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EMERGENCY REPAIR

Concerning AM IMPROVEMENT
Docket 13-249

I am the licensee of two AM radio stations KCEG 780 Licensed to Fountain, Colorado and KJME 890 licensed to Fountain, Colorado. Both are Class B facilities first licensed in this decade and both using a 6 tower directional array for both daytime and nighttime operation.

I am also an engineering consultant and Professional Engineer having worked in the broadcast industry since 1967 and President and Technical Director of Vir James Engineers since 1982. I have many years of experience in AM and FM facility design and optimization, Field tuning and adjustment, FCC applications, Directional AM antenna design, and day to day operation of Broadcast Stations.

NOISE THE PROBLEM - Many of the problems presently plaguing AM Broadcasting are related to the ever increasing background noise levels. Although intentional and incidental radiation of interfering signals and noises are nominally regulated by the FCC no apparent effort is being made to prevent the rise of noise radiated from a myriad of computer and lighting sources nationwide. In light of this development the original AM Band allocations scheme is no longer relevant and protection of the 0.5 mV/m contour by broadcasters serves no real purpose given the background noise levels reaching and exceeding the 2mV/m level in nearly all populated areas. Experience has shown that with the exception of HD digital noises on the second adjacent channel, there is no longer any significant reason for limiting the second adjacent to 5mv prohibited overlap and therefore the 25mv/m prohibited overlap should work out well in most analog situations. Elimination of the third adjacent overlap altogether also seems reasonable as I have been able to listen to third adjacent stations at the transmitter sites of most properly adjusted stations for many years.

UNIVERSAL INTERNET - The FCC assumes that internet service is or will soon be available universally nationwide even in rural areas and therefore there soon will be no areas where alternative radio like services are unavailable. Essentially White and Gray area is no longer a significant consideration in allocations or service protection for Clear Channel secondary service areas. Because the nighttime noise level in populated areas is also subject to that same rising background noise level it can no longer be assumed that the 0.5mV/m skywave contour can actually provide significant service to population areas. Individual dedicated listeners who are willing to work hard moving their radio receivers around looking for a quiet location may still be able and willing to listen to such programming but they are becoming the rare exception. With the advent of the iheart app and other similar internet radio apps it is possible to listen to those same Class A stations anywhere in the nation and not be subject to the vagaries of skywave propagation.

CLASS A WILL STILL HAVE SUPERIOR PROTECTION - Class A stations most often have 25mV/m or better signal contour both day and night over their core market given their standard 50kW fulltime allocation and will suffer no significant loss of listening audience that should affect their ability to sell advertising. I find it hard to feel sorry for them having to give up some fraction of their superior protections and live closer to the same world the rest of us AM broadcasters live in daily. Therefore I believe it is reasonable to change the Class A protection to the 0.5 mV/m groundwave contour daytime and nighttime. This will still be 12dB higher protection than is available to any Class B, Class C, or Class D stations both Day and Night.

HELP FOR OTHER STATIONS - Because the protections and interference protection power limits of Class B, Class C, and Class D stations varies widely with each station and also includes grandfathered prohibited overlaps under the present allocations scheme it is not possible to make any broad statement about how much improvement will be possible for "every station" under the proposed changes. However it is very likely that with the exception of Class C stations most if not all of the Class B or Class D stations operating below 50kW can have some improvement in their Signal to noise ratio if they are willing to persue it under the proposed rules.

NIGHTTIME RSS CHANGES - Returning to the 25% RSS nighttime protection calculation based on cochannel stations will likely not open many stations to large power increases nighttime on the regional channels although it will likely allow some secondary nighttime operations to increase to protected Class B status.

ANTENNA EFFICIENCY STANDARDS - Relaxation of minimum tower height and minimum radiation efficiency standards will go a long way to help stations maintain operation when it becomes necessary to relocate due to loss of the tower site whether due to adverse action by the landlord or to rezoning action or condemnation of the tower site by eminent domain. The willingness of the FCC to accept nonstandard antenna configurations will make it possible to forward the art. Perhaps it will be possible to develop antennas that comply with now-common draconian local zoning tower height restrictions of forty feet and less while maintaining licensed operation of an AM station to serve that very community from within their zoning jurisdiction.

CITY GRADE SHOWINGS - Relaxing of the City grade nighttime service will make the AM service more sustainable. Both KCEG and KJME required a six tower array to meet Nighttime City Grade Service from the nearest available parcel of land. The protection of secondary service areas of Class A facilities in the lower 48 and in Alaska limits the main lobe width and also the ultimate power nighttime severely. For both stations the Night skywave from the Class A limits the ability to serve the whole market area from any available tower site even though the main lobe is aimed well away from the Class A station and directly towards the market population.

