital radio receiver has in-built feature of automatic disaster warning announcements even when receiver is switched off, thus serving an important public cause. The funds provided by govt. for support would be partially recovered by additional revenue collected from auction to Pvt. FM licensees for permitting digital radio broadcasts with additional channels. Additional revenues could also be generated by auction of spectrum vacated as digital dividend.
- 4- Since AIR has a large digital transmission infrastructure already in place, it should start attractive niche channels and Value added services in order to make public aware of benefits of digital radio broadcasts. This will help in increase in demand for digital radio receivers and development of necessary ecosystem.

**Para 5.14: Stakeholders may also provide their comments on any other issue relevant to the present consultation.**

**Comments:** The present consultation is dealing mainly with recommendations on digital radio broadcast for FM which is city centric and covers only 50% population concentrated in and around cities. While traveling from one city to another there are long non FM reception gaps. In fact the geographical coverage of FM is much less than 50% of the country. Even after migration to digital FM coverage will extend marginally beyond city limits. For providing seamless and good quality reception throughout the country the large reach of MW and SW transmissions operated by AIR in digital mode should be exploited through Pvt. Broadcasters' participation by allocating some of additional channels available in digital mode. This would not only help in filling up gaps of FM service between cities but also development of ecosystem for migration to digital radio which would eventually benefit both AIR and Pvt. Broadcasters.