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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of	)	
	)	
Improving Public Safety Communications in the 800 MHz Band	)	WT Docket No. 02-55
	)	
Consolidating the 900 MHz Industrial Land Transportation and Business Pool Channels	)	
	)	

COMMENTS

The National Association of Manufacturers and MRFAC, Inc., ("NAM/MRFAC"), hereby submit their comments on the Notice of Proposed Rulemaking (FCC 02-81, released March 15, 2002) in the above-captioned proceeding ("Notice" or "NPRM").

Introduction

The National Association of Manufacturers is the nation's largest industrial trade association. The NAM represents 14,000 members (including 10,000 small and mid-sized companies) and 350 member associations serving manufacturers and employees in every industrial sector and all 50 States. Headquartered in Washington, D.C., the NAM has 10 additional offices across the country. This includes some 18 million people who make all manner of goods in America.

MRFAC is one of the Commission's certified frequency coordinators for the private land mobile bands from 30 to 900 MHz. MRFAC traces its beginnings to its role as the frequency coordinating arm for the NAM. For the past 23 years MRFAC has operated as an independent entity, providing coordination and licensing-related services for manufacturers and other industrial and business entities. MRFAC has a long history of participation in Commission

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proceedings affecting the spectrum interests of manufacturers. The instant matter is such a proceeding.

Background

The Notice asks numerous questions regarding interference to public safety systems caused by cellularized systems operated principally by Nextel. Various plans are presented for dealing with this problem, including proposals by Nextel, by NAM/MRFAC, and by the Commission itself. In addition, the agency invites submission of other proposals.

The Nextel plan contemplates that its systems in the General Category and interleaved spectrum would trade places with public safety systems in the National Public Safety Planning Advisory Committee ("NPSPAC") spectrum. Nextel has further proposed that Business, Industrial and Land Transportation ("B/ILT") incumbents in the General Category and interleaved spectrum be relegated to a status secondary to their new public safety neighbors; and that, if secondary status were not good enough, B/ILT users should move to 700 or 900 MHz. Nextel suggests that it would provide support worth $500 million toward the cost of the public safety relocation; and that, in return for the undertakings referenced above, it should be awarded 10 MHz of spectrum currently allocated for Mobile Satellite purposes at 2.1 GHz. Finally, Nextel proposes that B/ILT users should be required to help defray the costs of public safety relocation.

NAM/MRFAC subsequently presented a proposal which sought to avoid the worst features of the Nextel plan, while at the same time advancing consideration of long-term solutions to interference from cellularized systems.

In particular, NAM/MRFAC have suggested that, in lieu of effectively evicting manufacturers and other B/ILT users from the 800 MHz band, re-tuning within the band could

help redress one of the principal factors contributing to the interference problem; namely, the interleaving of cellularized SMR systems with analog, single-site B/ILT and public safety systems. NAM/MRFAC thus proposed an approach under which Nextel and Nextel-like systems would still trade places with public safety NPSPAC licensees; however, B/ILT licensees in the General Category would re-tune their radios to Channels 201-400. Thus, the General Category would become public safety only; B/ILT users would retain primary status in the interleaved channels which is absolutely essential for their operations; and the cost and disruption associated with migration to another band as proposed by Nextel would be avoided (assuming sufficient spectrum (and equipment) were even available at 700 MHz or 900 MHz, which the Notice agrees is not the case).

The Notice devotes extensive consideration to these alternatives, as well as one proposed by the Commission itself. This proposal would entail the relocation of public safety systems from the interleaved channels to a contiguous block at 809.750 to 811.500 MHz, with B/ILT users occupying adjacent spectrum from 811.500 to 814 MHz, and SMRs from 814 to 816 MHz.

Discussion

For the past several months, B/ILT users and their associations have devoted significant time and effort to the "Nextel" issue. This effort has included most Private Land Mobile Radio ("PLMR") trade associations and frequency coordinators. It has included outreach to representatives of the public safety community. It has included discussions with the commercial mobile radio industry, including Nextel, as well as equipment manufacturers.

