

**COMMENTS ON TRAI'S CONSULTATION PAPER
ON ISSUES RELATED TO
DIGITAL RADIO BROADCASTING IN INDIA**

BY

B. P. Srivastava, Senior Advisor, BECIL

(Not as a stakeholder, but as a person associated with FM right from its regular introduction in India in AIR)

Issue 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?

Comment: Yes. There is an immediate need not only to encourage but also to facilitate introduction of digital radio transmission at present, since it has already become late and the present situation, which is centering around high cost of digital receivers, is not going to change significantly in years to come with a half hearted approach. In this respect, lesson is to be taken from the introduction of Private FM broadcasting in 1999/2000 which brought availability of FM receivers within the reach of the common man and which had not been possible in the previous 10 years because of non-availability of alternative/attractive programmes on AIR FM channels. The crux of the matter is that content is the king and until and unless alternative and attractive programme is available on any medium, demands for its receiving apparatus would not go up. And since cost of any commodity is inversely proportional to increase in demand, prices would not come down. Moreover no effort is also seen to have been made towards the development of digital receivers indigenously. My view, therefore, is as follows:

- Digital radio transmissions may be introduced in Private broadcasting domain in all the markets including the new 221 cities of Private FM Phase III.
- Different approaches may, however, have to be adopted for different situations viz existing Private FM cities on one hand and new ones of Phase III on the other.
- Creation of infrastructure in new cities may have no bearing on the decision to go for digital transmission, as infrastructure has to be created in any case.
- Licensing conditions for the new Phase III cities may have to be relaxed and incentives provided to help roll out of digital transmissions.
- The entire issue of digitization of FM transmissions is to be viewed differently from that of medium wave and short wave, as in the case of later it is primarily a matter of technical quality of reception which may drive the common man to go for digital receiver but in the case of FM, quality of reception is not the issue. In the case of FM,

therefore, the stress is more on providing multiple channels and additional facilities and thus the onus of popularizing digital reception lies with the administration and policy makers.

- The matter concerning availability of more channels gains more importance since exclusive allocation for BROADCASTING in India is much less than that in the countries of Region I and II.

Issue 5.2 Is there a need to frame a roadmap 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 suggestion with full justification.

Comment: Yes. There is a need to frame a roadmap for migration to digital radio broadcasting for Private FM broadcasters. My suggestion therefore is as follows:

- 'Managed introduction' approach may be adopted.
- This would mean adoption of different approaches for different situations-One for the cities where Private broadcasting channels are already operating and the other for the new cities of Phase III.
- For the cities where Private channels are already operating, the suggested approach is :
 - Allow the present broadcasters to go digital in simulcast mode.
 - Make an offer to the broadcasters to go totally digital with the allotment of an additional channel to them within the same licensing fee or reduced fee.
 - Create, in addition, a new regime (other than the present FM) for totally digital transmissions with easier and relaxed conditions. Such a regime may, first, be introduced in the 14 cities of India with a population of more than 10 lakhs- meaning thereby 4 cities of category A+ and 9 cities of category A of Private FM broadcasting plus Varanasi, which has now qualified as a A category city
 - The content on these channels may be distinctly different from that what is being broadcast on Private FM channels at present.
 - Frequencies 400 KHZ separated from those of the existing operators of these 14 cities may be allocated to the broadcasters of the new regime. For example, Delhi may be allotted suitable number of channels by choosing frequencies from 91.5, 92.3, 93.1, 93.9, 104.4, 105.2, and 106.0 MHZ. The matter concerning the interference to the analog services has been studied before recommending 400 KHZ separation. It is seen from of the study carried out at the University of Applied Sciences; Kaiserslautern (Germany) that while the PR for +/- 400 KHZ in the lab is -8 dB that in the field, it is – 40 dB as given below:

FM interfered with	PR in dB with various Frequency Offsets				
	0 KHZ	+/- 100 KHZ	+/- 200 KHZ	+/- 300 KHZ	+/- 400 KHZ
By DRM in the lab	51	30	-6	-7	-8
By DRM in the field	51	30	-9	-40	-40



Note: In this connection, kind reference is invited to my paper, “Introduction of Niche Channels in Private FM Radio Broadcasting”, sent for publication to Broadcast & CableSat, wherein it has been proposed to create such a regime for niche channels

- For the new cities of Phase III, the suggested approach is :
 - Digital transmissions may be introduced without simulcast mode.
 - Auction of these channels may be made with digital transmission mode.
 - Suitable incentives and relaxations may be provided to the broadcasters.
 - One such incentive could be allotment of an additional channel with the same license fee.
 - Policy for Phase III will therefore have to be modified accordingly.
 - Necessary steps may be taken on priority basis to develop indigenous digital receivers at low cost so that they are available before digital channels come up in the new cities of Phase III. The time available for doing so is estimated as one and a half year to two years.

