

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

In the Matter of)
)
Amendment of Part 90 of the Commission's Rules) WP Docket No. 07-100

**Comments of
The Public Safety Communications Council**

The Public Safety Communications Council (“PSCC”) submits these comments in response to the Commission’s *Sixth Further Notice of Proposed Rulemaking* (“*Sixth Notice*”) in the above captioned proceeding regarding changes to the rules for operation in the 4.9 GHz band. While the PSCC generally supports the proposals of the Commission, the PSCC strongly disagrees with proposals to either remove the band from public safety use or increase sharing with commercial carriers.

The PSCC is a federation of FCC-Certified public safety frequency coordinators. The PSCC cooperatively works with each of the coordinators to develop coordination procedures and to assure that the public safety channels can be utilized with minimal interference between stations. In addition, these coordinators represent all of the various elements of public safety, including, police, fire, emergency medical, forestry conservation, highway, and other governmental entities. The public safety coordinators not only have an understanding of the need of the public safety community, they are part of the public safety community. The following are members of the PSCC:

The American Association of State Highway and Transportation Officials
The Association of Public-Safety Communications Officials-International
The Forestry Conservation Communications Association
The International Municipal Signal Association

Background

In the *Sixth Notice* the Commission addresses virtually all aspects of the licensing and usage rules for the 4.9 GHz band. The Commission suggests that the band is underutilized and states that only 3.5 per cent of potential licensees are using the band.¹ The PSCC believes that this assumption on the part of the Commission is flawed. Unlike the 4.9 GHz band, most land mobile licenses for public safety entities provide for use of specific frequencies within a mobile operations area. Thus, each entity must obtain its own license that is unique to its needs. The licensing method for 4.9 GHz is significantly different.

Generally, each licensee at 4.9 GHz is authorized the entire 50 MHz of spectrum over a defined geographic area, typically the entity's area of jurisdiction.² Often a single entity will license the geographic area and then provide service to other entities within the region. This allows one entity to have control over how the spectrum is utilized in an attempt to prevent interference between users. In the absence of a prior coordination requirement, if each eligible entity in an area obtained an individual license, everyone could use any part of or the entire spectrum without regard to other users. The result would be massive interference. Thus, with the lack of a prior frequency coordination requirement, public safety users of 4.9 GHz do not hold multiple licensees in an area. A

¹ Further Notice at paragraph 1.

² It is recognized that point-to-point licenses are for specific frequency segments and locations. Because of the pencil-like beams of these stations, they can be accommodated relatively easily within a geographically licensed area.

more reasonable assessment of the use of the band would be to determine what percentage of the population is being covered by the current licenses.

Major population centers including New York, Boston, Chicago, Seattle, and other cities are making extensive use of the 4.9 GHz band. The State of Oregon has developed a statewide system of traffic control using 4.9 GHz as the backbone of the system. California uses 4.9 GHz statewide for support of the Intelligent Transportation System to monitor and control traffic flow. The population benefiting from these and other 4.9 GHz operations has no relationship to the number of licenses issued.

Westchester County, New York, and Los Angeles, California are using 4.9 GHz for air-to-ground video. In both locations, other options for video links are totally consumed by broadcasters. Use of 4.9 GHz is widespread and far more significant to the population than the Commission's 3.5 percent usage would suggest. In addition, the PSCC believes that many point-to-point links may be installed without proper licensing. The existing licensing process may have led many to believe that a geographic license permitted installation of fixed links without further authority.

The PSCC believes that it is vitally important that the Commission understand how the band is being used on a daily basis to help protect the lives and property of the citizens of the county. The band is important to public safety and there are no spectrum alternatives for public safety. The Commission should immediately dismiss the notion that the band would be put to a higher and better use by auctioning to the carriers. More spectrum for streaming video movies, video games, and music downloads does nothing to keep Americans safe.

The PSCC will now address the elements of the *Sixth Notice*.

Comments

Band Plan

The PSCC supports the band plan presented by the National Public Safety Telecommunications Council (“NPSTC”). The PSCC agrees with the APCO Report in that 40 MHz aggregation may be appropriate in some cases, but use of narrower bandwidth should be encouraged to maximize sharing opportunities in the spectrum. Use of wider bandwidths should be allowed for in the regional plans for regions desiring use of wider bandwidths.

The PSCC agrees with grandfathering of incumbent licensees contingent upon such licensees updating the Commission’s Universal Licensing System (“ULS”) database to reflect current operations. The PSCC believes this is the correct approach, however, until the ULS database is updated, the Commission should impose a concurrent freeze on acceptance of new applications. The process should be no longer than one year. This is the only way to assure that new stations are not coordinated over existing stations that are not in the ULS. The end result will be a more successful frequency coordination process that minimizes the risk of interference cases.

