

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

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

**COMMENTS  
OF THE  
LAND MOBILE COMMUNICATIONS COUNCIL**

Respectfully submitted,

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## **EXECUTIVE SUMMARY**

The Land Mobile Communications Council (“LMCC”) is pleased to submit its comments in response to the FCC inquiry into proposals that will clarify and, in certain instances, correct the Part 90 rules under which most users represented by LMCC member organizations are regulated.

LMCC generally supports the miscellaneous proposals set out in the Notice of Proposed Rulemaking. Specifically, because the frequency advisory committees that constitute the LMCC membership take as their predicate that only applications with the potential to impact other licensees require coordination, LMCC urges the Commission to permit conversion of license status between CMRS and PLMRS under certain circumstances, but not under others where an impact on other entities can be anticipated, as described more fully herein. Similarly, LMCC agrees that modifying a license to a narrower bandwidth on the same center channel should not require coordination, but cautions the FCC about permitting applicants to edit that section of an authorization directly in ULS unless the FCC first adopts appropriate protections to ensure that no other changes are permitted.

In its Comments, LMCC also adopts the following positions:

- recommends that the FCC not modify its rules regarding paging on public safety VHF frequencies;
- supports the proposed clarification of cross-banding authority;
- endorses the FCC’s interpretation of the point at which subsequent applications may be coordinated for frequencies associated with expired licenses;
- urges the FCC to retain the multiple licensing option;
- proposes that the relevant governmental authority hold the authorization for privately-operated transit systems and toll roads;

- suggests certain provisions with respect to commercial-like activities conducted by governmental entities on Industrial/Business Pool spectrum;
- proposes that the rules governing protection of AM broadcast antenna patterns be addressed in Part 17 of the FCC rules;
- endorses the proposal not to issue any additional FB8T authorizations and urges the FCC to supersede any such licenses already issued; and
- opposes the proposed reorganization of Part 90.

With respect to the 4.9 GHz band, LMCC supports the proposition that fixed links deployed in support of an area-wide broadband system be considered primary and that any station that operates with an EIRP of equal to or less than that permitted utilizing maximum permitted transmitter power and a 9 dBi antenna should be considered primary under all circumstances. Conversely, links used as traditional backhaul for other services should be secondary.

LMCC herein reiterates its request that the FCC not permit secondary medical telemetry operations on the non-medical telemetry portion of the 1427-1432 MHz band. It also urges the FCC to require ASHE to notify other Part 90 coordinators using the same EBF format utilized by and among those coordinators.

Finally, as detailed herein, LMCC urges the Commission to modify Rule Section 90.187 to facilitate the introduction of advanced, highly efficient technologies into a heavily encumbered, largely shared radio environment. The rule changes proposed by LMCC are intended to promote the deployment of those technologies without causing interference to the operations of incumbent users.

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The Land Mobile Communications Council (“LMCC”), pursuant to Section 1.415 of the Federal Communication Commission (“FCC” or “Commission”) Rules and Regulations, 47 C.F.R. § 1.415, hereby respectfully submits its Comments in the above-captioned proceeding.<sup>1</sup>

**I. INTRODUCTION**

LMCC is a non-profit association of organizations representing virtually all users of land mobile radio systems, providers of land mobile services, and manufacturers of land mobile radio equipment. LMCC acts with the consensus, and on behalf, of the vast majority of public safety, business, industrial, transportation and private commercial radio users, as well as a diversity of land mobile service providers and equipment manufacturers. Membership includes the following organizations:

- American Association of State Highway and Transportation Officials (AASHTO)
- American Automobile Association (AAA)
- American Petroleum Institute (API)
- Association of American Railroads (AAR)
- Association of Fish and Wildlife Agencies (AFWA)
- Association of Public-Safety Communications Officials-International, Inc. (APCO)
- Aviation Spectrum Resources, Inc. (ASRI)

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<sup>1</sup> *Notice of Proposed Rulemaking and Order*, WP Docket No. 07-100, 22 FCC Rcd 9595 (May 14, 2007) (“*NPRM*” or “*Notice*”).

- Central Station Alarm Association (CSAA)
- Enterprise Wireless Alliance (EWA)
- Forest Industries Telecommunications (FIT)
- Forestry-Conservation Communications Association (FCCA)
- Intelligent Transportation Society of America, Inc. (ITSA)
- International Association of Fire Chiefs (IAFC)
- International Municipal Signal Association (IMSA)
- MRFAC, Inc. (MRFAC)
- National Association of State Foresters (NASF)
- PCIA – The Wireless Infrastructure Association (PCIA)
- Telecommunications Industry Association (TIA)
- Utilities Telecom Council (UTC)

The individual members of these constituent organizations collectively represent a very significant portion of the FCC’s Part 90 licensees. Thus, LMCC and its members have a direct interest in the instant FCC proposal to amend certain Part 90 rules so as to facilitate new wireless technologies, devices and services, and to provide rules that are readily understood by the public.<sup>2</sup>

## II. COMMENTS

### A. MISCELLANEOUS PROPOSALS

#### 1. Frequency Coordination and Related Matters:

LMCC, an organization comprised of every active FCC-approved Part 90 Frequency Advisory Committee, has a keen interest in matters that relate to the FCC’s frequency coordination processes and coordination requirements for Part 90 applicants. LMCC takes as a fundamental predicate that only such applications that have the potential to impact other licensees should require frequency coordination. Therefore, LMCC concurs that modification applications, the grant of which cannot have such an effect, should be classified as minor modifications that do not require coordination and that can be implemented without prior FCC approval.

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<sup>2</sup> *NPRM* at ¶ 2.

a) CMRS/PMRS Conversion

The *NPRM* states that, pursuant to Section 90.621(e)(2)(3), licensees are permitted to modify their licenses to convert from Commercial Mobile Radio Service (“CMRS”) to Private Land Mobile Radio (“PLMR”) status and vice versa.<sup>3</sup> The FCC has proposed to eliminate the frequency coordination requirement for such conversions on the basis that coordinators do not recommend those changes and the data can be captured after the fact in the Universal Licensing System (“ULS”) database.

