

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

In the Matter of)
)
An Allocation of Spectrum for the) **RM-9267**
Private Mobile Radio Services)

To: The Commission

**REPLY COMMENTS OF THE AMERICAN RADIO RELAY LEAGUE, INC.
IN RESPONSE TO PETITION FOR RULE MAKING**

SUMMARY

The American Radio Relay League, Incorporated (the League), the national association of Amateur Radio operators in the United States, submits its reply to comments on the Petition for Rule Making (the petition), filed on or about April 22, 1998 by the Land Mobile Communications Council (LMCC).

The majority of the more than 300 comments filed in response to the petition were submitted by Amateur Radio operators, noting the impossibility of any sharing of the 420-430 MHz or 440-450 MHz bands with Private Mobile Radio Service (PMRS) licensees. Those comments establish that the LMCC proposal for a PMRS allocation in the 420-450 MHz segment was ill-conceived. The record reveals that the 420-450 MHz band is among the two most heavily-used amateur allocations, and, while compatible with United States government use of the band, amateur use thereof is incompatible with a PMRS allocation.

The comments contain no support for the 420-450 MHz allocation proposal. Those comments supportive of the LMCC petition speak in general terms, and make no assertion that the 420-450 MHz band is in any way suitable for the proposed use, or that such use is compatible with incumbent users, including the Federal government and the Amateur Service.

Finally, the comments of the National Telecommunications and Information Administration (NTIA) were clearly protective of Federal government use of the 420-450 MHz band, and that of the Amateur Service. Those comments should be deemed determinative by the Commission.

The results of land mobile refarming should be evaluated in due course, to determine the economies of frequency reuse resulting from the Commission's recent regulatory actions. As well, the impact of newly available CMRS service providers on PMRS should be evaluated at the proper time in the future. However, the record supports the League's firm position that any specific allocation for PMRS at this point appears premature, and in any case, the 420-450 MHz allocation proposal of LMCC cannot be considered at all. The League calls on LMCC and its members to withdraw that portion of its petition by amendment.

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The American Radio Relay League, Incorporated (the League), the national association of Amateur Radio operators in the United States, by counsel and pursuant to Section 1.405 of the Commission's Rules (47 C.F.R. §1.405), hereby respectfully submits its reply to comments on the Petition for Rule Making (the Petition), filed on or about April 22, 1998 by the Land Mobile Communications Council (LMCC). The reply comment period was extended to and including July 16, 1998 by the Commission's *Order*, released June 11, 1998 (DA98-1103) and therefore these reply comments are timely filed. For its reply comments, the League states as follows:

I. Introduction

1. There was a large volume of comments filed in response to the LMCC Petition. The vast majority of the more than 300 comments were submitted by Amateur Radio operators, noting the impossibility of any sharing of the 420-430 MHz or 440-450 MHz bands with Private Mobile Radio Service (PMRS) licensees. Those comments establish beyond any reasonable doubt that the LMCC proposal for a PMRS allocation in the 420-450 MHz segment was ill-conceived. The amateur comments further establish an extremely large user base, and exceptionally large investments in embedded equipment for the band. The record

reveals that the 420-450 MHz band is among the two most heavily-used amateur allocations, and, while compatible with United States government use of the band, amateur use thereof is incompatible with a PMRS allocation.

2. Moreover, the comments reveal a virtually complete absence of support for the 420-450 MHz allocation proposal in particular. Those comments supportive of the LMCC petition speak in general terms, and make no assertion that the 420-450 MHz band is in any way suitable for the proposed use, or that such use is compatible with incumbent users, including the Federal government and the Amateur Service.

3. Finally, the comments of the National Telecommunications and Information Administration (NTIA) were clearly protective of its own use of the 420-450 MHz band, and that of the Amateur Service as well. Those comments should be deemed determinative by the Commission. Even if they are not, the comments from land mobile entities contain no justification for any 420-450 MHz allocation. In fact, one notable member of LMCC stated its support of the remainder of the LMCC petition, but specifically disclaimed any support for the LMCC 420-450 MHz allocation proposal.

