

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of)	
An Inquiry into The Commission's)	MM Docket No. 93-177
Policies and Rules Regarding AM)	RM-7354
Radio Service Directional Antenna)	
Performance Verification)	

Introduction

The following comments in MM Docket No. 93-177 to the Federal Communications Commission (“Commission”) Public Notice dated May 23, 2007¹ by the firm of Cohen, Dippell and Everist, P.C. (“CDE”). CDE and its predecessors have practiced before the FCC for over 60 years in broadcast and telecommunications matters.

Qualifications

Donald G. Everist qualifications are as follows:

The undersigned is a graduate electrical engineer, a registered professional engineer in the District of Columbia (Registration No. 5714) and has practiced in that capacity of over 30 years. He is a member of the Institute of Electrical and Electronic Engineers, National Society of Professional Engineers, Illinois Society of Professional Engineers, and a member of past President of the Association of Federal Communications Consulting Engineers.

He was the Chairman of the AM Broadcasting Service Working Group preparatory to the 1979 World Administrative Radio Conference. He was an industrial delegate for the United

¹DA 07-2143.

States to the International Telecommunications Union Regional Administrative Medium Frequency Broadcasting Conference in Buenos Aires, Argentina.

He was the Chairman of TF:F Planning Methods; was a U.S. delegate on the Fourth Panel of Experts meeting in Geneva, Switzerland; was Chairman of the Working Group on Inventories, Incompatibilities, Negotiations and Strategy to the Advisory Committee, all preparatory to the Second Session of the Regional Administrative MF Broadcasting Conference for Region 2.

He was an industrial to the Second Session of the Regional Administrative MF Broadcasting Conference for Region 2 (Western Hemisphere) held in Rio de Janeiro, Brazil.

He was an industrial delegate for the United States to the Regional Administrative Radio-Conference (BC-R21) sponsored by the International Telecommunications Union in Geneva, Switzerland.

He was an industrial delegate for the United States for the CCIR Joint Interim Working Party 8-10/1 Meeting in Helsinki, Finland.

All time and expenses were solely provided by this firm.

The undersigned has been making radiofrequency measurements since 1952 and joined the predecessor to Cohen, Dippell and Everist, P.C. in 1961. His first field assignment as a consulting engineer was in connection with commissioning a new four-tower daytime and six-tower nighttime AM array.

Comments

There are several issues that are concurrent. The first issue entails the overall industry's desire to improve and revise the existing rule and policies pertaining to directional antenna

performance and ability to meet the intent of the current FCC Rules. The second issue is the FCC's desire to continue to seek and review other attendant rules which may also be improved and revised. CDE believes the FCC continues to provide a valuable service to the engineering and broadcast community in seeking further comments on this topic of directional antenna array adjustment. CDE appreciates the FCC's efforts in this era of constrained budgets and expanded congressionally-mandated regulation.

CDE again offers the previously filed information² as it is still highly relevant with reference to planning and operational factors and how these are embodied in the current rules and are important to the current request for comments.

Planning Factors

Since the inauguration of the present Rules over 60 years ago, the protected contour concept has always been used. While protection ratios, propagation curves and other elements of the methodology have been altered and reflect refinement, allocation has for Class A and B facilities have been based upon contour protection.³ This philosophy has been a basic tenet which allowed the universal growth of AM broadcasting in the United States. This concept has been the hallmark of all bilateral and regional agreements including NARBA and all subsequent Region 2 Agreements. At each of these international conferences of which the undersigned was a participant, one of the delegation's goals was to encourage other administrations to perform field strength measurements as a method of insuring pattern compliance.

²Extracted from Notice of Inquiry dated March 1, 1994.

³The allocation situation for each Class C station has been based upon the same allocation standards; however, FCC policy has permitted operations to be authorized that were not based solely on protected contour concept.

Operational Factors

The Commission has established a two-step process which has served the broadcast industry well. The first is the application phase in which the proposal is required to demonstrate compliance with the Commission's Rules. Upon grant, if necessary, conditions are imposed to demonstrate compliance that the facility is constructed as proposed. This two-step process⁴ has been effective when the Commission requires rigorous attention by the applicant/permittee.

In AM broadcasting, the FCC Rules embraces a variety of operational modes. For non-directional operation, compliance with the Rules at the application and license stages is straight-forward. For directional arrays, either daytime and nighttime, the requirements at each stage are substantially more detailed and stringent. Stations operating during daytime hours are required to provide protection to pertinent groundwave contours both to and from other stations. Daytime skywave protection is required for critical hours and skywave protection is the dominant requirement for nighttime hours.

Some have suggested that the AM antenna measurement procedures should be similar to those accorded for FM and TV antennas. Although the transmission mechanism between FM and TV are based upon line-of-sight transmission considerations, the AM transmission mode is entirely different. Fully spaced FM and TV broadcast operations whose antennas are side-mounted are not normally considered by the Commission as having an allocation impact since this is factored into the allocation criteria to some degree. The AM allocation approach does not incorporate such a philosophy. Furthermore, AM operations are subject to reradiation

⁴In the case of FM radio, the Commission adopted the tenderability requirement in 1985 at the application stage to ensure compliance with its rules and procedures. Similarly, the Commission found it necessary in November 1991 to reexamine its application for license requirements due to the high rate (approximately 60%) of incomplete data with license submissions.

from adjacent structures in nearby areas for which in FM and TV the Commission has not generally concerned itself. This is a well known phenomenon for AM radio and this office has encountered over the years many such structures in which reradiation problems resulted.

