

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

In the Matter of)
)
Petition for Rulemaking of National Public Radio)
to Repeal Section 73.525 of the Commission’s)
Rules.) RM-11579
)

To: Office of the Secretary
Attention: The Commission

COMMENTS

Communications Technologies, Inc. (“CTI”) is a broadcast engineering consulting firm located in Marlton, New Jersey. CTI, from its founding in 1985, has represented dozens of non-commercial FM (“NCE-FM”) broadcasters in the design of FM transmission facilities and FCC application preparation including Section 73.525 compliance studies concerning television Channel 6. NPR’s October 20, 2009 Petition for Rulemaking cites several points concerning NCE-FM protection of CH 6 television service which CTI believes are important and on which the firm offers its comments as follows:

- In 1985 the FCC adopted TV 6 protection standards based on conditions at that time with the expectation that the standards would be interim in nature. However, the rule has not been revisited in the intervening 25 years.
- Digital television (DTV) receivers are substantially less vulnerable to NCE-FM induced TV 6 interference than analog receivers tested 30 years ago which formed the basis for 73.525 protection standards.
- Demand for NCE-FM service has steadily grown while the demand for TV 6 full service facilities has declined.

- Elimination of Section 73.525 would allow numerous NCE-FM stations to increase their service area.

TV CH 6 Protection Standards – Underlying data

By letter dated September 15, 2008, NPR submitted two technical documents to the FCC:

1. NPR Labs, Interference Rejection Thresholds of Consumer Digital Television Receivers on Channel 6 with FM Broadcast Signals (Dec. 17, 2007). This study was described as the first comprehensive study of CH 6 receiver interference since the FCC Labs 1979 studies which formed the basis for Rule Section 73.525 enacted in 1985.
2. NPR Labs, Comparison of FM Broadcast Signal Interference Areas with Current DTV Receivers on Channel 6 Analog TV Receivers Assumed in 47 CFR 73.525 (Sept. 5, 2008). This report showed a reduction in interference to DTV receivers compared to that currently assumed by the analog protection rule.

Based on CTI's review of these two technical documents it has concluded that current receiver technology exhibits significantly improved performance in the presence of NCE-FM interfering signals than did receivers on which the current Section 73.525 standards are based. The NPR Labs test data shows that the median receiver improvement in rejection of NCE-FM interfering signals compared to analog sets used in establishing the current Section 73.525 Rules may be summarized as follows:

In weak CH 6 TV field strength scenarios, represented by a signal of (-68 dBm), an improvement of 20 dB or greater from CH 201 through CH 214 is present. In simple terms, 20 dB is equivalent to the ability of a Channel 6 limited NCE-FM station to increase power 100 times without increasing TV 6 interference.

In medium CH 6 TV field strength scenarios, represented by a signal of (-53 dBm), an improvement of greater than 30 dB from CH 202 through CH 218 is present. In simple terms, 30 dB is equivalent to the ability of a Channel 6 limited NCE-FM station to increase power 1,000 times without increasing TV 6 interference.

In strong CH 6 TV field strength scenarios, represented by a signal of (-28 dBm), an improvement of greater than 35 dB from CH 202 through CH 216 is present. In simple terms, 35 dB is equivalent to the ability of a Channel 6 limited NCE-FM station to increase power 3,162 times without increasing TV 6 interference.

Significant improvements were also noted across the remainder of the NCE-FM band although not as dramatic as those listed above. These improvement factors are so significant that CTI believes the public interest must be served by taking these changes into account at the earliest possible opportunity.

Current NCE FM Regulatory Environment With Regard to TV CH 6 Protection

At this time, the NCE-FM community finds itself being required by the Commission to protect CH 6 television service with no clear understanding of what stations to protect and what technical standards to apply. The following Public Notices and FCC communications provide the basis for this statement:

By Public Notice dated April 1, 2009 (DA 09-744) the Media Bureau offered guidance to NCE FM stations with regard to CH 6 protection. Footnote 7 of that notice stated:

“The Commission has stated that it will initiate a separate proceeding to evaluate the existing NCE FM Channel 6 TV protection requirements, and seek public input on their continued viability, following the completion of the DTV transition.”

By Public Notice dated October 13, 2009 (DA 09-2214) the Media Bureau offered further guidance concerning NCE FM compliance with Section 73.525 of the Commission’s Rules. The notice stated that:

1. CH 6 analog stations which have a new DTV channel no longer need to be protected.
2. “NCE-FM applications must continue to provide protection to affected digital TV Channel 6 stations.”

In a dismissal letter authored by the assistant Chief of the Audio Division of the Media Bureau concerning an application by KEKL(FM), Mesquite, NV, BPED-20081110AAD, dated January 13, 2009, it was stated:

“An engineering review of the application reveals that the application fails to comply with 47 C.F.R. 73.525 with respect to TV Channel Six station KVPX-LP, Las Vegas, NV. Specifically, our calculations show that there is predicted interference within the Grade B contour of KVPX-LP. This was not addressed in the application. This constitutes an acceptance defect.”

By Public Notice dated June 29, 2009 (DA 09-1487) the Media Bureau announced the commencement of a Nationwide, First-Come, First-Served DTV filing opportunity opening January 25, 2010. A number of applications for new CH 6 LPTV DTV facilities are anticipated to be filed in this window. Prior to the nationwide opportunity, a Rural First Come, First Served filing opportunity was initiated on August 25, 2009 which has already garnered the submission of numerous applications on both Channels 5 and 6, further complicating and adding to the dire nature of the situation.

At this moment in time, and based on the material released by the Commission described above, the Media Bureau requires that DTV CH 6 facilities, both full service and LPTV, be protected by full service NCE-FM facilities. This is momentous as the requirement to protect LPTV facilities is not specifically set forth in 73.525 and represents a significant new burden to full service NCE-FM facilities. Further, despite the statement in the April 1, 2009 Public Notice, no Commission guidance has been provided concerning NCE-FM protection standards for DTV CH 6. Rule Section 73.525 addresses analog CH 6 protection only.

A little more than a month from now the FCC will begin accepting and processing additional applications for new CH 6 DTV LPTV facilities. The situation is dire now but once the January, 2010 filing opportunity commences the entire NCE-FM service will be potentially frozen in terms of both major change applications and minor facility changes due to the requirement that CH 6 DTV facilities be protected.

Deletion of Section 73.525, as proposed by NPR, provides a complete solution to this problem. An alternate, although less effective partial solution, is to place a freeze on the acceptance of applications specifying TV channels 5 and 6 in the upcoming filing window. This is consistent with the November 24, 2009 request filed by the Minority Media Telecom Council.

Conclusion

CTI applauds NPR for the significant engineering effort and research submitted to the Commission in 2008 and follow up Petition for Rule Making requesting deletion of Section 73.525 of the Commission's Rules. It is believed that the proposed rule change would allow many NCE-FM stations to improve service to the public by implementing circular polarization in place of current mixed polarity or vertical only antenna systems. Further, new or modified facilities would be able to propose full circular polarization from the outset. There is believed to be no dispute that circular polarization is the preferred transmission mode for best HD radio transmission and reception.

Respectfully submitted,

Communications Technologies, Inc.

by

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