LMCC shares the FCC’s desire to minimize licensing burdens on applicants and agrees, in part, with the proposal in the *NPRM*. However, the regulatory landscape is more complex than suggested in the *Notice* and, in the opinion of LMCC, requires a more nuanced approach to this issue.

The rule cited by the FCC does permit the conversion of systems in the 800/900 MHz bands from commercial to non-commercial status. However, there is a critical distinction in the Part 90 services between two types of commercial systems: those that are interconnected with the public switched network (“PSN”) and are, therefore, classified as CMRS<sup>4</sup>; and those that provide dispatch service on a commercial basis, but that are not interconnected with the PSN and so remain classified as Private Mobile Radio Service (“PMRS”).<sup>5</sup> This delineation applies to all Part 90 bands, not simply the 800/900 MHz bands.

Section 90.621 permits conversion of frequencies from private, internal to commercial Specialized Mobile Radio (“SMR”) service and back again, under specified conditions.<sup>6</sup> That

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<sup>3</sup> *NPRM* at ¶ 3.

<sup>4</sup> See 47 U.S.C. §332.

<sup>5</sup> The term used in the *NPRM*, PLMR, does not carry any of these regulatory/licensing/operational distinctions, but encompasses all non-fixed Part 90 facilities.

<sup>6</sup> It is not clear to LMCC that conversion from private internal to commercial, non-interconnected status, by itself, requires coordination under FCC Rule Section 90.621. The only reference to a coordination requirement is in subsection (e)(5) which by its terms applies not to “converted” licenses under Section 90.621(e)(2), but to requests

conversion could be either to commercial, non-interconnected PMRS or commercial, interconnected CMRS status. The latter is evidenced by adding the letter “C” after the station class designator. Moreover, in some instances, the frequencies being converted may be assigned to the applicant on an exclusive basis, while, in others, the frequencies may be shared with additional licensees in the same geographic area.

In the bands below 800 MHz, licensees also are permitted to modify their licenses to change from private, internal or non-interconnected PMRS status to CMRS by changing their station class and adding a “C” to it. For the most part, the frequencies in these bands are shared, whether or not the licensee offers a commercial service and whether or not the system is interconnected, although the rules do permit a level of exclusivity under certain conditions.

From a coordination perspective, there are two significant elements in determining whether coordination should be required for these conversions. First, a licensee that already has exclusive use of its spectrum in any band, not simply 800/900 MHz, should be permitted to convert to or from CMRS status, that is to add or delete PSN interconnection capability, without prior coordination since, by definition, the operations of a licensee with an exclusive operating area are deemed not to impact other entities.

Similarly, a licensee that wishes to convert from CMRS to PMRS status by deleting interconnection should be permitted to do so without securing coordination. Eliminating the ability to interconnect with the PSN cannot have an adverse impact on other entities, even if the frequencies at issue are shared by multiple licensees.

Conversely, however, LMCC urges the FCC to retain the requirement for prior coordination when the proposal is to modify a non-exclusive Part 90 license to add

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for inter-category sharing. However, as detailed herein, a modification to add or delete interconnection capability requires a modification of the license station class and, thus, coordination as a major modification in accordance with general FCC Rule Section 1.929(c)(4)(vi).

interconnection. The coordination requirement should be retained whether the proposed modification is of a private internal system that will retain its PMRS classification or a commercial system that, by adding interconnection capability, will be converting from the PMRS to CMRS category. The ability of system users to talk to positions within the PSN, as opposed to communications with a dispatcher or other units in the same fleet, typically results in much higher levels of airtime usage on a channel. While that is not an issue when the licensee has an exclusive operating area, it can effectively nullify the availability of a shared frequency for co-channel operations. For these reasons, LMCC strongly urges the FCC to retain the requirement for prior coordination in any instance where the channel in question is not subject to exclusive use.

Additionally, LMCC recommends that the FCC modify its rules to permit PLMR licensees as well as those classified as PMRS or CMRS telecommunications carriers to effectuate *pro forma* license assignments and transfers of control without prior FCC approval, but with a subsequent notification filing.<sup>7</sup> LMCC is unaware of any policy rationale that would support a different approach for these two licensee categories in this very limited situation. While PLMR assignments routinely are granted promptly since the advent of electronic filing, the rules governing telecommunications carriers provide even greater licensee flexibility. Regulatory parity favors granting PLMR licensees equivalent flexibility.

b) Modification of Authorized Bandwidth

The NPRM questions whether coordination should be required when a license is modified to reduce the authorized bandwidth. LMCC recommends that the obligation be eliminated when only a reduction in bandwidth is being requested without a change in emission type.

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<sup>7</sup> See 47 C.F.R § 1.948.

The FCC has adopted rules requiring all Part 90 licensees operating in the 150-174 MHz and 421-512 MHz bands to migrate to 12.5 kHz technology, or a technology that achieves the narrowband equivalent of one channel per 12.5 kHz of channel bandwidth (voice) or 4800 bits per second per 6.25 kHz (data), by January 1, 2013.<sup>8</sup> The industry already has heeded that FCC directive and many licensees have begun the process of migrating to narrower bandwidth equipment. All licensees within those categories will need to do so by the date specified, thereby triggering the submission of a significant number of applications for this purpose only.

Consistent with the predicate identified above, LMCC would concur with the concept that the FCC not require coordination for license modifications that propose **only** a reduction in bandwidth on the licensee's currently authorized center channel. This would be applicable in the VHF, UHF or 470-512 MHz bands. As a reduction in bandwidth on an existing operating frequency cannot have an adverse impact on co-channel or adjacent channel licensees, there is no need for a coordinator to review such a proposal in advance. However, changing the emission type can have a significant impact. For example, changing from analog FM to digital emissions can change the interference potential of a transmitter. Such changes should continue to be reviewed and certified by a frequency coordinator.