May 4, 2007 Coalition Submission

On May 23, 2007 the Commission issued a Public Notice⁵ (DA 07-2143), which indicated that the Commission had received recommendations to permit applicants to use Method of Moment modeling. The technical recommendations were developed by the AM Directional Antenna Performance Verification Coalition (“Coalition”).

There are several items that need to be addressed on a procedural basis. It will be assumed for this submission that the mechanics offered by the Coalition are relatively complete.

Section 73.151(a) of the FCC Rules

Without appropriate field strength measurements, how is compliance achieved at the time of the directional array adjustment with respect to Section 73.151(a) of the FCC Rules?

There are many directional arrays which, because in part based on their original design techniques had greater than 1 ohm losses, and therefore, had difficulty in achieving the minimum RMS required by the Rules for that class of station. A review of Coalition’s submission does not appear to address this item, and therefore, under the proposed approach it appears that a station could be licensed under the Coalition’s proposal without achieving the minimum RMS.

⁵“*Comment Sought on Proposed Rules Permitting Antenna Modeling to Verify AM Directional Antenna Performance*”.

Antenna Parameters

The Coalition submission places sole reliance on the station's operating parameters and that verification is subject to confirmation within two years. The review of the Coalition's submission does not appear to require anything further.

Most stations including directional AM stations are operated by remote control. Based upon the current FCC Rules, there is no requirement to periodically monitor the station's directional operating parameters at the remote control point. Therefore, under the Coalition's proposal, two years could elapse before any meaning monitoring of the array is performed. In fact, the Commission no longer requires 30 day stability measurements. Therefore, under the current rules and the Coalition's proposal, there is no assurance that the directional array will be maintained within the requirements of Section 73.62(a) of the FCC Rules.

Section 73.153 of the FCC Rules

Section 73.153 of the FCC Rules permits applicants to provide field strength measurements in order to supersede the Commission's estimated ground conductivities.⁶ Currently, if field measurements are performed on a directional array, the reference proof pattern and any radial data already filed is acquired in that station's license file. The new field strength measurements are then taken and compared when possible with that acquired from the Commission reference room.

When submission to the Commission is possible to support another station's desire to improve its facilities with a station who has been adjusted under the Coalition's Method of

⁶Section 73.183(b)(1).

Moments concept, there are no corresponding field measurements and directional array analysis, how are those additional field strength measurements to be analyzed?

Public Interest

If as suggested in the Coalition's cover letter that antenna pattern prediction have advanced to the point where computer modeling and internal array parameter monitoring can and should be relied on to verify the performance of most, if not all, medium wave antenna systems.

This approach, if unfettered, could lead to wide spread creative approaches by industry management that is not in the long term industry's interest.

For example the Commission required in prior years that information be supplied regarding the proposed station's environment, as abstracted below.

Attach⁷ as Exhibit No. ___ map or maps having reasonable scales clearly showing the following:

- (a) Proposed antenna location
- (b) General character of the city or metropolitan district, particularly the retail business, wholesale business, manufacturing, residential, and unpopulated areas (by symbols, cross-hatching, colored crayons, or other means)
- (c) Heights of buildings or other structures and terrain elevations in the vicinity of the antenna, indicating the location thereof.
- (d) Transmitter location and call letters of all radio stations (except amateur) and the location of established commercial and government receiving stations within 2 miles of the proposed transmitter location. Call letters and locations of broadcast stations, including FM and television, within 5 miles must be shown.
- (e) Terrain

⁷From FCC Form 301 from the 1960's.

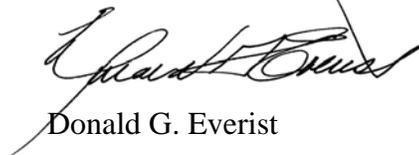
No such extensive requirement is necessary for filing under the current rules. Therefore, under the Coalition's proposal the candidate directional application could file for a transmitter site under power lines, in a ravine, the middle of a hospitable industrial park, or otherwise unacceptable site. The Coalition's approach if adopted could give rise to many interesting scenarios at least in some respects noted above not in the public interest.

Furthermore, how does a third party or the Enforcement Bureau make an evaluation without monitor points?

Coalition Proposed Rule Under Part 17

The Coalition has proposed alternatives to the current Commission Rules with reference to construction near or installation on an AM broadcast antenna system or tower. While this effort is appreciated, it is not certain that it will achieve the desired results. The undersigned has found instances requiring a structure to be detuned when the incident field strength at a tower distant from the broadcast station was approximately 100 mV/m.

Respectfully submitted

A handwritten signature in black ink, appearing to read "Donald G. Everist", written over a horizontal line.

Donald G. Everist

July 23, 2007