

**Before the
Federal Communications Commission
Washington, D.C.**

In the Matter of)
)
Revitalization of the AM Radio Service)

MB Docket No. 13-249

Comments of Cavell, Mertz & Associates, Inc.

The consulting firm of Cavell, Mertz & Associates, Inc. (“Cavell Mertz”) submits these comments in response to the October 31, 2013 Notice of Proposed Rulemaking (“Notice”) in which the Federal Communications Commission (“Commission” or “FCC”) has requested public comments on six specific proposals. In this Notice, the Commission also invited the submission of further proposals and comments in the interest of improving the AM Broadcast Service.

Cavell Mertz has reviewed the Notice and herein expresses general support for the FCC’s six proposals outlined in the Notice, as well as for the Commission’s stated goal of revitalizing the AM broadcast band radio service. We also appreciate the Commission’s willingness to entertain further proposals toward that goal and are therefore submitting additional comments in this document. Cavell Mertz and its predecessor entities have provided consulting engineering services to the licensees of AM radio stations since 1989. We therefore believe that the aggregate firm experience, along with that of its individual participants, provides a useful further perspective and resource in the discussion of AM broadcast band quality improvement.

In the FCC’s Notice, the Commission Proposed:

A. OPEN FM TRANSLATOR FILING WINDOW EXCLUSIVELY FOR AM LICENSEES AND PERMITTEES

Cavell Mertz Comment:

We generally support the Commission’s proposal to open a FM filing window exclusively for the licensees and permittees of legacy AM Radio Stations operating in the 535 to 1705 kHz “Medium Wave” frequency band (“AM stations”). The FCC’s recent permissive use of FM translators for AM stations has provided relief for many existing facilities that had been grappling with reception issues, population shifts, and limited or no nighttime service.

However, we also feel that the use of FM translators for this purpose only addresses the implications for the involved AM stations, and does not in itself provide a true in-band Medium Wave technology solution for the real problem. Rather, we feel that the use of FM translators for AM stations just offers a “crutch” for an individual entity fortunate enough to obtain such a

translator, but little more. While FM translators to some extent help to relieve “the AM issue”, in some ways this may actually serve to further diminish medium wave band radio listening.

While we support the use of FM band translators for the purpose of helping to sustain the viability of AM stations as solutions are explored, we feel that the use of FM translators is not a universal solution to the problem – if it were, it should be applied to every AM station as a supplemental authorization, and not just the lucky few who can find a usable frequency in today’s crowded spectrum. Unfortunately for the hopeful AM stations, allocations complications resulting from existing full power FM stations, other prior translator authorizations, and the recent LPFM filings will probably make any filing window somewhat of an empty promise.

Since it is clearly not impossible for every AM station to obtain a companion FM translator, if the Commission decides to open a “FM translator for AM stations only” window, we encourage the use of a “merit” or “need” based weighting system in the filing process much like the Expanded Band proceeding many years ago.

Specifically, we feel that, if a translator frequency is indeed available for an area, preference should be given to the most technically disadvantaged facilities (such as daytime only, or those in the upper portion of the AM band operating with low power, stations operating in high noise environments, or perhaps those whose population base can be proven to have shifted or expanded beyond the practical coverage capability of the involved AM station). Since each of these circumstances can be class agnostic, we would not favor limiting this relief on the basis of station class.

We also support the Commission’s proposal that an FM translator created or modified to supplement an existing AM station’s service be forever tied to the parent AM authorization. However, we would propose to take this a bit further, and suggest that any such “special” translators be granted displacement and interference “protection rights” and not be classified as “secondary service” facilities.

Additionally, we suggest that the Commission allow any such permanently associated translator to have the freedom to relocate with the station if a site change becomes necessary, or within any area contained by the defined contour/radius restriction established for FM translators for AM stations.

Finally, given the realities of AM coverage issues in today’s noisy RF environment, we suggest that consideration be given to allowing an AM station’s FM translator’s 60 dB μ contour to extend farther than the present rule restrictions allow¹. Our suggestion would be to solicit further comments as to what would provide a measure of signal parity with the “FM translator for FM stations” portion of the FCC’s Section 74.1201(g) rules, but limit any expansion to not farther than the AM station’s daytime 0.5 mV/m “protected” contour.

¹ The present restriction is 25 miles or the AM 2 mV/m contour, whichever is the lesser - as now articulated in Section 74.1201(g) of the Commission’s Rules.

B. MODIFY DAYTIME COMMUNITY COVERAGE STANDARDS FOR EXISTING AM STATIONS

Cavell Mertz Comment:

Cavell Mertz supports the Commission's proposal to change its city of license coverage standard for existing AM radio stations.