Nonetheless, LMCC must caution the Commission that giving licensees direct access to the "emissions" field in the ULS may result in unintended or unauthorized changes. ULS, at least currently, has no edit procedures to prevent a licensee from changing both bandwidth and emission type. LMCC is concerned that a licensee desiring to switch from analog to digital emission will simply so modify the license, thus bypassing the review procedures of the

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<sup>8</sup> See *Third Memorandum Opinion and Order, Third Further Notice of Proposed Rule Making and Order*, WT Docket No. 99-87, 19 FCC Rcd 25045 at ¶ 2 (2004).

coordinators. If licensees are allowed to modify licenses to reduce bandwidth, the ULS must not allow a change of emission type.

LMCC also cautions the FCC to retain the coordination requirement for modification applications that propose technical changes in addition to a bandwidth reduction, such as proposals to shift the operating frequency at the same time the bandwidth is reduced so as to accommodate multiple operating channels within the authorized bandwidth. Comments filed by LMCC members in response to the FCC's Public Notice with respect to the City of New Haven, Vermont waiver request highlight the importance of ensuring that no other changes are made to the technical parameters of the station that would require coordination.<sup>9</sup> Thus, EWA supported the waiver request on the basis that no other technical changes were proposed, as indicated in the Commission's Public Notice. Comments filed by the Association of Public-Safety Communications Officials-International, Inc. ("APCO") and jointly by the International Association of Fire Chiefs, Inc. ("IAFC") and the International Municipal Signal Association ("IMSA") indicate that the application also proposed to add effective radiated power information to the authorization as well. The APCO and IAFC/IMSA Comments expressed concern that if applicants circumvent the coordination process, whether intentionally or inadvertently, the responsibility for identifying such filings, and returning them for coordination, will fall on the Commission. Of course, the FCC should also have no issue with any applicant that elects to have its application reviewed for completeness and accuracy prior to FCC submission whether or not certification is deemed mandatory in accordance with FCC policies. Often, in the process of reviewing applications from bandwidth reductions, coordinators identify and correct other errors in the ULS database, thus helping to improve the accuracy of the ULS.

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<sup>9</sup> See Public Notice, Public Safety and Homeland Security Bureau Seeks Comment on Request for Waiver Filed by the Town of New Haven, Vermont to Transition to Narrow Bandwidth Emissions without Frequency Coordination, FCC File No. 0002937722, DA 07-3147 (rel. July 11, 2007).

## **2. Paging on Public Safety VHF Frequencies**

The *NPRM* notes that the FCC, over the years, has received informal complaints with respect to interference caused to public safety two-way voice communications by paging operations on the same frequencies. It asks whether restrictions should be adopted with respect to such paging operations, in particular on frequencies reserved for mutual aid/interoperability communications.<sup>10</sup>

LMCC is committed to the adoption and enforcement of rules intended to prevent interference to Part 90 facilities. When the interference is caused to critical public safety communications, the concern is heightened.

Nonetheless, LMCC members that represent public safety users have determined that the restrictions proposed by the FCC, or any other restrictions that might be imposed on VHF public safety paging operations generally, are unnecessary and contrary to the public interest. They recommend instead that coordinators continue to handle such matters on a case-by-case basis through the coordination process. Many public safety agencies rely heavily on VHF paging operations. Rarely do such operations result in harmful interference. The decision to utilize VHF should rest with the applicants and the public safety frequency coordinator.

## **3. Cross-Banding**

The Commission has proposed to modify Rule Section 90.243(b)(1) to clarify that cross-band repeaters are permitted for all public safety systems, not only public safety medical service systems.<sup>11</sup> LMCC agrees that the clarification proposed would be helpful and consistent with the FCC's intention of promoting efficient, yet flexible, use of this spectrum.

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<sup>10</sup> *NPRM* at ¶¶ 4-6.

<sup>11</sup> *NPRM* at ¶ 7.

#### **4. Mobile Repeaters**

The *NPRM* questions whether Rule Section 90.274(b) should be modified to permit the use of mobile repeaters on other than low-power frequencies.<sup>12</sup> The FCC notes that the limitation was adopted at a time when there were a substantial number of low-power frequencies in the Part 90 services, but that changes in the rules mean that most Part 90 channels now are available on a full-power basis.

LMCC member organizations are currently reviewing the potential impact of the Commission's suggested changes regarding Rule Section 90.274(b), and expect to provide comments during the Reply Comment period of this proceeding.

#### **5. Expired Licenses**

As explained in the *NPRM*, frequencies associated with Part 90 licenses are considered to become available for reassignment to another party, not simply upon the passage of the license expiration date without the filing of a timely renewal request, but only when the ULS database indicates that the license status has changed from "Active" to "Expired."<sup>13</sup> The *Notice* indicates that during the period between license expiration and the change in ULS status, coordinators may select a frequency associated with the expired license for recommendation to another party, an action that the FCC defines as "coordinating" the frequency, but explains that the application for that frequency may not be filed with the FCC until the status of the original license has changed.<sup>14</sup>

The *NPRM* states that, in 2004, LMCC advised the FCC that all Part 90 frequency coordinators had agreed not to coordinate frequencies associated with an expired license until the frequencies became available for assignment and asked for the FCC's cooperation in enforcing

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<sup>12</sup> *Id.* at ¶ 8.

<sup>13</sup> *Id.* at ¶ 9.