Issue 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 reason to support your view.

Comment:

- Yes. The date of switch over should be declared.
- I would suggest the date to be 01-10-2020
- In case the date of switch over is not declared, things will continue as it is and the objective would never be achieved.
- The date suggested above takes into account the time by which digital transmissions would come up in the new cities with the revised policy of Phase III. This period is considered sufficient for taking necessary steps to make low cost digital receivers available in the market. (Kindly also refer to the comment against the previous issue i.e. 5.2.)

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

Comment: No. It is not restrictive because of the following reasons:

- The existing broadcasters would continue to operate in analog mode. Digital transmission will only be an added facility for them.
- As regards Phase III, only a very small fraction of the offered channels have been taken so far and that too in only 28 cities which is a negligible fraction of the envisaged number of 221. As such modification of the policy in respect of introduction of digital transmission is not expected to come in the way of the roll out of Phase III.

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

Comment: Single radio technology should be adopted for the entire country and the choice of the technology should not be left to radio broadcasters in view of the following:

- The choice should remain in government's hands for better regulation and also for ease of frequency allocations.
- Adoption of multiple technologies is a far cry at this stage where digital transmissions have yet to be meaningfully introduced in the country and receivers are yet to be made available at reasonable cost to the common man.
- The cost of the receiver has to be the main concern under Indian conditions. In case of use of multiple technologies is allowed, the desired objective will not be achieved.
- The issue of the use of multiple technologies can, therefore, be looked into when digital broadcasting has taken roots in the country.

Issue 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 detailed justification.

Comment: The suggested technology is DRM+. The justification being:

- DRM has already been adopted in AIR for MW and SW.
- As such the same DRM receiver would remain useful for FM also.
- DRM+ can use the same spectrum as that for analog.
- DRM+, thus, offers ease of migration from and co-exist with analog broadcasting, which is the need of the hour in India.

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

Comment: No comment is called for since, in my view, the choice is not to be left to radio broadcasters.

Issue 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.

Comment: No

ISSUE 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 charges as number of available channels in digital broadcasting will increase? Please provide a detailed framework for migration with full justification.

Comment: Yes. The existing operational operational FM radio channels should be permitted to migrate within the assigned frequencies with following provisions:

- In case the broadcaster offers to go totally digital, one additional channel may be provided to him or her without any additional charge. (Kind reference is invited to my comment against Issue 5.2)
- In other cases where the broadcaster remains in the simulcast mode, suitable additional fee may be charged according to market conditions.

Issue 5.10: Should the future auction of remaining channels of Phase III be done delinking it from technology adopted for radio broadcasting? Please give your suggestions with detailed justification.

Comment: No. It should not be delinked from technology. The type of technology and mode has to be a part of the policy and a condition in the auction process. For the suggested methodology, kindly refer to my detailed suggestions against Issue number 5.2.

Issue 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 yes, what should be the alternative auction process? Please give your suggestions with detailed justification.

- **Comment:** Since the comment against issue 5.10 is in the negative, no further comment is being offered except for the comments against issue 5.2 and also 5.4, wherein I have said as follows: "As regards Phase III, only a very small fraction of the offered channels have been taken so far and that too in only 28 cities which is a negligible fraction of the

envisaged number of 221. As such modification of the policy in respect of introduction of digital transmission is not expected to come in the way of the roll out of Phase III.”

Issue 5.12: What modifications need to be done in FM radio policy to use allocated FM radio channels in technology neutral manner for Radio broadcasting?

Comment: No comment is called for since I am not in favour of technology neutral option.

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

Comment: Measures may include:

- Creation of enough demand for digital receivers by offering alternative and attractive programme. In this respect, simulcast mode will not help increase demand in the case of FM where technical quality of the signal is not the issue.
- Digital transmissions may be introduced in large numbers and at one go. It is because of this that introduction of digital transmissions in all the new cities has been suggested.
- Indigenous development of FM receivers may be taken up as a top priority. The task may be entrusted to a government agency like BECIL.

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

Comment: No comment since I am not a stakeholder but only an Expert in FM radio broadcasting.

B.P.Srivastava