A precedent of sorts exists in the FM broadcast service, where under FCC Rule Section 73.515, a non-commercial FM station need only provide a minimum field strength of 1 mV/m (60 dB μ) – which happens to be the normally protected contour – over 50% or more of the population or area of a proposed community of license. In the case of the AM service, perhaps the Commission should consider a similar approach, and specify that the AM station's protected contour (0.5 mV/m) simply cover over 50% or more of the population or area of a proposed community of license. The fallacy with this approach is, of course, that the lower the signal density requirement over a community, the more difficult it becomes for a station to successfully overcome the ever worsening AM noise floor in that community. On the other hand, prior Commissions have held that there is some wisdom in “letting the marketplace decide” the regulatory question at hand. Perhaps there is some merit in totally dispensing with the requirement that a station provide a specified service level to any particular community – rather, let the stations decide what must be done to achieve sufficient service. The successful will thrive while poor decisions will serve to cull the band of underperformers.

We believe that the above suggestion should be seriously considered since the information and entertainment consumption model has changed considerably since the inception of the AM service. Today's communities are well served by a host of voices from many different sources (AM Radio, FM Radio, over-the-air Television, cable television, the internet, wireless carriers, print media, social media, etcetera) – and as such, there is no scarcity of available resources as was the case at the inception of the (AM) broadcasting service. The “fair and equitable distribution” of information to the public is achieved in many ways today – therefore tying any entity to an outmoded concept rooted in the early half of the last century seems quite inappropriate, and certainly not even handed. By limiting only the broadcast entities to arcane rules, the result is to singularly limit the ability of a single “class” of information system to react dynamically to changing community and market needs while other less encumbered entities are free to adapt.

Finally, if a particular contour level is to be mandated over some defined percentage of a community, the reality is that the present (daytime) principal community coverage signal strength requirement of 5 mV/m (which years ago was relaxed from 25 mV/m² due to the difficulty of site acquisition that existed 30+ years ago) is woefully inadequate for satisfactory reception in many

² In 1980, FCC Rule Section 73.24(j) formerly stated that a satisfactory showing must be made “That the 25 mV/m contour encompasses the business district of the community to which the station is assigned, and that the 5 mV/m contour (or, at night, the interference free contour, if of a higher value) encompass all residential areas of such community.”

modern communities of any size, much less in today's congested urban environments given the increase in impulse noise floor.

Even in AM Radio's days of prominence, the issue of overcoming AM band noise artifacts was recognized. For example, turn again to the 1980 version of the Commission's rules, and in particular, the FCC's "Engineering standards of allocation" contained in Section 73.182(f): "The signals necessary to render primary service to different types of service area are as follows: City business or factory areas – 10 to 50 mV/m, City residential areas – 2 to 10 mV/m..." Subpart (1) of that rule section goes on to say "the above values are based on an absence of...the usual noise level in the area". Yet the economics of finding sufficiently sized land parcels proximate enough to the target communities, combined with inter-station protection requirements (which perhaps should also be revisited in further proceedings), effectively preclude the development of signal strengths of sufficient magnitude to provide effective noise free service.

Since it is becoming increasingly unfeasible to provide sufficient levels of RF signal into the noisier, more heavily populated areas (given the present modulation scheme) we feel that maintaining the existing AM principal community daytime coverage rules really serves no useful purpose other than to burden the licensee - satisfactory reception service into homes and businesses is really not achieved in many instances. Market driven forces and competition will likely serve to ensure meaningful service more effectively than an arbitrary federal standard. As such, we believe that the principal community coverage requirement be significantly relaxed, if not eliminated entirely.

C. MODIFY NIGHTTIME COMMUNITY COVERAGE STANDARDS FOR EXISTING AM STATIONS

Cavell Mertz Comment:

For the same reasons articulated in the above, we believe that the nighttime principal community coverage rules for AM stations should be eliminated.

D. ELIMINATE THE AM "RATCHET RULE"

Cavell Mertz Comment:

We are in favor of modifying Section 73.182(q), Footnote 1 of the Commission's Rules to eliminate the widely despised and completely impractical AM "Ratchet Rule." A request to eliminate this rule provision has been pending since 2009 (RM-11560), even though the Commission received considerable support in public comments. The justifications for dispensing with this rule have been made abundantly clear in prior filings before the Commission, are therefore a matter of record, and need not be reiterated further. If necessary, the prior comments may be incorporated into this new proceeding by reference.