<sup>14</sup> *Id.*

that policy.<sup>15</sup> The *NPRM* queries whether the rules should be amended to prohibit the coordination of frequencies associated with expired licenses until those frequencies are deleted from the ULS database.<sup>16</sup>

LMCC herein reaffirms its support for the policy described in its 2004 letter, but believes that a clarification of certain nomenclature may demonstrate to the FCC that adoption of that policy does not require a change in the FCC rules or in coordinator practices. It is not uncommon for a coordinator to recommend a to-be-expunged frequency for use by a third party with the expectation that the frequency will be available, as that term is defined herein by the FCC, before the application is filed with the Commission. Such recommendations are inherently conditional and do not ripen into frequency “coordination” until the application can be submitted to the FCC, consistent with the ULS database change described above. Prior to that moment, the coordinator has no process or authority by which it can prevent another coordinator from conditionally recommending the same frequency. There is no basis for claiming superior rights based on first-in-time receipt as among various coordinators. Under the policy endorsed by LMCC, the first application for the frequency that is received by the FCC after the frequency is considered available in the ULS database is the only properly coordinated application.

The coordinator members of LMCC have utilized this process on a cooperative, collaborative since at least 2004 when the letter was filed with the FCC. It is, in their opinion, the only approach that is equitable, enforceable and consistent with applicable FCC requirements. No rule changes or further actions are required on the FCC’s part, except to enforce the policy in the unlikely event that an application is coordinated in a fashion

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<sup>15</sup> See Letter dated June 30, 2004 from Jim, Pakla, President LMCC to D’wana Terry, Chief, Public Safety and Critical Infrastructure Division, Wireless Telecommunications Bureau, Federal Communications Commission.

<sup>16</sup> *NPRM* at ¶ 9.

inconsistent with that described herein. As long as the Commission adheres to its general “first-in-time” policy in processing applications, no rule change is required.

## **6. Multiple Licensing**

For many decades, one PLMR licensing option has been the “multiple licensed” system, also commonly referred to as the “community repeater.” The *NPRM* describes the role that this licensing vehicle has played in the Part 90 services, but queries whether it still is necessary in light of what the FCC describes as “changes in the Commission’s rules [that] have created new means for multiple entities to share facilities or otherwise meet their communications needs.”<sup>17</sup> The *Notice* suggests that new rules permitting conversion from private internal to commercial operations, as well as those allowing secondary market transactions, that is spectrum leasing, may obviate the need to retain this licensing alternative.<sup>18</sup> While such options are available and commendable spectrum policy initiatives, they do not provide the necessary regulatory flexibility in all instances.

As noted in the *NPRM*, this is not the first time that the FCC has suggested that the multiple licensed system option is no longer required. Indeed, approximately once each decade, the Commission questions the need to retain this license vehicle. As recently as 1999,<sup>19</sup> the FCC investigated this type of licensing arrangement and concluded that there was no reason to eliminate it.<sup>20</sup>

The Commission should reach the same conclusion in 2007. The FCC is correct that rule changes in the last decade have reduced the number of multiple licensed systems and minimized the number of Part 90 licensees which select this licensing approach. However, these modified

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<sup>17</sup> *NPRM* at ¶ 11.

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

<sup>20</sup> *Id.*

rules have not eliminated its utility in certain circumstances such as on 800/900 MHz frequencies shared by multiple Business or Industrial/Land Transportation entities. While the rules permit the conversion of such systems to commercial status under certain conditions, as specified in FCC Rule Section 90.621, it is not permissible to license non-SMR channels in either band as a commercial system at the outset. Without the multiple licensed system option, each individual PLMR system in this band would be required to construct and operate its own facility instead of joining its needs with those of similarly situated entities, resulting in less efficient spectrum utilization.

The Commission indicates that multiple licensing is “administratively burdensome,”<sup>21</sup> but does not explain why that is the case. LMCC frequency coordinators determine whether applications for multiple licensed authorizations satisfy applicable FCC requirements and forward only those that meet those requirements to the Commission for processing. It is not apparent why applications for these systems, applications that are technically identical to one another, with only the licensee-specific information changing, would pose an undue burden on the FCC’s processing staff, one that is greater than any other application that is first vetted through the frequency coordination process. If the FCC believes otherwise, then rather than eliminate the option, the Commission should establish application processing/regulatory fees that capture the administrative burden referenced in the *Notice*.

## **7. Transit Systems and Toll Roads**

The *NPRM* explains that while most metropolitan transit systems are publicly-operated and clearly eligible for spectrum in the Public Safety Pool, others are privately-owned, non-profit entities that operate under contract with a government entity.<sup>22</sup> The *Notice* questions whether

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<sup>21</sup> *Id.*

<sup>22</sup> *Id.* at ¶ 12.

FCC Rule Section 90.20 should be amended to permit such systems, which the FCC describes as “indistinguishable from their government-owned counterparts,”<sup>23</sup> to hold licenses in the Public Safety Pool. The *NPRM* also asks whether toll roads, the operation of which is leased or sold to private entities, should be eligible to hold a Public Safety authorization.<sup>24</sup> In both instances, the *NPRM* questions whether, in the event such entities are permitted to claim Public Safety eligibility, restrictions should be imposed, for example, by requiring that the spectrum authorized be used for the benefit of public safety and/or that concurrence from the relevant governmental entity accompany the application.

LMCC recognizes that the privatization of certain heretofore governmental functions could blur the heretofore bright line between local government and commercial operations.<sup>25</sup> However, it believes that the optimal resolution already is permitted under the FCC rules. The radio communications of non-governmental entities that provide what could be considered governmental services pursuant to contract or other agreement should be authorized pursuant to a license issued to the responsible governmental entity. FCC Rule Section 90.463 already permits such arrangements as it allows a licensee to designate as the control operator of its stations an agent or third-party contractor of the licensee, rather than a direct employee, provided that the licensee retains ultimate control over the use of the spectrum.<sup>26</sup> This will avoid potentially embroiling the FCC in disputes about disposition of a Public Safety Pool license issued to a private entity in the event that the contract between that entity and the governmental authority is terminated. Licensing by the governmental entity will assure that the licensed facilities will

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<sup>23</sup> *Id.*

<sup>24</sup> *Id.* at ¶ 13.

<sup>25</sup> The activities at issue herein and others that might raise the same considerations are governmental, but not actually public safety, operations. To date, the responsibilities of police, fire and other emergency response providers typically remain under the direct control of state, county and local governments.