4. The League stated in its comments that it has no quarrel with the LMCC proposal, to the extent that it seeks to commence a dialog with the Commission, perhaps in the context of a Notice of Inquiry, regarding PMRS allocation needs in general. Indeed, the results of land mobile refarming should be evaluated in due course, to determine the economies of frequency reuse resulting from the Commission's recent regulatory actions. As well, the impact of newly available CMRS service providers on PMRS should be evaluated at the proper time in the future. However, the record supports the League's firm position that any specific allocation for PMRS at this point appears premature, and in any case, the 420-450 MHz allocation proposal

of LMCC cannot be considered at all. The League now calls on LMCC and its members to withdraw that portion of its petition by amendment, thus to focus the Commission's attention on the portions of its proposal which might have more merit.

II. The Comments of NTIA Relative to a 420-450 MHz PMRS Allocation are Determinative in this Proceeding

5. Perhaps the most notable of any of the comments in this proceeding were those filed June 5, 1998 by the NTIA, over the signature of Mr. William Hatch, its Associate Administrator, Office of Spectrum Management. The Comments bear extensive quotation, as the position of NTIA in this context is clearly dispositive of LMCC's 420-450 MHz allocation proposal:

420-450 MHz The LMCC has requested that the 420-430 MHz and 440-450 MHz portions of the 420-450 MHz band be reallocated to Private Mobile Radio Service (PMRS) use. The 420-450 MHz band is used by the Federal Government not only for the PAVE PAWS system as noted in the petition, but also for high-powered airborne search radars used by the military, the U.S. Coast Guard, and other Federal agencies. These airborne radars have no operational boundaries, and may overfly any part of the United States as operational necessity dictates. Outside of military use, the aircraft are used for maritime search and rescue, and drug interdiction. Operation of these radars are incompatible with mobile use within the aircraft's radio horizon. The Navy also uses shipborne radars in this band, which may be operated along coastal areas of the United States. The military operates electronic warfare (EW) systems in this band for tactical and training operations; and high-power command/destroy, flight termination, and drone control systems are being deployed in this band at selected military facilities.

The LMCC further suggests that the NOAA Wind Profiler Radar (WPR) operations at 448-450 MHz be "discouraged". It should be noted that these WPR's are not experimental at this frequency, but operational. This frequency was selected by NTIA after careful analysis of the interference problems associated with WPR operation in the 404 MHz band, electromagnetic compatibility at 448-450 MHz, and the necessity to operate in the 400 MHz range due to optimal data recovery at selected atmospheric altitudes. NTIA, recognizing the amateur service operations in the band could be affected, consulted extensively with the amateur community and developed coordination

procedures before allowing WPR operations on this frequency. Plans for deploying an extensive WPR network on the 449 MHz frequency are proceeding.

Although the amateur service is under the purview of the Commission, the Federal Government supports the amateur service operation in the 440 MHz band and other bands as an important adjunct to the National Communications System and the National Weather Service, and with general recognition of the valuable public service performed by amateur radio operators nation wide. Amateur radio operations share well with the radiolocation service on a secondary basis since radar produced interference caused to the amateur service generally can be tolerated, and restrictions are in place to preclude interference from amateur radios to Federal operations in the band. Noting the critical Federal operations in the 420-450 MHz band, it is inappropriate to consider any reallocation of this band.

NTIA Comments, at 1-2.

6. In summary, NTIA was supportive of improved management of existing PMRS spectrum. It indicated that there may be sharing possibilities in bands identified for reallocation pursuant to the Omnibus Budget Reconciliation Act of 1993 (OBRA-93). However, NTIA opposed a further reallocation of spectrum to non-Federal uses, particularly in certain bands, including 420-450 MHz. Because of NTIA's firm position, and the Government allocation at 420-450 MHz, these comments should be sufficient, alone, to cause the Commission to dispose of this portion of the LMCC Petition without further consideration. It should also be sufficient to cause LMCC to withdraw this portion of its Petition immediately.

7. NTIA's served agencies responded similarly, and NTIA's comments included copies of those responses. Among those responses were those of the Department of Defense, which stated that the MILDEP IRAC members "strongly oppose" allocation of bands including 420-430 MHz and 440-450 MHz for PMRS operations, due to the "variety of modulations, high radiated powers and extensive geographic use by EW systems" which would cause extensive interference to PMRS operations. In summary, the Department stated: "The very high transmit

powers and extensive deployment of DoD systems in the 420-450 MHz band would likely cause interference to PMRS operations and preclude shared use within PMRS."

