NAB Radio TechCheck

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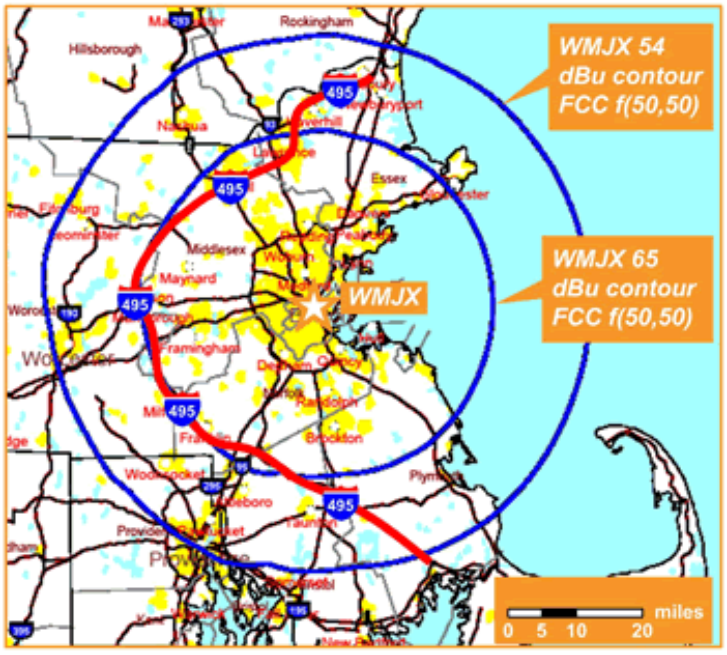
FM Digital Power Increase Needed Because "Coverage is Critical"

One of the most popular technical sessions at the 2008 NAB Radio Show, held this past September in Austin, TX, was the "High Power IBOC Technical Panel" moderated by Geoff Mendenhall, Vice President, Transmission Research & Technology, Harris Broadcast Systems. The discussions held during this panel take on new significance given the FCC's recent Public Notice regarding the proposed FM digital power increase, comments on which are due Friday, November 28, 2008 (see below for more information on the Public Notice and how to file comments).

Milford Smith, Vice President, Engineering, Greater Media, Inc. gave one of the presentations in this session, entitled "HD Radio *IS* Radio in the New Millennium." Mr. Smith has overseen conversion of over 20 Greater Media stations to digital, and served as chair of the National Radio System Committee's (NRSC's) Digital Radio Broadcasting Subcommittee during the time of the NRSC's evaluation and ultimate standardization of the iBiquity HD Radio in-band/on-channel (IBOC) digital radio system. Mr. Smith assumed chairmanship of the full NRSC in April 2007 following the retirement of long-time chair Charlie Morgan of Susquehanna Radio.

The theme of Mr. Smith's presentation was that coverage is critical, and that for the HD Radio transition to be successful, HD Radio coverage must replicate (or improve upon) the coverage currently afforded by a station's analog FM signal. Mr. Smith believes that the current proposal to allow FM stations to increase their digital power by up to 10 dB will achieve this, and that broadcasters must be allowed to move as quickly as possible to implement this voluntary increase. As a participant in the high power FM testing done by iBiquity (and submitted to the FCC in June 2008—see the June 16, 2008 issue of Radio TechCheck for more information on the iBiquity test report), he is very familiar with the results of this testing, and during his presentation he summarized some of these results including the following:

- NO observed additional interference to the host stations;
- Coverage improvements were spectacular; in virtually every case analog coverage was replicated and HD "dropouts" within that area were close to nonexistent;
- Actual observed increased interference to first-adjacent channel stations was minimal and fell largely outside of the stations' protected contours;
- Several stations operated with elevated digital power levels for many months (some for more than a year), and at least one is still operating;
- There have been NO interference complaints whatsoever from any first adjacent station, including those short spaced to the high power operations;
- There have been NO listener complaints whatsoever.



Mr. Smith noted that while reliable analog coverage, in most cases, extends to (or beyond) the 60, 57 or 54 dBu contour (depending on the class of station), a consensus of knowledgeable group engineers, backed by several years of actual field observations, indicate that, in general, reliable HD Radio coverage extends to approximately the 65 dBu contour of a typical station. He said that in many

markets this abbreviated coverage makes in-car listening over a typical commute problematical if not impossible.

One example he gave of this was from the Boston area where drivers on I-495 (see map), a major commuter artery which circles the metro, are treated to intermittent digital service from Greater Media station WMJX. This is because I-495 falls on, or is outside of, the 65 dBu contour of WMJX which for that station represents the extent of the digital signal's coverage. He pointed out that listeners who purchase their first HD Radio receiver and experience poor digital coverage will be disappointed and further noted that in particular, good coverage is critical for the popular multicast stations (i.e. HD-2, HD-3) which have no analog backup signal (as do the main channel audio signals). His recommended plan for moving forward is to:

- Implement elevated HD Radio digital power levels immediately on a larger number of stations, via Special Temporary Authority (STA), to gain more experience and to showcase the improved digital service;
- Since occasional cases of increased, unacceptable interference to a few first adjacent stations are theoretically possible, use this opportunity to investigate asymmetrical and/or reduced sideband power levels to mitigate any such occurrences;
- Move *RAPIDLY* to universal increased digital power levels, on a voluntary basis.

Broadcasters interested in filing comments in response to the FCC's Public Notice on the proposed FM digital power increase may obtain a copy of the Public Notice from the FCC's web site at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-08-2340A1.pdf. Comments are due on November 28, 2008 and replies are due on January 4, 2009. Comments and replies may be filed electronically by accessing the Electronic Comment Filing System (ECFS) at www.fcc.gov/cgb/ecfs/. Filers should follow the instructions provided on the website for submitting comments, and should include their full name, U.S. Postal service mailing address, and the applicable docket number: MM Docket No. 99-325. Parties may also submit an electronic comment by email—to get filing instructions, send an e-mail to ecfs@fcc.gov, and include the words "get form" in the body of the message. A sample form and instructions will be sent in response.