



## COMMENTS FILED IN AM DIRECTIONAL ANTENNA PROCEEDING

On May 4 of this year a coalition of broadcasters, broadcast consulting engineers and equipment manufacturers submitted to the FCC draft modifications to existing rules and proposed new rules that would permit the use of computer modeling to proof and maintain AM directional antenna arrays (see the [May 14, 2007 issue](#) of *Radio TechCheck* for additional information). Subsequently, on May 23, 2007 the FCC issued a Public Notice (available on the FCC Web site at [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-07-2143A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-2143A1.pdf)) requesting comment on this proposal.

Twenty-nine commenters have now filed in this matter as of July 23, 2007 (the FCC's deadline for comments), including:

- AFCCE
- Carl T. Jones, Corp.
- CBS Radio
- Clear Channel
- Cohen, Dippell and Everist
- Crawford Broadcasting
- D.L. Markey & Associates
- Entercom
- Georgia-Carolina Radiocasting Companies
- Greater Media
- Hatfield & Dawson
- Independent Broadcast Consultants, Inc.
- Mullaney Engineering
- NAB
- PCIA (the wireless infrastructure association)
- Potomac Instruments
- RadiOhio Incorporated
- Regent Communications
- SBE
- Sitesafe (provides AM detuning services)
- Wireless Comm. Association International

Overall, the filed comments strongly support the coalition's proposed rules, however some commenters are concerned that the proposal relies too heavily on method of moments (MoM) computer modeling and not heavily enough on actual field measurements. For example, Greater Media opposes the substitution of entirely theoretical MoM modeling for field measurements as a means of demonstrating system compliance. They believe that some field measurements are essential to protect the technical integrity of the AM band, and propose a hybrid system that combines "...the best of MoM with basic field measurements to assure optimum interference-free system performance." As part of the Greater Media proposal, "truncated partial proof measurements" and analysis would be conducted on the construction permit radials utilizing conventional methodology. They propose that a total of at least eight measurements be required in the nondirectional and directional modes of operation on each construction permit radial. The array would be considered to be in adjustment when these fields were at or below standard pattern values, and recommend that parameters be adjusted, if necessary, as necessary to achieve the desired results.

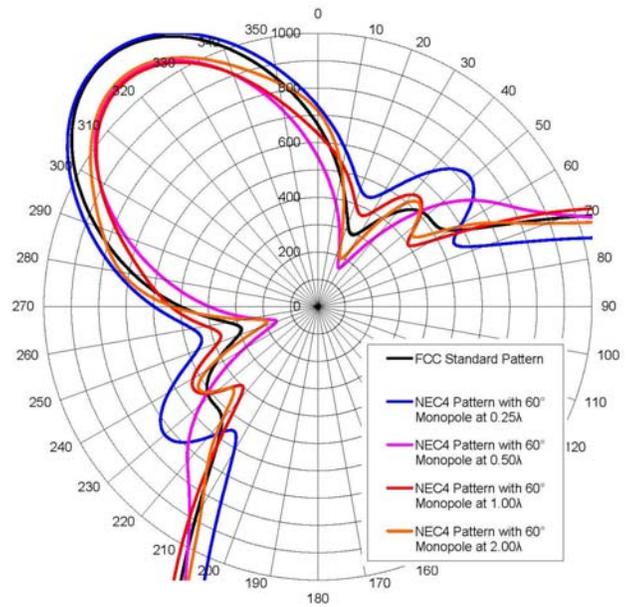
NAB, in its comments, notes that the proposed rules will provide needed relief to AM broadcasters, both in terms of engineering manpower and financial resources. Further, NAB is in agreement with the Commission that, as a matter of policy, computer modeling will substantially reduce workloads for both licensees and Commission staff, and believes that "...the time is right for the Commission to set aside inefficient antenna measurement requirements—many of which date to the 1930s—in favor of rules more suited to 21st century AM broadcasting."

Clear Channel enthusiastically supports both the recommendations and the new and modified rules proposed to implement those recommendations. Clear Channel notes that they have used this methodology to tune newly constructed arrays and have found that when the method is applied, as in the rules proposed by the Coalition, the result is "...an array that is properly adjusted the first time."

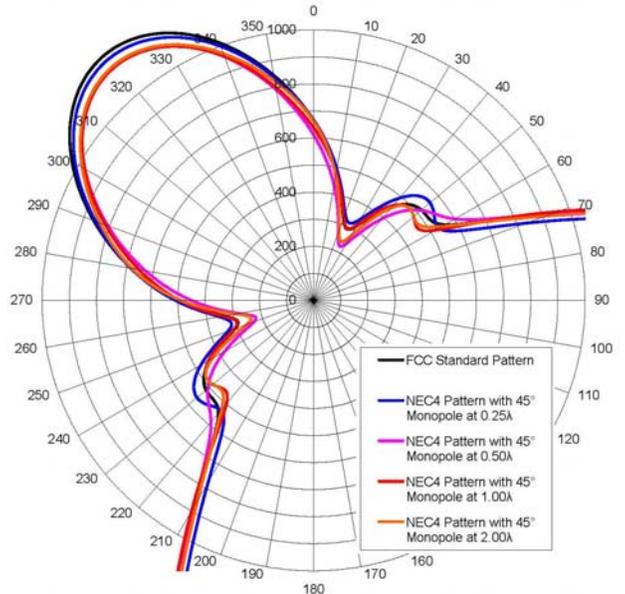
They cite as recent examples stations WSCC(AM) in Charleston, South Carolina, and WTKT(AM) in Harrisburg, Pennsylvania.

