

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of )  
 )  
Commission Seeks Public Comment on ) ET Docket No. 02-135  
Spectrum Policy Task Force Report )

To: The Commission

**COMMENTS OF PCIA, THE WIRELESS INFRASTRUCTURE ASSOCIATION**

PCIA, the Wireless Infrastructure Association (“PCIA”), by its attorneys, hereby files comments in response to the Commission’s request for comments on the *Spectrum Policy Task Force Report* (the “*Task Force Report*”) issued on November 15, 2002. The *Task Force Report* looks at ways to expand the use of spectrum by requiring more efficient use of spectrum, permitting greater access to spectrum, and allowing more flexible use of spectrum. These comments address two issues – the needs of private land mobile radio users and the resolution of interference conflicts.

**I. PCIA**

Founded in 1949 in the spirit of creating new industries, PCIA has a distinguished history of helping build many key companies that comprise the wireless telecommunications sector. From its beginnings in land mobile radio to paging and messaging, and from personal communications services (“PCS”) to tower and antenna siting, PCIA has been instrumental in facilitating the emergence and growth of core wireless services.

Since the inception of frequency coordination committees in 1970, PCIA has processed hundreds of thousands of applications for licenses and coordinated more of the nation’s spectrum than virtually any other coordinating committee. PCIA was the original coordinator for the

Business Radio Service and is currently one of several coordinators in the Business/Industrial/Land Transportation (“B/ILT”) pool and one of two coordinators of the frequencies that were formerly part of the Special Emergency Radio Service (“SERS”).

## **II. Needs of Private Land Mobile Radio Users**

The *Task Force Report* identified three models of assigning spectrum usage rights – the “command-and-control” model, the “exclusive use” model and the “commons” model. It advocated limited use of the “command-and-control” model and urged the transitioning of spectrum assigned under the “command-and-control” model to the other two models. *Task Force Report*, Section VII, at 35-53. Although no specific wireless services were identified as targets for this transitioning, PCIA is taking this opportunity to address the needs of private land mobile radio users.

Private land mobile radio users may be assigned a number of different frequencies ranging from 1614 kHz to 940 MHz. Frequency assignments are made on a site-specific basis and systems are operated pursuant to various height and power limits. Frequencies below 470 MHz are shared between users. Frequencies in the 800 and 900 MHz ranges are assigned on an exclusive basis (provided the user is operating a sufficient number of mobile units to justify an exclusive assignment) with minimum co-channel separation distances designed to avoid co-channel interference. Below 470 MHz, the role of the frequency coordinator is to assign frequencies in such a way as to avoid to the extent possible congestion on any given frequency. In the 800 and 900 MHz ranges, the role of the frequency coordinator is to assign channels in such a way as to meet the Commission’s minimum co-channel separation distances so as to avoid harmful interference between co-channel users. The system of private frequency

coordination has worked well, and the frequencies are heavily used by all sorts of private users, many of whom are small businesses.

Because the frequency coordinators have been adept at shoehorning in additional users over the years, the private land mobile radio spectrum is saturated with users. The assignment methodology permits users who have no need for area licenses to operate their systems at specific locations, and the process of making frequency assignments that meet the minimum separation distances provides for frequency reuse and avoids unused frequencies in geographic areas where there is a demand for the spectrum. In other words, the frequency assignment process has resulted in efficient spectrum use. Converting the spectrum to the “exclusive use” model is not likely to make use of the spectrum more efficient because the spectrum is already heavily used. Such conversion may also leave the private land mobile users who do not need area licenses with no other options for spectrum use.

Could the use of unlicensed frequency-agile devices improve spectrum efficiency? Perhaps, but because of the large number of private land mobile users, the transaction costs of converting these users from site-specific frequency-coordinated systems to frequency-agile devices would be rather high. Many of these users are small businesses and the cost of conversion would be burdensome to them. They have already invested in their equipment, yet a conversion would require them to purchase more expensive equipment that has not yet been proven. Moreover, use of the private land mobile frequencies has been coordinated so that the users do not suffer harmful interference. There is no guarantee that if large numbers of frequency-agile devices are used in the same bands that they will not cause interference to each other. In fact, the *Task Force Report* discusses this very concern when it raises the “tragedy of the commons” concern in Section VII.B.2 at page 40.