Aeronautical Mobile and Robotic Use

The PSCC agrees fully with NPSTC’s suggestion to utilize channels 1 – 5 for these purposes as part of the national plan. However, the PSCC would concur with specific regions electing not to so designate channels 1 – 5 for aeronautical and robotic use, as defined in their regional plans. Further, we believe that the certified frequency coordinators should have the authority to coordinate other services on these channels consistent with known uses in a region. Deviations from the national plan by either a

region or a frequency coordinator would not require a waiver of the Commission's Rules and Regulations, but would be permitted by the rule. We also agree with the Commission's proposal to allow use up to 1500 feet above ground, including for unmanned aerial systems ("UAS"). There is no reason to limit UAS use of 4.9 GHz at this time, as proposed in paragraph 19, only to have to modify the rules in the future to allow such use. We believe power limits should be set by the frequency coordinators based on types of antennas being used and areas to be covered. Use of steerable antennas as well as omni-directional antennas should be allowed as part of the coordination process. The proposed 14 dBm per 5 Megahertz is overly restrictive.

Coordination

The PSCC supports frequency coordination of the 4.9 GHz band by the currently FCC-certified public safety coordinators. The public safety coordinators already have direct relationships with the public safety community and are in a much better position than any other coordination body to assure that the needs of the public safety community are met. The members of the PSCC have already begun discussing coordination procedures that could be employed in the future.

The PSCC agrees that the Regional Planning Committees ("RPCs") should be given the opportunity to adjust the national plan in their own regions according to either existing grandfathered uses or new uses that may be unique to a particular region. Once the regional plans have been adopted and approved by the Commission, there should be no further need for RPC involvement in the frequency coordination process. The certified frequency coordinators, armed with the regional plans, can independently

perform the necessary coordination work, including for those stations having a level of -109 dBW/m² (*Sixth Notice*, at paragraph 29).

Database and Existing Licensees

The PSCC agrees with using the Commission's ULS as the official database for 4.9 GHz. We agree with the Commission that the ULS will need some modifications to support more data fields, primarily dealing with antenna parameters and paths. We concur with the one year timeframe to collect the data in the ULS and we do not believe that existing licensees need be required to obtain frequency coordination. As stated above, during this one year period, the Commission should impose a freeze on new applications to prevent coordination over incumbent stations not in the database. After one year, any licensee who failed to enter the information in the ULS would be deemed as non-compliant and thus not protected.

Regional Planning

The PSCC agrees that regions desiring to become involved with 4.9 GHz should be provided an opportunity to update their regional plans in a manner that may be inconsistent with the national plan in a manner consistent with the items listed in paragraph 42 of the *Sixth Notice*. PSCC would allow 180 days for the development of the plans so that all would be approved by the termination of the one year period for incumbent licensees to update the ULS and the new application freeze. As previously stated, the actual frequency coordination does not need to involve the regional planning committees, as the frequency coordinator can coordinate consistent with the regional plans. Any region not adopting a new plan would be deemed to have agreed to the national plan.

Point-to-Point and Point-to-Multipoint

The PSCC believes that all point-to-point and point-to-multipoint links should be individually coordinated and licensed. New links should not be routinely authorized on channels 1 – 5 and current link licensees in those channels should be encouraged to relocate to another portion of the band, unless the specific regional plan does not support aeronautical and robotic use of channels. As previously stated, the PSCC believes the certified frequency coordinators should be able to coordinate other service in channels 1 – 5 consistent with known uses in a region.

Short-term link operation should be permitted on other channels under an area license, but such duration should be limited to 30 days and coordinators should be notified of such operations prior to commencement of service. Any operation over 30 days should be by Special Temporary Authority or by permanent licensing.

Power Limits

The PSCC agrees with the antenna parameters proposed by the Commission with regard to gain, beamwidth, and front-to-back ratio. EIRP limits should be based on the path length. The frequency coordination committees should be able to set the appropriate power for a given path without having a maximum EIRP specified in the Rules and Regulations. The key element for power is a determination that the authorized power permits reliable communications without use of excessive power. The frequency coordinating committees and RPCs can make such determinations on a case-by-case basis.

Polarization

Polarization can be a powerful tool to maximize spectrum usage and minimize interference. As with power, this is an item that can easily be handled by the frequency coordinators. Regional plan may specify polarization, but in the end, frequency coordination of the individual stations is the best method to be used.

Deployment Reports, Construction Deadlines

PSCC agrees with the Commission's proposed 12 month construction period. Construction should be documented in the ULS, just like for any land mobile station, but separate construction reports should not be required. Stations taken out of operation for 12 months or more should result in automatic termination of the license, again being consistent with today's land mobile requirements.

