

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of)
)
Improving Public Safety Communications) WT Docket 02-55
in the 800 MHZ Band)
)
Consolidating the 900 MHZ Industrial/)
Land Transportation and Business)
Pool Channels)

To the Commission:

**COMMENTS BY THE STATE OF ARIZONA
TO THE NOTICE OF PROPOSED RULEMAKING**

Submitted By:

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Dated: May 3, 2002

INTRODUCTION

The Arizona Department of Public Safety (ADPS) is filing Comments on WT Docket 02-55, Notice of Proposed Rulemaking, relating to improving Public Safety Communications in the 800 MHZ band, and Consolidating the 900 MHZ Industrial/Land Transportation and Business pool channels.

ADPS , speaking for the State of Arizona, maintains the lead role in Arizona State radio communications, pursuant to Arizona Revised Statute 41-1749A. This Department bids, engineers, licenses, installs, and maintains radio systems for 14 State Governmental entities in

Arizona, including the following:

Department of Administration	Agriculture Department
Army National Guard	Capitol Police
Department Of Correction	Department of Economic Security
Emergency Services Division	Game and Fish Department
Land Department/Forestry Division	Liquor License and Control
State Parks Board	Department of Transportation
Motor Vehicle Division	Department of Health Services

Several of these agencies each have over 2000 mobile and portable radios, and over 30 base/mobile relay stations on various mountaintop repeater sites. Radios maintained by the ADPS exceed 10000 units. These entities have radio license eligibility in the Public Safety radio service. The ADPS assists each of these agencies in obtaining licenses for new sites or frequencies as required. The ADPS maintains over 500 licenses for the user agencies under Parts 90 and 101. The ADPS has had this lead role in Arizona State radio communications systems since its inception in 1969.

OVERVIEW:

The ADPS is very concerned over the issue of interference to Public Safety users in the 800 MHZ band. ADPS currently operates a 4-site 800 MHZ trunked system in central Arizona, and an 800 MHZ Mobile Data Terminal (MDT) system in Southern Arizona. Our MDT system is due to be replaced and expanded to a statewide system on 800 MHZ beginning this year. Occasional inexplicable interference has been noted to the State 800 MHZ trunked system. Though not proven, there are compelling reasons to believe that this interference is related to commercial carrier use of adjacent channels. We believe that Public Safety communications, vital and critical to our nation=s infrastructure, MUST be free from interference.

HISTORICAL:

Historically, when interference has been noted, it has been up to the new user causing the interference to protect and hold harmless the incumbent users in the band being interfered with.

We believe that the same reasoning should apply in this case, particularly for Public Safety communications. Public Safety users have operated successfully in the 800 MHz band for approximately 15 years before commercial interference became an issue. Traditionally, the new user causing interference has been given a limited amount of time to resolve the interference problem, at their own expense.

THE ISSUES:

The majority of the problems are apparently caused by commercial digital carrier systems transmitting on frequencies close to Public Safety channels, due to band allocations made in the 1970's without foresight of these issues. There appear to be numerous technical reasons for the interference as documented by many vendors, such as Nextel, trade associations such as PCIA, CTIA, and the ad-hoc Interference Mitigation Coalition (IMC). These include: (1) Receiver Overload; (2) Intermodulation; (3) Out-of-Band Emissions; and (4) Receiver Technical Design Factors. It is not the ADPS intent to discuss these technical issues in detail, but to address the overview of the problem, and the desired result. The question then becomes how all of these interference problems can be mitigated in a timely manner at no cost, to eliminate destructive interference to Public Safety systems.

Several proposals have been put forth to resolve the problems. The first, offered by Nextel,

involves a massive swapping of 800 MHz channels with Public Safety. This is a very difficult, time consuming, and expensive option, which may or may not fully resolve the problem due to the wideband nature of today's 800 MHz radio receivers. To its credit, Nextel has offered to pay the costs for the Public Safety transition to different channels. Other plans have been offered by Southern Linc, the National Association of Manufacturers (NAM), Tilles, Ralph Haller, and the ACTIA.

ADPS POSITION:

The ADPS declines to take a position, either pro or con, on any of the specific proposals before the Commission at this time. We believe that the trade associations and radio manufacturers are better equipped to make a determination of which solutions have the best chance for success.

However, the ADPS does take a position on what type of solutions would be acceptable. First, any potential solution should be as broad as possible nationwide, and protect ALL incumbents in the band against ALL forms of interference. Second, the solution should be implementable in a relatively short time period. Third, there should be NO out of pocket costs to incumbent public safety users. Last, and most important, the solution should be the one that offers the highest degree of protection to incumbent users in the band. It should be a permanent solution; not a stop-gap.

Curt Knight, Manager
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