If the Commission is to convert the private land mobile bands to the “commons” model, it should be done well in the future – after frequency-agile devices have been tried out in other bands, after their effectiveness has been accepted in the marketplace, after the cost of such devices has become reasonable for the small business user, and after the users have been provided sufficient opportunity to recover their investment in their present equipment.

### **III. Resolution of Interference Conflicts**

In Section VI.C, the *Task Force Report* suggests the development of “a ‘best practices’ handbook – a compendium of available information broadly relating to interference management, which could include for example: current industry guidelines for coordinating spectrum use; steps that could be taken to resolve interference problems; [and] a discussion on how to best use FCC databases and related tools.” *Task Force Report* at 32-33.

PCIA also supports the development of a “best practices” handbook. However, the development of such a handbook should include a mechanism for attempted resolution of interference problems by the private parties, with mediation assistance from third parties such as frequency coordinators if needed. Only if private efforts fail, should interference problems be brought to the Commission for resolution. This approach is discussed in the *Report of the Interference Protection Working Group* issued on November 15, 2002:

Realizing the importance of the efforts of licensees themselves and of third parties to supplement the effectiveness of defined interference limitations and the technical and operational service rules, the Spectrum Policy Task Force raised the question of the desirability of facilitating privately negotiated solutions to interference problems. . . . Many commenters viewed positively efforts by the Commission to support such direct negotiated solutions. . . . Only if such efforts fail should the interference problem be referred to the Commission for resolution. Parties feel that private negotiations will lead, in most cases, to a much faster and more acceptable resolution of interference problems than using the Commission’s regulatory processes.

*Report of the Interference Protection Working Group*, Section VIII.B.4 at 35-36.

Because of their vast experience in coordinating frequency usage so as to avoid harmful interference and their experience in resolving interference problems when they do occur, frequency coordinators such as PCIA are particularly well-equipped to mediate the private resolution of interference problems. For example, the *Report of the Interference Protection Working Group* states:

Increasingly, the FCC has come to depend on the efforts of new and existing licensees and even third parties to make practical systems function together without improperly affecting each other, especially in shared bands. Indeed, the FCC has long depended on the efforts of third parties such as frequency coordinators for certain bands to assist new entrants by selecting appropriate frequencies and locations using detailed and complete data bases of licensee information including the technical specifications and actual locations of the transmitters and receivers. Fixed microwave facilities, private mobile radio services, and satellite earth-stations are examples.

*Report of the Interference Protection Working Group*, Section VIII.B.4 at 35. Therefore, the “best practices” handbook should include a discussion of the role of frequency coordinators such as PCIA so that private parties will know about them and enlist their assistance in the resolution of interference problems.

To facilitate the resolution of interference problems in the unlicensed or “commons” model frequency bands or in the licensed bands where unlicensed devices are permitted on a non-interference basis, it would be useful to know who is using the spectrum so that potential users causing interference can be identified. Although the unlicensed use of spectrum in certain bands is laudatory, to solve this identification problem, PCIA suggests that the Commission establish a private registration process.

When purchasing unlicensed devices, users should be required to register their devices with a frequency coordinator such as PCIA. Registration can be accomplished on line or by ordinary mail. The registration information should include the name, address and other contact

information for the user, the make, model, serial number and FCC equipment registration number of the device, and the intended area of use of the device. Users should be required to update their address and other contact information and their intended area of use if it changes. Each of the frequency coordinators should keep a database of registrations and exchange such database information with the other competing frequency coordinators. Users who believe they are suffering interference problems or licensees who believe they are suffering interference problems from unlicensed devices operating in the licensee's band or adjacent bands can then go to a frequency coordinator as a first step in their efforts to identify the source of and resolve an interference problem.

#### **IV. Conclusion**

Because of the way frequency coordinators such as PCIA assign the private land mobile radio spectrum, the spectrum is heavily used and any conversion to the "exclusive use" model would displace large numbers of users, many of whom are small businesses, without leaving them with other spectrum options. Although it is possible that conversion of private land mobile radio spectrum to the "commons" model utilizing frequency-agile devices may improve spectrum efficiency, such conversion would result in large transaction costs because the users would be required to replace their current equipment with more expensive equipment that has not yet been proven. If such conversion must happen, it should take place well in the future after frequency-agile devices have been accepted in the marketplace, after their cost has become reasonable and after the land mobile radio users have recovered their investment in their legacy equipment.

PCIA supports the establishment of a "best practices" handbook to be used in the resolution of interference problems, but urges the Commission to include a discussion of the role

