

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

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Federal Communications Commission
Office of Secretary

In the Matter of)
)
Amendment of the Commission's Rules)
Regarding Multiple Address Systems)

WT Docket No. 97-81

COMMENTS OF
THE PERSONAL COMMUNICATIONS INDUSTRY ASSOCIATION

The Personal Communications Industry Association ("PCIA") hereby submits its comments in response to the Commission's *Notice of Proposed Rule Making* in this proceeding.¹ For the reasons cited herein, PCIA urges the Commission to provide existing control links with protection from interference from facilities authorized on a geographic area basis. These intermediate links are essential to tying together existing CMRS paging systems and will provide backbone circuits for new generations of narrowband personal communications services that offer the public enhancements to the paging service now available throughout the country.

¹ _____ FCC Rcd _____ (rel. Feb. 27, 1997). PCIA is the international trade association created to represent the interests of both the commercial and the private mobile radio service communications industries. PCIA's Federation of Councils includes: the Paging and Narrowband PCS Alliance, the Broadband PCS Alliance, the Specialized Mobile Radio Alliance, the Site Owners and Managers Association, the Association of Wireless System Integrators, the Association of Communications Technicians, and the Private Systems Users Alliance. In addition, as the FCC-appointed frequency coordinator for the 450-512 bands in the Business Radio Service, the 800 and 900 MHz Business Pools, the 800 MHz General Category frequencies for Business Eligibles and conventional SMR systems, and the 929 MHz paging frequencies, PCIA represents and serves the interests of tens of thousands of licensees.

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Background

Paging and narrowband PCS systems depend on networks of base stations linked by circuits that facilitate simulcast operation by which multiple stations can transmit the same message simultaneously over a specified geographic area. This use of simulcasting affords such systems not only widespread coverage, but a high degree of building penetration.² A CMRS provider in a single geographic area such as a metropolitan statistical area may, for example, utilize from ten to thirty transmitters on a single frequency in order to provide the required coverage and penetration.

Linking these base stations requires circuits of high reliability and phase conformity. Thus, simulcast operation depends on highly precise adjustment of the phase relationship of the transmitters in order to minimize mutual interference among the co-channel base stations that make up the network. Wireline circuits are likely to be adjusted to accommodate the needs of the wireline network. This results in ongoing changes in the delay in a signal getting from the central paging terminal to the various base stations. As a result, wireline circuits are more likely to result in far less than optimum operation of simulcast systems as the area of mutual interference increases due to changes in the phase relationship of the signals brought about by changes in the paths used for routing the traffic from the paging terminal to the base stations. For this reason, CMRS providers have long employed radio channels for what the industry terms "control links." Radio circuits are of constant length and are under the direct control of the CMRS

² Even when simulcasting is not employed, control links afford flexibility and reliability not otherwise available.

licensee. As such, control links that employ radio channels are generally superior to alternative systems.

Responding to the paging industry's urgent need for additional control channels, the Commission has made the multiple address ("MAS") frequencies available for use by those licensees that offer paging and now narrowband PCS. This 900 MHz spectrum provides much-needed capacity for paging and narrowband PCS in crowded markets where there is now a dearth of available spectrum in the 72 - 76 MHz band, which was traditionally used for control links.

The Revised Rules Should Not Impair the Service Now Afforded by Control Links in the 900 MHz MAS bands.

As an initial matter, PCIA has strong reservations as to the wisdom of auctioning spectrum employed for intermediate links.³ Nevertheless, if the Commission moves forward with its proposals, the new regulations should be crafted to minimize disruption to existing operations.

While the *Notice* recognizes the need to grandfather existing 900 MHz control links, it fails to come to grips with the fact that control link operation differs from other traditional uses of the 900 MHz MAS spectrum. Control link transmit antennas typically are located at high sites with a commanding view of the service area. This permits these MAS sites to transmit to control link receivers that employ directional antennas. These

³ In Implementation of the Section 309(j) of the Communications Act - Competitive Bidding, *Second Report and Order*, PP Docket No. 93-253, 9 FCC Rcd 2348, 2355 (1994), the Commission rejected the application of auctions to intermediate links. The Commission recognized that auctioning intermediate links may, in fact, hinder the deployment of new technologies.

receive sites are co-located with base stations that form the paging or narrowband PCS system. Often, these receive sites are far removed from the control link transmitter.

Ranges of sixty-five miles are clearly feasible for 900 MHz control links.⁴

The *Notice* proposes to grandfather existing 900 MHz MAS systems within a 25 mile radius of the transmitter. While this would afford some flexibility to accommodate the loss of a transmitter site, it fails to deal adequately with the need for existing systems to be accorded reasonable protection against harmful interference from MAS systems authorized on a geographic area basis under competitive bidding. Although the proposed grandfathering scheme refers to the current mileage separation rules, intensive use of the MAS spectrum by an area licensee operating under flexible rules could lead to interference to existing receive sites. Heretofore, licensees that employ MAS spectrum for control links have had notice of proposed transmitters. Under a geographic area licensing regime with flexible rules, existing licensees would have less notice of actual proposed operations. Consequently, any 900 MHz MAS receive site used as a control link for CMRS service providers should be protected from harmful interference. To do otherwise would risk disrupting existing networks. To the extent that up-to-date receive site information is not on file, the Commission should invite CMRS control link licensees

⁴ Unlike a paging base station, which transmits to a receiver assumed to be six feet above ground, the control link station transmits to a directional antenna often mounted high on a building, mountain, or tower. The line-of-sight distance from one antenna at 500 feet above average terrain to another at 500 feet is approximately 65 miles. While 900 MHz MAS stations authorized for control purposes must be separated by 70 miles (113 km) or 90 miles (145 km) under the FCC Rules, depending on the band, the use of directional antennas with gain in the desired direction and rejection of side and rear signals makes such long hops quite feasible. This long range translates to a wider service area for the

to provide such information before inviting applications for authorizations that are to be authorized pursuant to competitive bidding.⁵

Conclusion

Control links are essential to most paging and narrowband PCS systems. Many of these critical links operate in the 900 MHz multiple address spectrum. Any change to a geographic licensing system based on competitive bidding must accord existing service providers the protection and flexibility needed to continue operating and to improve service to the public.

Respectfully submitted,

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CMRS provider and to more economical service, an important consideration in an era marked by vigorous competition in paging.

⁵ Any receive site not so notified would be protected only in accordance with the mileage separation rules. This also would afford CMRS service providers the flexibility needed to install new receive sites. Any such new sites, however, would be placed into operation with the recognition that interference free operation may be impaired unless the existing licensee reaches an accord with the geographic area licensee or employs technical measures to minimize the risk of interference.