

Fwd: Counter comments on the consultation paper - formulating a Digital Radio Broadcast Policy for private Radio broadcasters

VK

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==== Forwarded message =====

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Subject: Counter comments on the consultation paper - formulating a Digital Radio Broadcast Policy for private Radio broadcasters

==== Forwarded message =====

Dear Sh. Deepak Sharma, Advisor (B & CS),

This has reference to TRAI's consultation paper on formulating a Digital Radio Broadcast Policy for private Radio broadcasters and comments from various stakeholders available in its portal.

As suggested, my counter comments on the above subject are attached.

Regards,

P. Das

former DDG, Prasar Bharati.

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Counter comments on TRAI's Consultation paper on formulating a Digital Radio Broadcast Policy for private Radio broadcasters in India

It is observed that the consultation paper, based on some incorrect facts, limits digital radio broadcasting in India to VHF Band-II only. This may not be fair on the part of India's Regulatory Authority.

2. It is incorrect to state that VHF Band III (174-230 MHz) is not available for digital radio broadcasting and is being used by Doordarshan for terrestrial TV broadcasting. In 2005, AIR approached the WPC wing for four frequencies in VHF Band III for DAB transmitters in four Metros, and WPC allocated them. Additionally, ITU has already assigned Channel 12 in Band-III for DAB in the European region. Furthermore, DAB/DAB+ does not require the entire Band 174-230 MHz for its rollout. One TV channel can easily accommodate 3 to 4 DAB multiplexes. Unless a proposal is submitted to WPC, they cannot assign spectrum for DAB. Otherwise, there is plenty of spectrum available to accommodate DAB in Band III. Maximum digital dividends in terms of spectrum are derived using DAB+ because one DAB transmitter provides more than 20 stereo channels and supports SFN deployment. Hence, it is not appropriate to discard DAB for India on the ground that VHF Band II is not available.

3. Single Frequency Network (SFN) is the biggest advantage of Digital Broadcasting technology. All Digital Broadcasting standards support SFN. However, in Band-II, where FM broadcasting is still expanding - recently, an auction is being held for 234 places and 730 channels - frequencies for Digital radio broadcasting are available discretely, and no single frequency is feasible for forming an SFN over a region. Hence, SFN in Band-II is absolutely ruled out in India. Therefore, efficient use of spectrum cannot be achieved ignoring SFN potential. Merely providing 3 audio channels per transmitter may not be claimed as spectrum efficient.

4. The report does not address why DRM was not successful in India despite AIR's major launch over 60% coverage using 36 high power (20 kW to 1000 kW) DRM transmitters in the MW band since 2013. This could have been a good case study for present private broadcasters to understand the reasons for the failure of DRM.

5. Simulcast has already proven to be a big failure in India as it reduces the coverage of both digital and analogue transmissions. Despite using 36 high power DRM transmitters in the MW band in simulcast mode, AIR lost its existing listeners due to reduced coverage and compromised analogue quality. Furthermore, the high cost of DRM receivers discouraged receiver penetration. In simulcast, the digital carrier is placed at least 10 to 14 dB below the analogue carrier to minimize potential interference. This aspect was never explained in the paper.

6. Regarding the adoption of a single digital radio broadcast standard nationwide in India, almost all respondents unanimously agreed in favour of it. However, it is important to consider listeners' and consumers' interests. Most people listen to FM in cars while traveling. FM reception using mobile and standalone FM sets is low. A similar scenario will prevail for Digital radio. However, no car can have more than one digital radio receiver. If an integrated receiver for multiple digital standards is

developed, the cost will be exorbitant. A similar situation will apply to standalone receivers with multiple standards. Therefore, if we have two different standards in a particular city, or if you travel from one city to another, you will be deprived of receiving the channels of the other standard. Nowhere in the world are two different digital radio broadcast standards used for regular transmission except on a trial basis in some places. When ecosystems have already been developed and established years ago (like DAB in Europe), why experiment something different?

7. FM planning for different countries is according to ITU Radio Regulations. Accordingly, some countries like the USA and Canada have 200 kHz channel spacing, Europe and India have 100 kHz channel spacing, and Japan has less than 100 kHz channel spacing. Similarly, standard deviation is also different in some countries. Hence, the digital radio standard developed in FM Band II may not be compatible with all countries due to variation in planning parameters as per Radio Regulations. For example, in India, AIR has planned its FM network as per ITU Radio regulations, and it follows 100 kHz channel spacing, whereas in the USA, it is 200 kHz. These aspects need to be examined before allowing any digital radio standard in India. Otherwise, it will create many practical difficulties at later stage.

8. The transition to digital broadcasting does not necessarily have to happen through FM infrastructure. Digital is a new technology, and FM is already operational. The infrastructure for digital will always be additional. Europe is the best example how they made transition to digital radio broadcasting and even switched off FM in some of the countries.

9. Regarding the selection of a digital standard, the response is mostly divided between DRM and HDR, with a few in favour of DAB+. In fact, this is not the right approach to select a standard for a country. Every country has its own requirements and issues. Therefore, the standard should be decided after considering all pros and cons.