As a result of those discussions, certain points have become increasingly clear:

- While re-tuning within the band will help ameliorate some aspects of the interference, reports from equipment manufacturers indicate that re-tuning alone

will not redress the most frequent and pervasive cause; namely, intermodulation. For intermodulation to be rectified, there must be significant frequency separation -- at least four (4) MHz, it appears, between cellular and public safety systems for new equipment and possibly more for older equipment, depending on the number of frequencies operated by Nextel at any one site.

- Reliance on a case-by-case approach drawing from the Best Practices Guide will continue to be the best short-term, and perhaps even medium-term, solution. At the same time, the Commission's Rules for the 800 MHz band need to be tightened in order to assign clear responsibility for correcting interference to those licensees causing it via their cellular architecture; and the Commission should consider adopting receiver standards.
- The best longer-term solution is to migrate public safety users to a band where they would not only achieve maximum separation from 800 MHz systems with a cellular architecture (e.g. Nextel and others). That band is 700 MHz. And while this proceeding should not be about finding additional spectrum for public safety (as opposed to fixing interference), the willingness of Commercial Mobile Radio Service ("CMRS") users to relinquish the allocation there would yield a significant infusion of new spectrum for public-safety interoperability and other purposes.

Despite the lingering questions about the efficacy of re-tuning alone (questions for which additional information would be most helpful, as explained below), there is a consensus that re-tuning appears to be an important part of the overall solution. This is the case since re-tuning will rectify the interleaving that contributes to adjacent channel interference. The B/ILT

meetings have thus led to formulation of a consensus proposal for re-tuning within the 800 MHz band. That proposal is being presented under separate cover this date by a significant number of the B/ILT user groups, as well as Specialized Mobile Radio ("SMR") interests. NAM/MRFAC are signatories to that filing.[1]

NAM/MRFAC comment here separately to stress certain basic points:

First. The Commission, industry, and public safety need more data on the interference mechanisms and possible solutions before any final plan for resolving 800 MHz interference intelligently can be adopted. At present that data is lacking. The equipment manufacturers are in the best position to supply this data. At such time as it is provided, the Commission, with further input from interested parties, will be in a position to determine which plan makes the most sense from a technical standpoint, and the precise details of such a plan.

Second. While more data on technical causes and cures is necessary, it is by no means sufficient. The Commission also needs a full and complete record on the relative costs of the various technical solutions since, ultimately, each of the solutions must be evaluated in the light of the costs it would impose. Here too the record is lacking. While preliminary examination by Motorola suggests that re-tuning as proposed by NAM/MRFAC would be dramatically less costly than Nextel's plan, i.e. over $1 billion less for B/ILT users, it nonetheless suggests that re-tuning would be by no means cost-free (on the order of $250 million according to the preliminary data).

Third. The Commission needs to resolve upon a method of reimbursing the innocent bystanders in this controversy -- B/ILT and public safety users -- for any and all reasonable costs

[1] The consensus proposal builds upon the foundation laid by NAM/MRFAC in its filing last December. However, it reflects a number of significant improvements. Credit should be given in this regard to Alan S. Tilles, Esq., for his contributions to the Coalition.

that would be imposed in connection with the technical solution ultimately adopted. This problem is not of our making, and the Commission should remain focussed on that fact. The consensus proposal being presented by the Coalition offers a possible approach for the reimbursement issue.

A few additional points are also in order based on other issues raised in the Notice.

The Commission asks whether the Notice's proposed relocation plan is necessary to resolve the interference problem or, if not, whether relocation is necessary in order to provide more spectrum for public safety. Notice at para. 25.

The answer to the first of these questions has been provided previously: Only the 700 MHz plan represents a complete solution to the interference problem. The answer to the second question is negative: Only the 700 MHz proposal -- as distinct from in-band re-tuning -- realistically could yield an appreciable amount of new spectrum. If the 700 MHz solution proves infeasible (DTV band clearing, as well as reimbursement for the costs of public safety relocation, being the principal issues), 800 MHz could not be looked to for additional public safety spectrum for a simple reason: In most non-rural areas, there is no 800 MHz spectrum left. Conversely, re-allocating spectrum vital for U.S. industrial productivity and worker safety in the name of "public safety" would inflict major damage on America's industrial fabric -- an integral part of the very infrastructure which public safety agencies are supposed to protect. This would be a perverse, not to say absurd, result.