8. The Department of Justice responded similarly, stating that it is "adamantly opposed" to the transfer of any additional federal spectrum. Furthermore, it was noted, there should be no allocation for PMRS use until a substantial amount of spectrum is allocated for public safety use in accordance with the Final Report of the Public Safety Wireless Advisory Committee (PSWAC). NASA also opposed the allocation, stating that it uses this band for critical safety of property, balloon payload separation and telecommand destruct for flight termination activities. NASA and DoD have joint space launch facilities in California, Virginia, and Florida, which require a 12,000 km protection zone. Finally, NASA notes that there are future plans for Spaceborne Active Remote Sensors in the 400-500 MHz band, and 420-450 MHz is a candidate for this use. Therefore, both NASA and the National Science Foundation oppose the proposed reallocation.

9. Given the unanimous, strenuous opposition of NTIA and its served agencies relative to the 420-450 MHz band allocation proposal of LMCC, the Commission should immediately dismiss at least that portion of the LMCC Petition, if it is not withdrawn by LMCC prior thereto, by amendment of its petition.

III. PMRS Entities Oppose the 420-450 MHz Allocation Proposal

10. The LMCC Petition, at page 2, claims that LMCC acts with the "consensus and on the behalf of the vast majority of public safety, business, industrial, private, common carrier, and land transportation radio users" as well as service providers and equipment manufacturers. It lists its membership as including the Association of Public Safety Communications Officials-International, Inc. (APCO). Its petition, however, relative at least to the proposed 420-450

MHz allocation, is not part of that consensus. The comments of APCO in this proceeding relative to 420-450 MHz are as follows:

One of the many spectrum bands that LMCC recommends for possible reallocation is the 420-450 MHz band, portions of which are available for amateur use on a secondary basis. There is a long history of cooperation between public safety agencies and the amateur radio community, especially in coordinating disaster relief and other emergency efforts. Amateur radio operations on 420-450 MHz often provide the most effective and reliable on-scene and wide-area communications in the immediate aftermath of a major emergency such as an earthquake or hurricane. Adding substantial numbers of new non-Federal primary users on the 420-450 MHz band, as proposed by LMCC, would significantly reduce the availability of that spectrum for amateur radio operations in emergency situations. Therefore, notwithstanding its general support for other aspects of the LMCC petition, APCO strongly opposes any reallocation of the 420-450 MHz band.

11. Other public safety agencies note the same opposition. The Emergency Management Division of Washtenaw County, Michigan voiced the same objection, but explained in particular why the 420-450 MHz band is of extreme importance in emergency and disaster relief communications. Of particular note is the use of the band simultaneously with amateur VHF communications, which allows the linking of emergency communications volunteers and other county emergency operations centers, National Weather Service Forecast Offices, and others. The availability of amateur 420-450 MHz equipment and volunteers makes inter-county and inter-agency amateur communications consistent and reliable. The comments of the Emergency Management and Communication Agency of Sarpy County, Nebraska note the value of amateur communications, in voice, data and television emissions, to public service communications in the County. Due to reduced Federal and State financial and technical assistance to local governments, the use of amateur radio is critical to severe weather watches, disaster response and recovery operations, including damage assessment video, and cannot be

provided otherwise. In closing, the Deputy Director states that RM-9267 is "a very bad idea -- please do not adopt it."

IV. Other PMRS Entities Make No Mention of 420-450 MHz

12. Other PMRS entities that filed comments made no specific mention of the 420-450 MHz proposal of LMCC. This of necessity shows that LMCC members have no justification for the proposed allocation, and as noted in the League's comments, the LMCC petition contains none. In fact, some LMCC members indicate an absence of support for some of the specific proposed allocations, without specifying which, or why. The comments of the Personal Communications Industry Association (PCIA) for example, state, at 3:

As part of its Petition, the LMCC has identified several possible target spectrum bands. PCIA does not necessarily support each of the identified bands as appropriate for the requested relief. However, PCIA believes that the LMCC Petition presents a good starting point for discussion and research into ultimately determining a proper, future home for next generation business communications.