10. Essential Parameters for Selecting a Digital Radio Broadcasting Standard for a Country:

10.1 Spectrum:

Spectrum is the primary requirement for the introduction of any digital radio broadcasting system. Considering the size and magnitude of India, the introduction of digital radio without nation-wide spectrum planning may not be successful. Any digital broadcast standard can be successfully tested as a pilot project. However, this does not guarantee its nation-wide rollout if spectrum availability and coverage planning are not done at the initial stage. Therefore, the availability of spectrum in broadcasting bands (MW, FM, and VHF Band-III) must be examined before deciding on any particular standard (DRM, DRM+, HD Radio, or DAB+).

Frequency planning for MW transmitters in each country has been made worldwide by the ITU. Every country must follow the ITU plan for implementing MW transmission. India has almost fully utilized the ITU allocation for analogue MW transmission. Very few frequencies for MW DRM transmitters are available at limited places in India. To accommodate DRM within the available spectrum and continue providing analogue

service to existing listeners, AIR decided simulcast mode and used the same frequency allocated for analogue MW transmitters so that existing listeners with analogue radios can continue to receive the radio program. However, in simulcast mode, the qualities of both analogue and digital transmissions are compromised, leading to a degradation of quality and coverage for both digital and analogue reception. Besides other factors (such as the cost of receivers, less choice for channel, poor content quality, etc.), simulcast is one of the reasons for the failure of DRM in India.

Spectrum planning for FM transmission in the VHF Band is done country-wise. Planning parameters for FM are not uniform across the world. For example, AIR uses 100 kHz channel spacing, whereas the USA uses 200 kHz. Hence, a digital broadcast standard used by one country may not be completely suitable for another. As per the private FM broadcasting policy in India, the expansion of FM transmission is still ongoing. Some cities have more than 10 FM transmitters/frequencies. Auctions for Tier-III and Tier-IV cities are in the pipeline, and each successful bidder will be granted a license for at least 15 years. Hence, identifying suitable/adequate spectrum for Digital broadcasting in the FM band while analogue FM expansion is still happening in India may not be easy. With limited available spectrum, it may not be feasible to identify adequate spectrum and prepare a nation-wide plan for Digital broadcasting in the FM band in India. Even planning an SFN network, which is one of the best features of Digital radio contributing to spectrum efficiency, may not be feasible. Therefore, the FM band (VHF-II) may not provide optimal utilization of spectrum for the above reasons.

Earlier, the VHF Band-III (174-230 MHz) spectrum was heavily used by Doordarshan for its terrestrial network. However, after the closure of analogue terrestrial TV, this band is available for broadcasting purposes, and a small part of this band can be used for digital radio broadcasting. A nation-wide spectrum plan for digital radio broadcast can easily be prepared, identifying frequencies cluster-wise in Single Frequency Network (SFN) mode, which will provide optimum spectrum efficiency.

TRAI, in its recommendation on "Issues related to Digital Radio Broadcasting in India" under para 3.11, stated that "Due to the non-availability of additional frequencies required for the expansion of analog FM radio broadcasting services in VHF-II band, most of the European countries are operating digital radio broadcasting services in VHF-III band". In fact, ITU has assigned Channel-12 in Band-III for digital radio broadcasting in the Europe region. NFAP issued by the Wireless Planning and Coordination (WPC) wing of the Department of Telecommunications has identified some spot frequency in the band 174-230 MHz (VHF-III) for digital radio broadcasting in India. "IND23 Digital Audio Broadcasting (DAB) may be considered in the frequency band 174-230 MHz initially in the four Metro cities and further introduction of DAB could be considered on a case-by-case basis taking into account interference potentiality aspects." In fact, VHF-III would be most suitable for digital radio broadcasting in India, particularly when Doordarshan has closed down its analogue transmitters in this band. Hence, the availability of spectrum for nationwide planning of digital radio broadcasting in VHF Band-III is not an issue at all.

10.2 Number of Radio Channels Per City:

India is a large country with over 140 crore population and is highly diversified in terms of language. Many states have their own language, and several dialects are used within the states. To attract listeners, broadcasters produce content in different languages/ dialects. This is one of the reasons why India has so many radio and TV channels unlike other countries. Further, listeners always prefer a greater variety of programs and more choices to choose from.

FM transmitters provide just one channel, whereas DRM, DRM+, and HD Radio can provide 3 to 4 channels maximum. Is the number of channels per transmitter sufficient per city for a country like India? Will it be able to provide adequate choices for listeners? Therefore, to accommodate more channels, the only option left is to install more DRM+/HD Radio transmitters. This raises the question, do we have adequate spectrum? In addition, more transmitters would attract more capital expenditure and maintenance costs. Therefore, these issues must be thoroughly examined and addressed before selecting a particular standard and not merely based on the outcome of a pilot test or recommendations from broadcast industry companies.

10.3 Infrastructure, Cost, and Maintenance:

For listener satisfaction, to provide at least 10 to 12 channels per city, broadcasters need as many FM transmitters, about 4 DRM transmitters, or 3 HD Radio transmitters. However, such infrastructure involves a huge investment and high maintenance costs. Therefore, creating adequate radio channel capacity using DRM+/HD Radio digital standards may not be a cost-effective solution in comparison to DAB+.

10.4 Echo system :

Digital radio broadcasting already happening in several countries. Which standard has best echo system can be very well confirmed from Indian missions in that country instead of trusting inputs from private operators/ bodies associated with developing standards.

I am of the view that selection of standard should be done involving experts who understand spectrum planning, ITU Radio regulations, etc. and not on the basis of majority opinion of broadcast operators.