

AM REVITALIZATION - Docket # 13-249:

INTRODUCTION:

I am the licensee of FM radio station KIQN – Colorado City, Colorado. I am also an engineering consultant who has worked in the broadcast industry since 1978. I hold a BSEE degree, and I have many years of experience in AM and FM facility design, coverage optimization, RF propagation, field adjustments, FCC applications, antenna design, and day-to-day operations of broadcast stations.

MAN-MADE NOISE:

The Commission has proposed several options to encourage “AM Revitalization” but none of these options fully address the root of the problem. Interference between radio stations is not the primary factor that creates the noise and undesirable listening conditions which exist on the AM band today. The FCC’s current rules and technical standards work adequately in that regard. Rather, the AM band is being adversely impacted by man-made noisemakers such as switching power supplies, computer equipment, smart phone chargers, LED light bulbs, compact fluorescent lights, and flat-screen television sets. Without addressing these noise sources, whatever action the FCC takes will be rendered totally ineffective. Nothing that the FCC proposes in Docket 13-249 addresses the core noise problem.

Any workable AM revitalization plan must incorporate enforcement standards to ensure that power supplies, chargers, computers, television sets, light bulbs and other RF-emitting devices are not allowed to wreak havoc across the AM broadcast band. The cost of designing and building quiet equipment is not terribly significant, especially when compared against the cost of requiring all vehicles sold in the United States to meet minimum air pollution standards. The public airwaves are PUBLIC PROPERTY. Private companies should not be allowed to pollute the airwaves with unnecessary RF noise, any more than private companies should be allowed to dump toxic waste in a municipal water supply. However, due to the fact that millions of RF-polluting devices are already in use, it may be impractical or difficult to correct this situation in the short term.

WHO NEEDS REVITALIZATION ?

Not all AM stations are in need of revitalization. For example, 50,000-watt Class A stations are often among the top ten rated stations in a given market. Examples include WGN-720 and WBBM-780 in Chicago, WCBS-880 in New York City, KNX-1070 in Los Angeles, WJR-760 in Detroit, WCCO-830 in Minneapolis, and KOA-850 in Denver. These stations are popular, in part, because they are the only stations in their respective markets that are able to successfully overcome massive amounts of man-made noise and building attenuation. Likewise, their omnidirectional patterns are well suited to modern urban growth patterns where many new, upscale suburbs are located far away from the downtown business district. The FCC should not take any action that would adversely impact the ability of these AM stations to continue serving their respective markets. Otherwise, one possible end result could be creating small islands of service in a sea of interference. In addition, these Class A stations provide service to widely dispersed portions of the country where no other free, over-the-air audio service exists. Even if by some miracle the Internet is able to reach these dispersed areas at some point in the future, Internet services require monthly subscription fees and depend upon infrastructure that is prone to fail during times of crisis. Thus, the Internet is not the functional equivalent of a free, over-the-air broadcast facility.

The stations most in need of revitalization are those operating on the so-called Regional Channels such as 1250, 1390, and 1480. These stations are often heavily directional after dark, with antenna patterns that were based on population distribution patterns of the 1930s and 1940s. In 2016, these directional patterns often exclude the newest, most rapidly growing sections of a metropolitan area, resulting in advertisers turning to FM stations (or Class A AM stations) that are able to cover the entire market. Ironically, even a lowly Class C station (operating on one of the so-called Graveyard Channels) is often better suited to covering a smaller city than a more powerful (but heavily directional) station on a Regional frequency.

The FCC might consider running an experiment or a test on one or two selected Regional Channels. Allow all US stations operating on a given Regional Channel (such as 1390 KHz) to use their authorized daytime facilities 24 hours a day. Conduct

extensive field testing to ascertain whether or not intolerable levels of interference exist, as a practical matter, on the frequency in question and throughout the community of license. If no objectionable interference results, the authorizations of the Regional stations would be modified accordingly to specify identical day and night facilities. This would also eliminate listener tune-out when a station on a Regional frequency goes directional after sunset, leaving listeners in the dark. I suspect that the amount of mutual interference between Regional stations operating with day parameters after dark would be completely subsumed by the much greater levels of interference caused by switching power supplies, flat screen TVs, smart phone chargers, and the like.

If actual on-air listening tests (not theoretical mathematical calculations) determine that the vast majority of Regional AM stations cause objectionable interference when operating with day facilities after dark, then the simple fact of the matter is that the AM band cannot hold the number of stations that are currently on the air. Another solution would need to be formulated.