The Notice also asks for comment on interference to B/ILT systems. Id. at para. 19. The data thus far is very limited. However, there is nothing in the physics of radio propagation which should make public safety systems at 800 MHz susceptible to interference, while somehow leaving B/ILT systems occupying similar or adjacent channels immune. Anecdotal information

confirms this intuitive point. For example, one large NAM/MRFAC member has experienced interference on its 800 MHz trunked system for nearly 18 months -- interference which tracks Nextel's use and installation of new sites in and around the area of its plant.

The interference began in December 2000 with increased static interference to portables, even within the plant, resulting in decreased coverage. In May 2001 the manufacturer not only lost more in-plant coverage, but began receiving periodic carrier detect alarms (i.e. signals advising the user that an unauthorized carrier has been detected on the channel). Five channels, all co-licensed to Nextel some 30 miles away, were the channels which received the most interference. In addition, the manufacturer received interference on two channels adjacent to frequencies licensed to Nextel at a site only two miles away.

The Summer of 2001 brought more of the same, only worse. Carrier detect alarms became constant on multiple channels causing the control channel to jump from frequency to frequency. (At the same time local fire and police radio technicians began reporting similar interference to their site. This interference coincided with a new Nextel site being brought on line in the vicinity.)

At present carrier detect alarms continue to be more or less constant on almost all of the user's 15 channels.

Extensive modifications of the user's facilities have been undertaken in an attempt to compensate for the interference. Unfortunately, high levels of static interference remain.

The licensee's personnel have had numerous contacts with Nextel regarding the problem. Some of those contacts produced temporary improvement; some of them produced offers to sell the user Nextel's service. In either case, interference continues even though Nextel is licensed

for some 375 channels in the area, and has been asked to use channels other than those causing the interference.

The foregoing represents a single episode. However, it is NAM/MRFAC's belief that it is not atypical for public safety or industrial users attempting to operate in the same locale as Nextel.

The Notice asks whether secondary status is feasible for industrial users. Id. at para. 61. As NAM/MRFAC have stressed in their earlier filings in this matter, at least in the case of manufacturers such a result would be completely unacceptable: With U.S. manufacturing productivity so dependent on just-in-time delivery and other radio-based productivity systems, manufacturers cannot tolerate the loss of reliable service which secondary status (and its acceptance of interference) entails. In the case of automobile manufacturers, for example, the cost of each minute of assembly-line down-time is measured in thousands of dollars.

Similarly, the safety of many manufacturing workers depends on such systems. The 800 MHz band is utilized for fire, emergency medical response, HazMat and OSHA compliance in many industrial facilities. Interference to these systems is equally unacceptable.

In this sense, secondary status for manufacturers is no more acceptable than reliance on commercial carriers. With their specialized applications essential for productivity and safety, manufacturers must have assurances of 24/7 reliability - something that carriers are unable to guarantee. Thus, for the same reason manufacturers cannot simply take commercial carrier service for mission-critical systems -- reliability -- secondary status is a non-starter.

Finally, insofar as an 800 MHz audit is concerned, NAM/MRFAC would support such an undertaking. See Notice at para. 29. The Commission has been conducting an audit in the VHF and UHF bands, which has already produced meaningful results, i.e. cancellation of thousands of

defunct licenses. A similar program at 800 MHz could be expected to yield comparable benefits, and perhaps produce a stronger record for dealing with the interference problem.

Conclusion

NAM/MRFAC commend the Commission for having undertaken the task of seeking to rectify the systemic Nextel interference affecting the 800 MHz band. However, we urge the agency to proceed carefully lest a solution be adopted which causes unnecessary disruption and unreasonable expectations, without actually delivering on the promise of a solution to the interference problem.

Respectfully submitted,

NATIONAL ASSOCIATION OF
MANUFACTURERS and MRFAC, INC.

By: Mark Van Bergh

William K. Keane
Mark Van Bergh

ARTER & HADDEN LLP
1801 K Street, NW
Third Floor L Street Entrance
Washington, D.C. 20554
(202) 775-7100

Their Counsel

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