A footnote indicates that PCIA does not support the reallocation of the targeted aeronautical band. Other comments, such as those of Motorola, Utilities Telecommunications Council, Mobilecomm, Industrial Telecommunications Association, American Petroleum Institute, Dataradio, Sierra Electronics, and First Communications state general support of the LMCC petition without specifying any justification for any particular allocation, or even mentioning any of the specific allocations.

13. Indeed, the PMRS entities that filed supportive comments are unclear as to what relief they actually want from this proceeding. The above quote from PCIA would indicate that what is called for is not any specific allocation proposal from the Commission, but rather a wide-ranging inquiry proceeding addressing the issue of PMRS allocation needs generally. As

stated hereinabove, the League would not oppose such a proceeding, if it did not include discussion of any specific allocations. "Discussion and research", as PCIA put it, is, during the refarming transition and awaiting the deployment of CMRS facilities that might substitute for additional PMRS allocations, entirely appropriate. A notice of inquiry is suggested also in the comments filed by the American Association of State Highway and Transportation Officials (AASHTO):

AASHTO recognizes the need for additional spectrum for the multitude of private radio service users as detailed in the captioned petition. We recommend that the Commission issue a Notice of Inquiry to address the issues raised in the petition. This will allow the record in this matter to be complete and for the Commission to act with the full benefit of the input from all interested parties.

AASHTO Comments, at 3.

14. Other comments, however, seemed to suggest a Notice of Proposed Rule Making. The comments of Forest Industries Telecommunications (FIT), though they make no mention of 420-450 MHz, and do not themselves offer any justification for the proposed allocation in that band, require response. They state, in part, however, as follows:

FIT supports the proposals in the petition. They are well thought out, fully documented (sic) and would provide reasonable solutions to some of the requirements for private (internal) wireless communications requirements (sic) in the foreseeable future. Those requirements are well documented and supported in the petition.

FIT Comments, at 1.

The League cannot find anywhere in the four corners of the LMCC Petition that a PMRS allocation at 420-450 MHz has been "fully documented". In fact, there is no documentation in the petition justifying a PMRS allocation in that band, as the League's comments note. What is offered instead by LMCC is rank speculation about the possible reduction in Federal

government uses of the band. That speculation has been shown in the comments to be false. The petition makes some representations concerning amateur uses of the band. Those have been proven incorrect in all material respects as well by the record in this proceeding. The point is that no representative of PMRS interests has made any case whatsoever for the proposed allocation, and the record that has been developed shows that there is *no* compatibility between incumbent Federal and amateur facilities and new PMRS facilities. In fact, there is none.

15. As mentioned in the League's comments in this proceeding, the League would like to understand the LMCC petition as a means of commencing a dialog with the Commission about PMRS spectrum needs. That dialog should be conducted. It was and remains inappropriate, however, to suggest any spectrum reallocation, even of the bands made available by the NTIA under OBRA-93, unless and until other, broader questions concerning spectrum efficiency and alternatives to additional PMRS allocations are answered first. The record in this proceeding justifies no other relief.

**V. Amateur Comments are Consistent and Offer Substantial
And Compelling Justification for No Change at 420-450 MHz**

15. The substantial numbers of comments of individual radio amateurs and amateur groups offer unanimous opposition to the portion of the LMCC Petition relating to the 420-450 MHz band. They note the wide variety of amateur communications which take place in the band; the inability of these uses to be consolidated in the 430-440 MHz segment; the fact that there are more than six thousand carefully coordinated amateur repeaters in the band and hundreds of thousands of transceivers in regular, daily use in fixed, mobile and portable configurations; the need to retain existing spectrum for now-operational, fixed point-to-point

links, existing full-motion video, amateur television repeaters, and high-speed data applications; and the incompatibility of these facilities with PMRS operation.