<sup>26</sup> 47 C.F.R. § 90.463(a).

always be available to the currently selected contractor. Licensing the contractors/operators directly could result in their continued use of channels even after losing the contract to operate the toll road or transit system. Control of the license must remain with the governmental entity in charge.

#### **8. Industrial/Business Pool Eligibility**

The *NPRM* addresses the reverse situation as well: should state and local government entities that are engaged in commercial enterprises, such as the operation of golf courses or other businesses, be permitted to utilize Industrial/Business Pool spectrum for the radio communications associated with those activities?<sup>27</sup>

LMCC again notes that it is not always possible to establish a clear line of demarcation between the governmental and commercial-like activities of governmental entities. It may be that certain limited number of governmental enterprises with no associated public service component, such as the operation of a golf course, might properly be authorized on Industrial/Business Pool frequencies.

However, LMCC recommends that such authorizations be expressly conditioned on the continued use of the spectrum for the activity described in the original eligibility statement, and, in the event of any later system use practices that are inconsistent with the original purpose, that the FCC take appropriate enforcement measures to ensure compliance. It would be imprudent to allow a government entity subsequently to permit other operations to be deployed pursuant to that authorization, operations that might involve public safety or quasi-public safety services. The Industrial/Business Pool frequencies are intensively shared in all geographic areas where spectrum availability is limited, the areas where governmental entities would be most likely to “offload” certain activities onto non-Public Safety frequencies. It is highly unlikely that those

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<sup>27</sup> *NPRM* at ¶ 14.

involved in emergency response operations would be satisfied with the shared environment in which most Industrial/Business users operate. Their unsatisfied expectations as to “on demand” channel availability would be frustrating to them and to the users with whom the channel is being shared. Thus, while LMCC does not oppose a change in the rules that would permit governmental entities to secure licenses on Industrial/Business Pool frequencies, both the conditions precedent to the issuance of such authorizations and the conditions subsequent that attach to those licenses should be carefully crafted to prevent the potential problems detailed herein.

#### **9. Disturbance of AM Broadcast Station Antenna Patterns**

The NPRM questions whether Part 90 licensees should have obligations with respect to protection of AM Broadcast antenna patterns. While LMCC fully supports the proposition that AM Broadcast licensees should be entitled to protection of their radiation patterns, that protection obligation should rest with tower owners, not specifically with Part 90 licensees. It is primarily the presence of a tower structure that could affect an AM antenna pattern, not specifically the land mobile antennas mounted on the tower.

The Media Bureau has separately addressed this matter in MM Docket 93-177.<sup>28</sup> In that rule making, the FCC proposed modifying Part 17 of the rules to accommodate AM antenna protection. LMCC supports that proposition. Part 17 applies to tower owners and is the appropriate place for such regulations. LMCC did suggest that the proposed measures be simplified and that a program similar to TOWAIR should be provided by the FCC to examine the potential impact of new towers on AM antennas. LMCC urges the Commission not to modify Part 90 with regard to AM antenna protection and consolidate the matter in the Media Bureau docket, looking toward placing the new regulations in Part 17.

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<sup>28</sup> See, DA 07-2143, Public Notice released May 23, 2007.

## **10. FB8T Station Class**

LMCC strongly supports the FCC's decision not to issue additional authorizations for systems with an FB8T station class.<sup>29</sup> The FB8 station class code identifies trunked radio systems that have been authorized for an exclusive operating area in accordance with the carefully circumscribed standards set out in FCC Rule Section 90.187 and that, on that basis, are not subject to a monitoring requirement. As explained in the *Notice*, "authorizing temporary base stations anywhere within the licensee's authorized operating area could...allow the licensee to expand the contour of its unmonitored operations into areas where it does not have exclusivity, which could result in interference to other licensees."<sup>30</sup> Additionally, although not noted in the *NPRM*, an FB8T authorization may preclude co-channel or adjacent channel licensees in adjacent geographic areas from obtaining licenses because of a requirement to provide interference protection to an FB8T station throughout an entire operating area, not just at the fixed locations that normally are considered in the frequency coordination process.

The *Notice* queries whether FB8T licenses should be renewed with a station class code of FBT instead.<sup>31</sup> LMCC would request that the FCC immediately supersede all FB8T licenses to correct the station class to FBT. However, if the Commission determines not to take that more immediate action, LMCC urges that the status be corrected at renewal as proposed in the *Notice*.

## **11. Reorganization of Part 90**

The *NPRM* states that when Part 90 was established in 1978, it addressed only PLMR services.<sup>32</sup> While even then, the Part 90 rules covered entirely commercial SMR systems, LMCC agrees that the services now regulated under Part 90 are substantially more diverse than

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<sup>29</sup> *NPRM* at ¶ 16.

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* at ¶ 17.

they were in 1978. They now include a variety of PMRS and CMRS systems operating pursuant to both site-based and geographic authorizations in a wide range of frequency bands.

However, LMCC strongly disagrees with the FCC's suggestion that it might be appropriate to move the Part 90 CMRS rules to Part 22 or Part 27, or to create a separate section for rules governing public safety services.<sup>33</sup> First, this proposed bifurcation is alarming in that it does not even address the great number of Part 90 licensees that do not fall within either of those categories. The *Notice* does not suggest where the many Industrial/Business and PMRS commercial licensees operating on Part 90 spectrum would be accommodated under such a plan. Moreover, it seemingly fails to recognize that whether classified as public safety, PLMR, PMRS or CMRS, these disparate categories of licensees generally operate on spectrum that does not fit neatly within a particular regulatory classification. Decades of inter-category sharing in multiple bands has so intermingled their use of Part 90 spectrum that it would not be practical, even if it were possible, to untangle the regulatory structure in a logical fashion. In the opinion of LMCC, the effort to do so could not justify the result.

