



SUSQUEHANNA  
RADIO CORP.

A subsidiary of Susquehanna Pfaltzgraff Co.

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July 29, 1999

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Magalie Roman Sales  
Office of the Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

RE: MM Docket No. 99-25

Enclosed please find an original and four copies of the comments of Susquehanna Radio Corp. regarding MM Docket No. 99-25 "Creation of a Low Power Radio Service",

Sincerely,

Charles T. Morgan  
Senior Vice President

enclosures

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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

In the Matter of

Creation of a Low  
Power Radio Service

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) MM Docket No. 99-25  
) RM-9208  
) RM-9242  
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TO: The Commission

COMMENTS OF SUSQUEHANNA RADIO CORP.

These comments are filed in response to the Notice of Proposed Rule Making in the matter of the creation of a low power radio service, adopted January 28, 1999.

Susquehanna Radio Corp. is a privately held company that has a history of more than 57 years as a radio broadcasting licensee. Susquehanna owns or operates 8 AM and 15 FM stations. Susquehanna has grave concerns over the potential interference that can be caused by such a service and the timeliness of this proposal in light of the potential major improvements to the existing FM service that may soon be available through the new IBOC technology which looms on the near horizon.

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**LPFM will cause severe interference to existing FM stations.**

The proposed rulemaking raises the possibility of a reduction or elimination of the 2<sup>nd</sup> and 3<sup>rd</sup> adjacent channel interference protection ratios that have served the industry and the public for many years. FM receivers in use today have been designed to provide radio reception based on these protection ratios. The notion, that technical improvements in receiver design eliminates the need for these protection ratios seems unfounded.

A recent study of a wide variety of consumer FM radio receivers was conducted by the National Association of Broadcasters in order to determine the susceptibility of these existing receivers to adjacent channel interference. The 28 receivers tested exhibited wide variation of 2<sup>nd</sup> and 3<sup>rd</sup> adjacent channel interference. Alarmingly, differences between receivers of more than 50 db were measured. As anticipated, automobile radios have greater adjacent channel rejection than the typical clock, personal and portable radios.

Overall, these tests indicate that the commission's protection ratio of 40 db is adequate to protect these receivers from 3<sup>rd</sup> adjacent interference at and beyond the normal protected contour. These tests also show that the application of this same 40 db protection to 2<sup>nd</sup> adjacent channels, as is the case in the non-reserved band, is less than adequate. Most importantly, these tests show that these protection ratios are no longer applicable if the interfering station is moved into the protected contour of an existing station as contemplated for LPFM.

With the exception of the automobile receiver, these tests show that much greater protection ratios between the desired and undesired signals are necessary for these receivers to provide a listenable signal well within the station's coverage area. Any reduction to the interference protection ratios for 2<sup>nd</sup> and 3<sup>rd</sup> adjacent channels will have a detrimental effect on the reception of licensed radio signals with these radios.

Consequently, placing a 2<sup>nd</sup> or 3<sup>rd</sup> adjacent LPFM station within the protected contour of an existing FM station will cause harmful interference, even if the protection ratios are maintained.

The receiver study that will be filed by the NAB in these proceedings brings forth a very important point; "All radios are not created equal". Too often broadcasters and broadcast regulators discount the importance of 2<sup>nd</sup> and 3<sup>rd</sup> adjacent channel interference as we drive in and around major markets. With few exceptions, in areas of known short spacing, interference is not evident in the automobile. What we must recognize is that all listening is not done in the automobile. A national rating service, RADAR, shows that in Fall 1997, only 41.6 percent of total radio listening occurred in automobiles. This NAB receiver study shows, very dramatically, that this interference is real and it does exist in radios that are in the homes, the workplace, and the hands of the public.

### **The future of IBOC should not be derailed by LPFM**

The concept of placing a digital audio signal buried within the analog information of an AM and FM signal was first explored more than eight years ago. IBOC as a broadcast technology has had many

growing pains, but today, there are three separate companies with proposed systems that appear to have a great deal of merit. One, a consortium of major radio broadcasters, USADR, and another, a world leader in audio technology, Lucent Technology; underscore the seriousness of these proposed systems. All three systems place the digital information in the spectrum of the first adjacent channel.

Early systems, as tested by the NRSC, appeared to work well except that they could not meet the adjacent channel protection requirements that exist in our present allocation scheme. Significant improvements have been made in all three of these proposed systems and the proponents believe their systems will work well with the existing adjacent channel environment.

In February 1998, the DAB subcommittee of the NRSC reconvened its activities to evaluate IBOC systems and in April 1999, the NRSC finalized its testing and evaluation guidelines for IBOC systems. All three proponents agreed to submit the results of their testing to the NRSC on December 15, 1999. The evaluation of these systems by the NRSC should be completed by March 2000 and at that time we should know if any of these proposed systems meet the NRSC Goals and Objectives and are worthy of becoming a NRSC standard for IBOC systems.

The future of IBOC will be determined in the near future. It would be a great disservice to the public if, at this time, any changes were made in the interference protections that could prevent IBOC from becoming a reality.

Conclusions

Susquehanna believes that the creation of a low power FM radio service, as contemplated in the Notice of Proposed Rulemaking, would be a detriment to the viability of the existing FM service in the United States and destroy any potential development of IBOC technology for the United States.

Susquehanna urges the commission to make no changes in the allocation scheme for the FM band and keep all existing interference ratios intact. In any event, there should be no action taken on creating a LPFM service until there is a determination on the feasibility of IBOC and the potential degradation that could be caused to this new service by LPFM.

Respectfully submitted,  
SUSQUEHANNA RADIO CORP.

  
Charles T. Morgan  
Senior Vice President

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