E. PERMIT WIDER IMPLEMENTATION OF MODULATION DEPENDENT CARRIER LEVEL CONTROL (“MDCL”) TECHNOLOGIES

Cavell Mertz Comment:

We support the Commission’s proposal for wider implementation of MDCL technologies for the AM service. As has been shown in practical use to date, meaningful power efficiencies are gained, with little or no degradation in coverage or intelligibility. The use of these technologies has exhibited no harm to third parties (other stations). As such, there should be no barrier to a facility freely implementing whatever variant of this technology serves the station’s needs, and without the need for advance permission.

F. MODIFY AM ANTENNA EFFICIENCY STANDARDS

Cavell Mertz Comment:

We believe that minimum AM antenna efficiency requirements should be reduced, if not eliminated from the rules. The ability of a broadcaster to find replacement sites is severely hampered by economic pressures (cost), site availability (location and sufficient acreage), and adverse environmental and zoning pressures. As such, it is often difficult for broadcasters to construct towers tall enough or ground systems extensive enough to meet the Commission’s antenna efficiency criteria when an AM station faces the loss of an existing site. If a diplexing host cannot be identified, a station often faces extinction since viable alternatives satisfying all the critical requirements are becoming increasingly rare. The added burden of satisfying a heretofore inflexible requirement born in the early days of the broadcast service does not simplify a difficult situation.

We believe that stations should have the freedom to make their own business decisions regarding coverage sufficiency for a particular site and radiator/ground plane scenario, as long as RF exposure and inter-station interference criteria can be reasonably satisfied.

G. COMMENTS / SUBMISSION OF FURTHER PROPOSALS

Cavell Mertz Comments:

We believe that that the following additional proposals should be considered and publically debated in the Commission’s effort to encourage revitalization of the existing Medium Wave broadcast spectrum.

Further Proposal 1 –

We feel that the AM Broadcast (Medium Wave) Band is still a viable segment of the electromagnetic spectrum and offers unique and highly desirable propagation characteristics over those available in other portions of the presently allotted broadcast spectrum. The principal issues are those of impulse noise, attenuation, and the use of the original modulation scheme. Accordingly, we propose that the Commission

seriously consider moving forward with the sun-setting of the present analog (Amplitude Modulation) Medium Wave broadcast service with some form of digital modulation, not unlike that which was accomplished for the television service.

The time is perhaps ripe as the apparent use of the band is declining (thereby presumably impacting fewer and fewer listeners by displacement), and the economy is on an upswing where new reception systems could be more readily produced and afforded. A somewhat easy reach is to continue on with the presently approved digital system (but mandate first voluntary, then mandatory extinguishing of the analog component) since the present AM digital transmission system is compatible with an existing source of hybrid receivers that are automatically capable of receiving AM digital only signals. As with digital television, there is a cost component for stations and consumers, but it is apparent that stations using the present analog modulation system are facing more and more challenges to their viability.

Further Proposal 2 –

The FCC should conduct (or solicit) studies using present day technology to determine modern era interference mechanisms, the extent and nature of today's noise floor, and the impact of other environmental factors hampering medium wave RF reception. The results of these studies should be employed in the development of improved and revised signal density requirements and interstation interference protection ratios. Present day criteria are decades old at best and must be revisited.

Additionally, the Commission should focus on radiated noise from consumer electronics devices, household appliances, lighting systems (including components and fixtures), power line systems, and other electrical devices in common use in homes and offices today. New and revised Part 15 criteria should be developed and enforced.

Further Proposal 3 –

Permit the use of on channel medium wave (AM) booster stations, not unlike that which is permitted in the FM radio and digital television services. Like in FM and digital television services, advancements have been made in technology of on-channel boosters and propagation prediction methodology that permit synchronized operation. Such facilities should be conditioned on a non-interference basis and coverage should not be extended beyond the protected contour of the main station.

Further Proposal 4 –

The Commission should address present medium wave (and other broadcast band) receiver performance standards and mandate improvements in audio fidelity, receiver selectivity, sensitivity, and interference rejection.

Further Proposal 5 –

Consideration should be given to making permanent those AM station STA operations that were constructed to overcome instances of foreign broadcast interference within United States territory,

provided that such operations have not received interference complaints from domestic stations and are not interfering with any other domestic or international station.

Further Proposal 6 –

Increases in interference caused to foreign stations by domestic stations in areas located wholly within U.S. territory should be routinely approved and granted

Further Proposal 7 –

Eliminate the “warehousing” of silent stations, limit the length of silent period grants, and require that any resumption of service be maintained for certain period of time after a long term silent period.

Respectfully Submitted, January 21, 2014

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