As evidenced by the instant *Notice*, there is substantial regulatory work for the FCC to undertake. LMCC urges the Commission not to devote any of its resources, or industry resources, to a general rewriting of Part 90 in an attempt to segregate categories of users that have cohabitated successfully in this Rule Section for almost thirty years. While LMCC does believe that it would be productive to review Part 90 for internal consistency, it should not be bifurcated. Prior to Part 90, the land mobile rules were contained in Part 89 (Public Safety), Part 91 (Business) and Part 93 (Industrial/Land Transportation). These services shared adjacent spectrum and had similar operational needs. Because of the difficulty of harmonizing all three

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<sup>33</sup> *Id.* at ¶ 18.

rule parts, Part 90 was created. That was a positive initiative at the time of the rule consolidation and should not be reversed.

## **B. 4.9 GHz BAND**

This issue relates to public safety and critical infrastructure licensees, and not generally to all LMCC members. LMCC supports the proposition that fixed links deployed in support of an area-wide 4.9 GHz broadband system should be considered as primary. Once such links have been deployed, they become an integral part of the area-wide 4.9 GHz network. Loss of a link could cripple the 4.9 GHz wide area system by eliminating a needed path of connectivity.

LMCC also believes that any station that operates with an EIRP equal to or less than that permitted utilizing maximum permitted transmitter power and a 9 dBi antenna should be considered primary under all circumstance. Such stations are effectively operating with access point parameters. On the other hand, stations using directional antennas with gains over 9 dBi, up to 26 dBi, are clearly being operated as fixed links. If they have been deployed in support of the overall 4.9 GHz infrastructure, then they should be primary. If, on the other hand, they are used as traditional backhaul for other services, e.g., a link between a dispatch center and a remote VHF base station, then they should be secondary. LMCC believes that such an approach would be consistent with the FCC's original goals to make the 4.9 GHz band available for mobile broadband data and would assure that licensees have the flexibility to deploy 4.9 GHz infrastructure in a way that best meets local needs.

## **C. WIRELESS MEDICAL TELEMETRY SERVICE ISSUE**

LMCC has continued concerns regarding the shared environment of the 1427-1432 MHz band, and appreciates the Commission's including these issues in the *NPRM*.<sup>34</sup> LMCC repeats its concurrence with the coordination plan between Part 90 frequency coordinators and the

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<sup>34</sup> *Id.* at ¶¶ 24 – 29.

American Society of Health Care Engineering (“ASHE”), with clarifications. LMCC also repeats its request that the FCC not permit secondary medical telemetry operations in the non-medical telemetry portions of this frequency band due to concerns over possible situations that could harm medical patients.

LMCC believes that the coordination plan as submitted by the parties and included in the NPRM will ensure both efficient use of this small frequency band for multiple applications and minimal interference.<sup>35</sup> However, two clarifications are needed. First, LMCC requests that Wireless Medical Telemetry Service (“WMTS”) not be permitted secondary operations in the non-medical telemetry portion of the band for the reasons detailed below. Therefore, the third bullet point, outlining a notification procedure for this scenario, may not be appropriate. Secondly, while the plan calls for ASHE to “notify” Part 90 coordinators, the FCC has never specified the means of notification; LMCC recommends that this be the same electronic batch filing (“EBF”) format used by certified frequency advisory committees. Part 90 coordinators are required to notify one another of pending applications every business day, and have developed a standard format to communicate with one another and with the Commission. This format enables automatic inclusion of new data into coordination databases, eliminating most errors, and greatly simplifying the process. Currently, WMTS notifications are not made in this format and require manual examination and re-keying where added to databases. With ASHE designated as the database manager/coordinator for WMTS in a band shared with Part 90 operations, it is reasonable to request that it use the recognized industry format for communication of applications.

For the safety of medical patients using WMTS devices, LMCC recommends that WMTS not be permitted secondary operation in the non-medical telemetry portions of this frequency

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<sup>35</sup> *Id.* at ¶ 26.

band. While licensees familiar with the FCC, its requirements and processes understand the differences between primary and secondary use, health care facilities generally do not. It is LMCC's understanding that nearly all WMTS systems implemented at health-care facilities are constructed and deployed, and the associated applications submitted, by the equipment manufacturer, not by facility telecommunications staff. While licensees are responsible for their own compliance with all FCC regulations, the real-world situation in this case is that health-care facility personnel will not understand that they have only secondary status on certain frequencies. Moreover, the concept of secondary licensees being willing to accept interference is not appropriate here. LMCC is quite concerned that increasing use of the entire 1427-1432 MHz band by WMTS due to the equipment design of one manufacturer, could lead to inadvertent signal blockage from primary Part 90 licensees to secondary WMTS devices. This frequency band is important for Part 90 operations, including mission-critical functions of utilities and other critical infrastructure entities, but it is vital that no harm come to patients using WMTS devices. LMCC believes the safest means of ensuring this, especially given the availability of other WMTS spectrum elsewhere, is to limit WMTS use to that portion of the 1427-1432 MHz in which it has primary authority in any given geographic area.

**D. PROPOSED REVISIONS TO FCC RULE SECTION 90.187**

In addition to the matters discussed above, LMCC also requests that the Commission adopt rules modifying Rule Section 90.187 as proposed herein. In fact, LMCC considers this matter to be of the highest priority and urges the Commission to act promptly to implement the recommendations detailed below.