The Association of Federal Communications Consulting Engineers (AFCCE) provides some interesting technical information in their filing which examine the new proposed height threshold under which a proponent of a new tower would have to take no action with respect to a nearby AM nondirectional or directional antenna system. These proposed thresholds are 60 electrical degrees with respect to non-directional AM stations and 45 electrical degrees with respect to directional AM stations. AFCCE believes that these height thresholds are adequate to protect the vast majority of AM stations.

To demonstrate this, AFCCE included several examples of modeling results (using NEC-4). The first polar plot shown here illustrates the predicted impact of a monopole tower (added to a four-tower array model) having a height of 60 electrical degrees (the proposed height threshold for the non-directional case). The predicted impact on the directional pattern is shown for monopole locations ranging from 0.25 wavelengths to 2 wavelengths from the end tower of the array. Based on this example, a 60 degree grounded monopole located in close proximity to a typical AM directional pattern could result in substantial distortion of the directional pattern particularly in the null regions of the pattern.



The second plot is similar to the first except in this case the monopole tower height is 45 electrical degrees. AFCCE believes that these plots (along with an additional plot for a monopole with a height of 36 electrical degrees, not shown here) illustrate that the proposed height threshold of 45 degrees would protect the vast majority of AM directional stations while accomplishing the goal of reducing burden on Commission staff and other FCC licensees.



The full text of these comments are available from the FCC's Electronic Comment Filing System (ECFS) Web page—to download, go to [http://gulfoss2.fcc.gov/prod/ecfs/comsrch\\_v2.cgi](http://gulfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi), then enter the number "93-177" (no quotes) in the first box (labeled PROCEEDING), then scroll to the bottom of the page and click on "Retrieve Document List." The FCC's deadline for submission of reply comments is August 22, 2007—see below for instructions on how to electronically file replies in this matter with the FCC.

## FILING COMMENTS WITH THE FCC

Comments are best filed electronically through the FCC's Electronic Comment Filing System (ECFS) either directly from the ECFS web page ([www.fcc.gov/cgb/ecfs](http://www.fcc.gov/cgb/ecfs)) or by email. Given here are instructions for filing reply comments on the proposed AM DA rules change (due August 22, 2007).

### Filing directly:

- From the ECFS web page, click on SUBMIT A FILING, found on the right-hand side of the page under "ECFS Main Links"
- The following information is requested (appropriate responses for filing comments on the proposed AM DA rules change are shown in **BOLD**):
  1. Proceeding (**93-177**)

2. Mail Correspondence To: (select the appropriate button: "NAME" if you are filing yourself; "LAW FIRM" or "ATTORNEY" if filed by a law firm)
  3. Name of Applicant/Petitioner (your name)
  4. Law Firm Name (optional – only completed if comments are being filed through an attorney)
  5. Attorney Name (optional – only completed if comments are being filed through an attorney)
  6. Email-id (your email)
  7. Mailing Address for Correspondence (your address)
  - ...
  11. Ex-Parte/Late Filed (leave blank)
  12. Document Type (select **REPLY TO COMMENTS**)
  13. File Number (leave blank)
- After filling out the form, you can either submit your comments as an attached file, or type them in directly using the window provided. Be sure to state that **you are responding to FCC Public Notice DA 07-2143, released on May 23, 2007.**

Filing by email:

- Instructions may be obtained from the FCC's web site at [www.fcc.gov/cgb/ecfs/email.html](http://www.fcc.gov/cgb/ecfs/email.html);
- The following information is requested (appropriate responses for filing comments on the proposed AM DA rules change are shown in **BOLD**):
  - <PROCEEDING> **93-177**
  - <DATE> **(date you file comments)**
  - <NAME> **(your name)**
  - <ADDRESS1> **(your address)**
  - ...
  - <LAW-FIRM> **(only completed if comments are being filed through an attorney)**
  - <ATTORNEY> **(only completed if comments are being filed through an attorney)**
  - <FILE-NUMBER> **(leave blank)**
  - <DOCUMENT-TYPE> **(Reply to Comments)** *i.e. you are filing reply comments*
  - <PHONE-NUMBER> **(your phone number)**
  - <DESCRIPTION> **(Comment on proposed AM DA rules change)**
  - <CONTACT-EMAIL> **(your email)**
  - <TEXT> **(your comment here – state that you are responding to FCC Public Notice DA 07-2143, released on May 23, 2007)**

