

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
Revitalization of the) **MB Docket No. 13-249**
AM Radio Service)

Comment by Robert A Meuser

I am a life long broadcast engineer. First Licensed with the then 1st class Radiotelephone license over 45 years ago, SBE certified CPBE, member IEEE , SMPTE and APRE. As well as amateur extra class W2XJ.

I have worked with, built and improved AM stations of all sizes from a 50 watt military station feeding a horizontal dipole to International stations of 2 million watts directional. I have planned and built numerous complex directional AM arrays but have also designed and built basic 1 KW ND domestic stations. I am currently CTO of Engineaux Inc, Wilmington, DE. A firm I founded to provide technical services to the broadcast industry.

I do not have any interest in any broadcast property and have little to gain personally in the outcome of these proceedings.

Open FM Translator Filing Window

While the Commission has already opened a translator window, this does not fully address all the issues. Where possible, AM broadcasters should be given some means to obtain fully licensed facilities in exchange for giving up their AM facility entirely. While operating a translator does indeed provide relief for the affected broadcaster, it does nothing to reduce interference in the AM band. It also does not protect an investment a translator since after spending 10s of thousands of dollars for a translator it could be bumped. A better approach would be to establish a lower class facility (A1), which is both consistent with International treaties and consistent with actual practice in neighboring countries.

Relief for existing small stations

Part of the rationale driving this proceeding is relief for small market broadcasters, many of whom are class D AMs. Some solutions such as use of FM translators is not really revitalization of the Medium Wave band but a means for them to better serve their community.

The problem is that at least some owners do not seem to fully understand the physics of sky wave. While it is a pretty common theme of both listeners and broadcasters that they need a means of extending broadcast hours, they do not seem to understand that the sky wave interference will not simply go away. There are a number of vocal stations on regional channels that receive high levels of sky wave from other class B stations but for those stations to operate at night not only would they receive very high NIFs but would interfere with the local ground wave coverage of the co-channel stations they are protecting. In many cases the solution would be for those stations to build a directional antenna for nighttime operation. It is frequently technically feasible to do so but in many small markets it is not financially viable. In fact the reverse is true in that a number have stations have converted from class B to D to either avoid certain commission requirements or to reduce costs. The rest of the industry should not have to bear their burden.

In the case of class A stations, while arguments can be made for or against sky wave protection, sky wave will still exist. In many cases stations operating on class A channels at night will receive very high NIF limits and provide very little coverage for the additional interference created. This along with other permitted interference created on class B channels will turn the entire AM band into one contiguous class C grade band.

Degrading class A channels seems to be opposite of the public interest. Instead, offering opportunities for class D stations to move to better facilities they can actually afford to 'build' seems to make more sense.

Better use of the expanded band

It would appear that a better means of providing relief to small AM stations would be to allow them to relocate to the expanded band. While the initial band plan was well intentioned, it has not really worked out that well over the last 30 years. Many class D stations could easily flash cut to the new band by retuning their existing transmitter and ATU. This is probably the least expensive true technical relief possible. If the stations were limited to 1 KW, many of the small market stations could get the relief they are clamoring for in these proceedings.

Use of 530 kilohertz

To date the Commission has seemed to reject out of hand use of 530 KHz. This frequency is available for broadcast use under the existing North American treaty and is available on most receivers built in the last 30 years as well as many older mechanically tuned radios. It is currently used for broadcast in Canada, Mexico and the Bahamas, to name a few neighboring countries. Criteria for assignment should be nearly identical to that proposed for the expanded band. Stations on this frequency would be a variant of a class C. Preliminary investigation indicates that stations operating at 250 watts spaced 200 miles apart would provide consistent coverage to small communities day and night in most parts of the country.

Stations moving to this frequency should be allowed to use their existing towers, regardless of height, mainly a 250 watt equivalency by day and 250 watts actual at night.

Class D stations in the lower part of the band could flash cut their existing facilities

Technical remedies

It is a well known fact that the medium wave band is plagued by noise and interference. Man made noise is a problem that has gotten out of control. Unfortunately that is in a large part due to the lack of enforcement of Part 15 for decades.

The first priority to provide relief in the AM band is relocating class D facilities and then those class B stations with very impaired facilities. The objective would be to provide better opportunities for the smallest stations, more protection for the larger ones and a better opportunity for those listeners who want to better receive local nighttime broadcasts such as high school sports.

The last time AM improvement was addressed, which was in the 80s, a certain amount of attrition was expected that did not come to pass. This is important to remember because there are simply too many stations on the Medium Wave band and it can not be used to

its best potential until it is thinned. Having a process to relocate stations to the expanded band or other special frequencies (or FM translators) is also important to sustain local radio.

More rigorous enforcement of bad operators would push those who are disproportionately contributing to interference off the air. The too common practice of stations operating with day facilities at night should be more rigorously policed. Technology exists to help make such enforcement more practical and the mechanism for filing complaints needs dramatic improvement. A better process should be put in place to report offenders to the enforcement bureau. Many complaints can be filed via the Web but really nothing regarding the technical aspects of broadcast.

Part 15 regulations regarding unintentional radiators need much more rigorous enforcement.

In summary, in the short term small local broadcasters should be given various means to improve service to their communities. FM translators, expanded band and 530 kilohertz are three means of accomplishing this.

Means of dealing with interference including enforcing existing rules and changing certain rules is necessary.

The Medium wave band should be allowed to migrate to a regional and wide area medium over time. The band may or may not morph to a digital service but the Commission should let the marketplace make that determination by not making any rules that either retard or accelerate that transition. There are two approved standards, one for medium wave and another for shortwave. Since both have been vetted technically, there is no need for further involvement by the Commission.

Respectfully submitted

Robert Meuser