In a rulemaking proceeding that occupied the attention of the FCC and the PLMR community for more than a decade, the FCC adopted rules that require equipment manufacturers

and licensees, respectively, to develop and certify equipment and to implement narrowband technologies that are intended to derive more intensive use of substantial portions of the spectrum regulated under Part 90.<sup>36</sup> Among other matters, the rules require licensees operating in the 150-174 MHz and 421-512 MHz bands to meet the following standard by January 1, 2013:

[migrate] to 12.5 kHz technology, or a technology that achieves the narrowband equivalent of one channel per 12.5 kHz of channel bandwidth (voice) or 4800 bits per second per 6.25 kHz (data) if the bandwidth for transmission....<sup>37</sup>

The Commission recently reaffirmed its intention to adopt “rule changes to promote the efficient use of the PLMR service and facilitate the introduction of advanced technologies” in a further order in this same proceeding.<sup>38</sup> Although the FCC concluded that it was premature to adopt a date certain by which to require these same licensees to migrate to 6.25 kHz channel bandwidths or technologies of equivalent efficiency, the Commission reiterated its intention to “promote the transition to a more efficient narrowband channel plan.”<sup>39</sup>

No one is more aware of the limited spectrum allocated for PLMR use, the number of entities that must be accommodated on this spectrum, and, therefore, the need to promote its intensive utilization than LMCC and the radio users and equipment manufacturers its members represent. They already have taken significant steps in support of this objective.<sup>40</sup> As the FCC is aware, PLMR equipment manufacturers have made substantial investments in the development of more advanced and efficient technologies with results that are fully consistent with the FCC’s

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<sup>36</sup> See n. 8 *supra*.

<sup>37</sup> *3<sup>rd</sup> MO&O* at ¶ 2; see also 47 C.F.R. § 90.209(b)(5), Table, n. 3.

<sup>38</sup> *Third Report and Order*, WT Docket No. 99-87, 22 FCC Rcd 6083 at ¶ 3 (2007) (“*3<sup>rd</sup> R&O*”).

<sup>39</sup> *Id.*

<sup>40</sup> As addressed in Petitions for Reconsideration of the *3<sup>rd</sup> R&O*, in statements by individual LMCC members, and in LMCC meetings with the Commission, the PLMR industry generally opposes adoption of a requirement that licensees migrate to 6.25 kHz technology by a date certain. They have indicated that a focus on further narrowbanding as the only path to increased efficiency is diametrically opposed to the FCC’s support for broadband applications as a means to derive more intensive spectrum utilization in the rest of the wireless industry. They also have expressed great concern about imposing yet another mandate on Part 90 licensees, a mandate that for public safety users is entirely unfunded; one that could require them to retire or retrofit equipment prematurely.

mandate. In the past year, they have introduced equipment with 6.25 kHz bandwidth FDMA capability, as well as both two-slot 12.5 FDMA and two-slot 12.5 kHz TDMA capability. Each of these approaches provides a valuable migration approach for certain PLMRS licensees, and each already has enjoyed substantial interest within the PLMRS marketplace.

LMCC is pleased that the PLMR industry will have the opportunity to take advantage of the technical advances described above. However, it is essential that these operations be integrated into a heavily encumbered, almost entirely shared radio environment with thought and care so as to prevent interference to the operations of incumbent users. To that end, LMCC has devoted considerable effort in recent months toward evaluating the potential impact of various types of systems on the existing user environment. In particular, it has investigated how to promote implementation of these more advanced technologies without compromising the protected service areas of licensees that already have secured FB8 authority in accordance with the requirements of FCC Rule Section 90.187.

The results of that analysis are expressed in the proposed revisions to FCC Rule Sections 90.7 and 90.187 attached hereto as Appendix 1. The purpose of the proposed changes is to clarify certain rules so that they are more easily understandable, consistent with the objective of this proceeding, and to promote what LMCC considers optimal use of the spectrum in question.

These clarifications/changes include the following:

- Add definitions of centralized and decentralized trunked systems;
- Clarify that trunking can occur with multiple communications paths on a single channel and not only over multiple channels;
- Incorporate the FB8 station class terminology to clarify which stations do and do not have a monitoring requirement;
- Organize the trunking and monitoring rules around the concepts of centralized and decentralized trunked systems;

- Clarify and simplify the definition of “affected” licensees;
- Clarify the interference analysis required for “affected” licensees;
- Eliminate unnecessary or duplicative rules relating to the coordination process;
- Clarify the number of channels that may be requested in an application for a centralized trunked system; and
- Add a requirement that applications proposing 6.25 kHz use must consider their impact on adjacent 12.5 kHz bandwidth stations that are authorized for FB8 status.

The last point is of primary importance to the LMCC membership. This industry already has begun the process of migrating from 25 kHz bandwidth technology to equipment that will use no more than 12.5 kHz bandwidth. For some licensees, this will require a wholesale replacement of their equipment at considerable cost and effort. The migration process will be somewhat easier for those with newer equipment that is capable of being converted to 12.5 kHz; but, in all cases, this FCC requirement is considerably more complex than might be assumed. It is not simply flipping a switch; it requires careful engineering of often large, complex systems to ensure that all their component parts remain calibrated to maintain seamless operation.

This truly extraordinary, entirely self-funded industry effort should not be marginalized by rules that would permit – indeed rules that would virtually dictate – interference to recently narrowbanded systems from new stations being deployed on 6.25 kHz bandwidth channels. The FCC is fully aware that the “refarming” band plan retained the center channels for the original 15 kHz/25 kHz bandwidth channels at VHF and UHF respectively. Narrowbanding was not accomplished by splitting each such channel in two, thereby creating two new center channels with no bandwidth overlap. Rather the new center channels are interstitial. They were dropped in on either side of the original frequencies and overlap the authorized bandwidth of those

frequencies. The same is true for the interstitial 7.5 kHz/12.5 kHz narrowband frequencies; even narrower 6.25 kHz bandwidth frequencies were effectively overlaid on a portion of their authorized bandwidth.

Current FCC rules specify that applicants for new interstitial channels are not required to consider, and thus are not required to provide any protection for, adjacent channel, broader bandwidth trunked systems, even if those systems have acquired FB8 status.<sup>41</sup> LMCC previously urged the FCC to adopt a different interpretation of its requirements as they related to protection of 15 kHz/25 kHz bandwidth incumbents, a request that was denied.<sup>42</sup> There, however, the potentially affected 25 kHz bandwidth systems likely had operated for years and were required to migrate to narrower bandwidths by a known date. The same is not true when considering the potential impact of 6.25 kHz bandwidth facilities on very recently deployed 12.5 kHz bandwidth systems that have met the requirements for FB8 centralized trunked status. Their recent investment in improved technology, an investment made to provide additional capacity for new users, should not be jeopardized by incursions into their protected bandwidth by an adjacent channel 6.25 kHz operation. Instead, the rules should require applicants for 6.25 kHz facilities to consider the potential impact on licensees operating on frequencies 7.5 kHz or less removed from the proposed channel and to prohibit such use when the “affected” station is authorized as an FB8 station.