EXPANDING TRANSLATOR OPPORTUNITIES - That same six tower array for KCEG and KJME with its many deep nulls and narrow main lobe beam will make it difficult to keep the coverage of an FM translator within the 2mV contour from most useable translator sites. Allowing translators to be located within the greater of the 25 mile radius or the 2mV/m contour will make it easier to serve the public without redesigning and reproofing the daytime directional arrays or using a complex FM directional arrays for the translator. The secondary status of FM filler translators for AM stations and the far less than Class A facilities cannot give AM stations a level playing field with FM stations.

OTHER OPTIONS FOR AM IMPROVEMENT - As for new operating bands or all digital operation the problem is the same as for internet radio in that there are few if any receivers available so in effect the broadcaster would have to start over with a very small universe of available listeners. The idea of sharing HD-2 (or HD-3, HD-4,etc) channels with existing FM stations puts the broadcaster directly in competition with the FM station owner for the use of their own channel. Also many of the existing translators nationwide are already being used to make the additional HD-2, HD-3, and HD-4 channels available to the general listening public who are among the vast majority who do not have HD receivers and are in no hurry to purchase one. In some areas it is already necessary to rent an FM HD channel to get on an analog FM translator with your AM station.

DUAL BAND OPERATION - Although it sounds truly democratic and equal to require ALL to turn in their second license, the point has been made that at least ONE has been given to a minority broadcasting group and that meets other public interest criteria so that one station need not be turned in by the minority licensee.

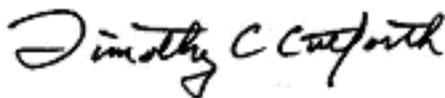
Some of the other dual operations are already owned by minority broadcasters so the public interest goals of minority media ownership needs to be weighed in the analysis for the remaining stations as well. Also some of the station pairs qualified for the expanded band due to interference reductions based on unbuilt Construction Permits that would have been the source of interference that would be eliminated by the alternative expanded band operation. When that construction permit was deleted the interference upon which the qualification for moving to the expanded band was based was already eliminated even though the original "qualifying station" remained on the air. No additional benefit to the public will result from eliminating the standard band station in such a case. One example that I am aware of was a 1370kHz Class D station licensed to Cheyenne, WY had a construction permit to move to 1530 kHz Class B licensed to a new first service community of Fox Farm, WY which had grandfathered nighttime interference because the permit was applied for prior to the time 1992 25% RSS nighttime rules were adopted. When The permit to move to the expanded band was issued the permit to move to 1530kHz was cancelled permanently eliminating that interference. Shortly thereafter the standard band facility was moved to 1380kHz from 1370 kHz as part of an unrelated interference reduction agreement with another station. The currently licensed 1380kHz facility has already reduced interference twice and is now owned along with the 1630 expanded band facility by a minority family and broadcasts in Spanish serving the minority community. Elimination of the

dual operation will not further reduce interference nor otherwise accomplish any FCC goal with the exception of making the other station owners feel good about how "fair" the FCC has been in following the original announced criteria. The merits of each situation needs to be examined separately to assure that FCC goals are really achieved including maximizing service to the public.

EXPANDED BAND FUTURE - Future uses of the expanded band have been contemplated. However because of the groundwave characteristics of the frequencies the channels are not suited to wide area coverage. The demonstration value of widely spaced stations on an AM channel has shown clearly that if we could reduce to an average of 3 to 5 stations per channel the coverage would be suitable for serving a mid sized community with every station operating omnidirectionally day and night. However with 106 standard band channels and 10 expanded band channels that would result in only about 500 AM stations nationwide and we would need to eliminate the other 5000+/- stations to use that model to reduce interference and serve the public. In the future I would suggest that stations be allowed to move to the expanded band with only a short overlap period of a year or less on construction of the expanded band operation...perhaps even expiring with the expanded band Construction Permit period. Alternatively the Expanded band could be allowed to become the equivalent of LPFM with 100 Watt stations operating with 100ft maximum height towers on a fixed separation distance basis open only to new local entrants to the broadcast business pledged to serve the local community whether nonprofit or for profit in nature.

METHOD of MOMENT MODIFICATIONS - The Method of Moment rules should be modified to allow towers of unequal face width to be modeled based on the consistent experience to date using equal face towers. That would increase the number of stations qualified for the Method of Moments proof and would simplify operation and licensing for quite a few existing stations. The other proof rules modifications seem reasonable to me and likely to bring about more consistent operation of AM arrays nationwide.

Respectfully

A handwritten signature in black ink that reads "Timothy C. Cutforth". The signature is written in a cursive, flowing style.

Timothy C. Cutforth P.E.
19 March 2016