Eligibility, Shared Use, and Other Alternatives

Extending Eligibility to CII

The PSCC fully concurs with allowing CII entities into the band consistent with the NPSTC proposal. All shared use should be coordinated only by the FCC-certified public safety coordinators. These coordinators have an internal process that allow each coordinator to review each other coordinator's work before applications are submitted to the Commission. Business/Industrial and independent coordinators are not privy to this process. The process has been highly successful in land mobile coordination and helps assure that mutually exclusive coordinations do not reach the Commission.

We disagree with the Enterprise Wireless Alliance ("EWA") and the Alarm Industry Communications Committee ("AICC") that non-public safety and non-CII entities should either given access to the band at all or certainly not on a primary basis.

The PSCC would find it acceptable if such entities were to operate under the license and control of an eligible public safety entity. There are times that such sharing might enhance recovery and restoration efforts after a disaster. The PSCC, while fully supporting CII use of the band, does not believe that routine services, such as meter reading, should be allowed in the band.

Leasing

Public Safety licensees should have the ability to lease their spectrum to other public safety, CII, or business entities to the extent that such operations are in support of public safety communications. Public Safety has never looked to make a profit from spectrum like the commercial carriers and to some extent the Business/Industrial licensees. Public safety spectrum is utilized for the protection of life and property. Anything, such as leasing, that furthers that goal should be permitted, but the band should not be used for backhaul of Specialized Mobile Radio (“SMR”), Business/Industrial radio, or commercial carriers for general communications. There are other microwave bands available for such services. We do not believe that leasing of the band for general use would be in the public interest.

Two-Tiered Sharing on a Secondary Basis

The PSCC does not agree with sharing by commercial users even on a secondary basis. In reality, 50 MHz of spectrum is not that much and is already being heavily utilized in major markets in the country. Even secondary use would have to be coordinated. The Commission asks about automated coordination using digital identification and geo-locations systems. This approach adds unnecessary complexities that will be costly and likely inefficient. Real time automated frequency coordination

would require spectrum overhead to carry the request and control signals. It would require maintenance of a central database that would need to be funded on an on-going basis. The PSCC does not agree that the primary cost of such a system would not rest with public safety. Even the public safety equipment would have to be compliant with the automated coordination equipment, potentially raising the cost of such equipment. Public safety communications can also not be dependent on receipt of an “authority to transmit” message. Public safety equipment must be designed to operate at all times, independent of a master controller with some added degree of latency.

The PSCC sees the complexity of such an automated system, or even a coordination process by coordination committees, as being burdensome and not in the public interest. 4.9 GHz can provide a needed communication medium for public safety communications absent any secondary use by currently non-eligible entities.

Redesignation of the Band

PSCC addressed this issue in the preamble to these comments. Public Safety needs the 4.9 GHz band currently and will have even more need for the band with the improvements in licensing that can come about through this rule making. 4.9 GHz is not at all equivalent to the Citizens Broadband Radio Service (“CBRS”) or the AWS. Those services do not carry critical, real time, public safety data. Those services may provide highly desired services to the general public, but the general public is not responsible for maintenance of public safety and security. In a terrorist attack, no one would reasonably consider using the CBRS or AWS to get critical data to first responders, but operations on 4.9 GHz would be expected to support such needs. Considering unlicensed use of the

band would potential create unacceptable interference to critical public safety communications.

The Commission has had extensive experience with essentially uncontrolled use of the spectrum causing interference to authorized services. For example, RF heat sealing machines have caused interference to critical air traffic communications. LED light bulbs have caused interference to land mobile and cellular communications. Cable television systems have interfered with aircraft communications and navigation signals. Enhanced SMR systems causing interference to public safety communications necessitated an entire reconfiguration of the 800 MHz land mobile band. Why would the Commission even consider knowingly creating another instance of intolerable interference?

We urge the Commission to dismiss the thought of greater sharing of the band with non-compatible uses and further to dismiss the notion that public safety is not using 4.9 GHz and does not need 4.9 GHz. No other band supports the uses that public safety has now or will have in the future. As previously stated, more spectrum for commercial video streaming should not supersede the needs of public safety.

Conclusion

The PSCC appreciates the Commission's interest in making the 4.9 GHz band more useful to public safety. We believe that the NPSTC proposal forms a great basis for enhancement of public safety use of the band and opens the door for CII operations in an appropriately limited fashion. We urge the Commission to continue to allocate this band for public safety use with perhaps additional sharing under the direct control of a public

safety licensee. The PSCC does not support further opening of licensing eligibility or reallocation of the band to commercial carriers.

Respectfully submitted,

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