FM TRANSLATORS ARE NOT THE ANSWER:

As a starting point, what does adding an FM translator have to do with revitalizing AM? Focusing on a translator constitutes an admission that the AM band is dead, and nothing can be done to fix it. The existing FM band is already full of rimshots trying to serve markets from miles away, along with numerous existing translators and LPFM stations. Is adding even more translators to the FM band really going to really help the issue of revitalizing AM, or is this just a form of sharing the pain by turning FM into what AM has become? Using FM translators will turn AM stations into FM stations and ultimately harm the FM band.

WHY NOT VHF CHANNELS 5 AND 6 ?

A logical solution to the dilemma is to reallocate some Class B, C, and D stations to VHF television channels 5 and 6. Leave the Class A AM stations where they are at

present. The goal would be to leave only three or four stations on each of the Regional Channels, and remaining in the AM broadcast band, such that these Regional stations could each operate with 50,000 watts non-directionally during the day and 5,000 watts after dark.

In considering a roughly similar but not identical proposal raised by a previous commenter, the Commission stated:

There are, however, several commenters who suggest that the end result of any proceeding involving the AM service must be, in the terms of the Catholic Radio Association, “not to revitalize it, but to transition it. Specifically, CRA and others believe that the medium wave AM band is too beset by environmental noise and other forms of interference to remain a viable communications medium, and instead advocate that we open up the 76-88 MHz band (VHF television Channels 5 and 6) to relocate current AM stations to that band to operate as FM broadcasters. Despite the calls for this solution, we cannot consider it at this time. ...First, as we announced in the Further Notice of Proposed Rulemaking and Report and Order in the 2014 Quadrennial Review proceeding, migrating AM services to VHF Channels 5 and 6 has the potential to interfere with our implementation of the Congressional directive to reassign television stations following the upcoming Incentive Auction process.

The Commission’s rationale in dismissing the use of VHF television channels 5 and 6 for AM broadcasters is nothing other than pure poppycock. The only reason that these television channels cannot be repurposed for free, over-the-air broadcasting is because the FCC has caved into cellular lobbyists by promising to turn over a massive amount of public RF spectrum to private interests. Specifically, in the upcoming incentive auction, the FCC hopes to turn over approximately half of the UHF spectrum currently dedicated to free, over-the-air broadcasting to private interests. TV channels 5 and 6 are supposedly needed so that some of the TV stations currently operating on the technically superior UHF channels can be demoted to channels 5 and 6 after the incentive auction has concluded, thereby clearing the way for the wireless companies to use the best available channels, the public be damned. Once this spectrum is turned over to the well-heeled wireless companies, the public will from this point forward into all

perpetuity be forced to fork over a monthly subscription fee in order to utilize this scarce public resource.

Are we simply not as concerned about the public good as before, and only concerned about the 'bottom line'? The Commission is charged with representing the PUBLIC interest, not a private economic one. Likewise, TV Channels 5 and 6 are very poorly suited for use in connection with HDTV. Please consider this in coming to an appropriate determination as to the highest and best use for Channels 5 and 6.

EXISTING INEXPENSIVE ANALOG RECEIVER BASE FOR CHANNELS 5 and 6:

Regarding Channels 5 and 6: From the mid-1970s to the present, hundreds of thousands of simple, inexpensive analog portable radio receivers have been built and distributed within the US with the intention of receiving analog TV-band audio. One example of many is the GE 7-2930 portable AM-FM-TV audio radio. At any point in time, dozens if not hundreds of these types of vintage radios are being sold on online auction sites such as eBay and Etsy. Likewise, manufacturers of brand-new radios such as Grundig, Eton, and Sangean offer inexpensive multiband radios that are equipped to receive the US and Japanese FM bands, spanning a range of 76 to 108 MHz. Due to the plethora of existing analog radios capable of receiving the Channel 5 and 6 spectrum, an analog transmission standard (not digital) is the mode of choice. Likewise, if a digital mode is used, this will be subject to ongoing codec updates and automatically require purchase of a new radio when there are already suitable existing analog receivers on the market.

ONE LAST THOUGHT:

I further propose a partial clearing-out of the AM band by allowing commercial AM licensees to apply for any open commercial Class A FM frequency in the same city of license as the AM station, without having to go through an auction. This would involve a simple trade-off of the AM license for the new Class A FM license. Similarly, non-commercial AM licensees would be allowed to apply for any open non-commercial

Class A FM channel in the same city of license as the AM station. This proposal gives the AM station a primary service which, unlike a translator, is not subject to being displaced or booted off the air.

-Steven R. Bartholomew

March 21, 2016