16. Many of the amateur comments note that the 420-450 MHz band, while providing a wide variety of communications, is most critical for emergency and public service communications. According to Richard S. Moseson:

The 70-centimeter band is home not only to more than 6500 repeaters, or automatic relay stations that greatly expand a user's mobile coverage area, but also to countless auxiliary "link" stations used for remote control of 2-meter repeaters, cross-linking between repeaters in a linked network, etc. In addition, digital "packet radio" backbone links (long-haul system-to-system connections) are often found on 70 centimeters. It is fair to say that much of the nationwide network of amateur radio repeaters (including many 2-meter repeaters) -- both voice and digital -- is so highly dependent on access to the 70-centimeter band that removing this allocation from the amateur service will cripple its ability to provide reliable emergency and public service communications -- one of its primary reasons for existence.

Comments of Richard Moseson, at 5.

Indeed, the League noted that the 420-450 MHz allocation is at least the second most heavily-used amateur allocation, and certainly the fastest-growing band in terms of new uses and users. It is untenable that an incompatible sharing partner should be considered for this band, regardless of the compatibility of PMRS with Federal uses. In this case, LMCC should not have proposed the allocation at 420-450 MHz, as it detracted from what apparently is the real intent of the proceeding. LMCC should pursue other avenues that have some reasonable promise if it intends to seek specific allocations at the present time at all.

VI. Conclusions

17. The comments filed in this proceeding show some support generally for additional PMRS allocations, though they fail utterly to justify a 420-450 MHz allocation. The League continues to believe that any consideration of specific allocations for PMRS is at present

premature. It is true that the Commission has focused its attention substantially on CMRS providers in recent allocations decisions. This attention is related to the Commission's apparent belief that CMRS facilities can be substituted in large measure for PMRS facilities. Thus far, the marketplace has borne out this view, when one considers the consolidation that has occurred recently in the 800 MHz SMR industry, and in view of the proliferation of business and industrial use of cellular and PCS services. This phenomenon has by no means reached its zenith. While the comments in this proceeding attempt to argue that CMRS services are not a reasonable substitute for additional PMRS allocations, the truth of the matter is not, and cannot at this time be, evaluated.

18. At the same time, even if one assumes that PMRS facilities will in the long term proliferate notwithstanding a plethora of CMRS service providers, it is impossible to judge the extent of any spectrum shortfall in PMRS allocations now. The Commission has implemented by its Refarming proceedings an efficiency reform that is by definition, and by intention, slow to be realized. The real test of the inadequacy of PMRS allocations will occur in several years, after the effects of Refarming and of the implementation of new CMRS facilities are known.

19. Even if one is to disregard these two critical factors in addressing the LMCC Petition, and conclude that some additional allocations are justified for PMRS now, the 420-450 MHz allocation is simply impossible. The NTIA has made that absolutely clear, and national security and other strong Federal interests preclude any PMRS sharing of the band. At pages 21 to 28 of the LMCC petition, the specific needs of PMRS spectrum are identified by LMCC. These include immediate, priority access to channels; control over the communications network; sufficient capacity, even during peak periods; reliability of communications; wide-area geographic availability of channels; and equipment requirements. Of these requirements for

PMRS spectrum, none are fulfilled in the 420-450 MHz band. As is patently obvious from the NTIA comments and those of its served agencies, the Federal government has priority needs for that band which offer PMRS users no immediacy or priority of access to the channels; there is no sufficiency of capacity or reliability available to PMRS users in this band due to the unpredictable nature of Federal airborne radars and other uses; there is no wide-area geographic availability of channels due to geographic limitations imposed by Federal government uses; and there is absolutely no control over the communications network for those same reasons. The basic goal of LMCC in this proceeding, based on its own spectrum needs evaluation, is frustrated by an ill-conceived choice of frequencies.

20. Finally, the comments reveal the urgent need of the Amateur Service to maintain its allocation in this band without the addition of an incompatible mobile user. Amateurs are uniquely able to share spectrum in the band with Government users, a capacity not found in PMRS operation. For the above reasons, the League calls upon the LMCC to withdraw the proposed 420-450 MHz band forthwith from its petition, and to pursue the more meritorious portions thereof. Alternatively, the League requests that the portions of the petition dealing with the 420-450 MHz band be deemed plainly not deserving of further consideration, and dismissed forthwith by the Commission.

Therefore, the foregoing considered, and as indicated herein, the American Radio Relay League, Incorporated respectfully requests that the Petition for Rule Making, at least in part, be denied or dismissed.

Respectfully submitted,

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