LMCC coordinators adopted a coordination policy consistent with the rule change proposed herein during the course of reviewing this issue, a copy of which is attached in Appendix 2. That policy has been in effect for several months and is consistent with the

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<sup>41</sup> See 47 C.F.R. § 90.187(b).

<sup>42</sup> See Letter from LMCC President, Paul A. Najarian, to D’wana R. Terry, Chief, PSPWD, WTB, FCC (Nov. 12, 1999); see also Letter from D’wana R. Terry, Chief, PSPWDD, WTB, FCC to Michele C. Farquhar, President, LMCC (April 6, 2001).

obligation of frequency coordinators to consider the impact of applications on the operations of authorized users, and not to recommend frequencies that are expected to cause harmful interference to existing operations. LMCC hopes that the FCC will concur in this assessment of proper spectrum management and move promptly to adopt rules consistent with the recommendations contained herein.

### **III. CONCLUSION**

LMCC is pleased to have this opportunity to comment on the Commission's proposed revisions to Part 90 and to propose certain rule changes that LMCC believes will promote effective and efficient use of the Part 90 spectrum.

**FCC Rule Sections 90.7 and 90.187  
To Accommodate New VHF/UHF FDMA and TDMA Technologies**

Sec. 90.7

**Centralized trunked system.** A system in which there is dynamic assignment of multiple communications paths by automatically searching all communications paths in the system for and assigning to a user an open communications path within that system. Individual communications paths within a trunked system may be classified as centralized or decentralized in accordance with the requirements of Sec. 90.187 of this chapter.

**Decentralized trunked system.** A system which continually monitors the communications paths within assigned channels for activity both within the trunked system and outside the trunked system, and transmits only when an available communications path is found. Individual communications paths within a trunked system may be classified as centralized or decentralized in accordance with the requirements of Sec. 90.187 of this chapter.

[Note - Definitions are from 4/11/01 PN (DA 01-657), Wireless Telecommunications Bureau Establishes a New Station Class Code in Connection with Licensing Trunked Radio Systems Operating Between 150-512 MHz.]

Sec. 90.187 Trunking and monitoring requirements in the bands between 150 and 512 MHz.

(a) Applicants for centralized and decentralized trunked systems (see Sec. 90.7 of this chapter) operating on frequencies between 150 and 512 MHz (except 220–222 MHz) must indicate on their applications (radio service and class of station code, instructions for FCC Form 601) that their system will be trunked. Licensees of stations that are not trunked may trunk their systems only after modifying their license (see Sec. 1.927 of this chapter).

(b) Centralized Trunking/Monitoring requirements

(1) Centralized trunked systems are assigned station classes of FB8/MO8 upon a demonstration that they meet the requirements of paragraphs (b)(1)(A) or (B) below and, thereafter, are exempt from the monitoring requirements of 90.187(c).

(A) Applicants for or licensees operating trunked systems in the 470–512 MHz band that meet the loading requirements of Sec. 90.313(a) and whose frequency(s) may not be assigned to another entity without their consent in accordance with Secs. 90.313(b) and (c).

(B) Applicants for or licensees operating on frequencies between 150 and 470 MHz (except 220-222 MHz) that are deemed to have an exclusive service area because all frequency coordination requirements are complied with and the applicant or licensee either has obtained written consent from or has demonstrated non-overlapping contours with all potentially affected licensees (“Affected Licensee(s)”) using the procedures set forth below:

(i) Affected Licensees for the purposes of this section are (I) licensees of stations that have assigned channels 15 kHz or less removed from the assigned channels of proposed stations that will operate with a 25 kHz channel bandwidth; or (II) licensees of stations that have assigned channels 7.5 kHz or less removed from the authorized bandwidths of proposed stations that will operate with a 12.5 kHz or 6.25 kHz bandwidth, and

(ii) The proposed station’s interference contour (19 dBu for stations in the 150-174 MHz band and 21 dBu for stations in the 421-470 MHz band) overlaps the service contour (37 dBu for stations in the 150-174 MHz band and 39 dBu for stations in the 421-470 MHz band) of an existing station.

(2) The calculation of service and interference contours referenced herein shall be done using generally accepted engineering practices and standards which, for purposes of this section, shall presumptively be the practices and standards agreed to by a consensus of all certified frequency coordinators.

(3) The written consent from an Affected Licensee shall specifically state all terms agreed to by the parties and shall be signed by the parties. The written consent shall be maintained by the operator of the centralized trunked station and be made available to the Commission upon request. The submission of a coordinated application for a centralized trunked station to the Commission shall include either: (A) a certification from the applicant that written consent has been obtained from all Affected Licensees, that the written consent documents encompass the complete understandings and agreements of the parties as to such consent; and that the terms and conditions thereof are consistent with the Commission's rules; or (B) a certification from the frequency coordinator that there is no contour overlap with any potentially Affected Licensee.

(4) After 1/1/2013, licensees of 25 kHz bandwidth systems will not be considered Affected Licensees unless the licensee meets the efficiency standards of one voice path or 4800 bps data rate per 12.5 kHz of assigned bandwidth.

(c) Decentralized Trunking/Monitoring Requirements. Decentralized trunked systems (see Sec. 90.7 of this chapter) must employ equipment that prevents transmission on a frequency if a signal from another system is present on that frequency. The level of monitoring must be sufficient to avoid causing harmful interference to other systems.

(d) Conventional Systems in 470-512 MHz Band/Monitoring Requirements. Applicants for or licensees operating conventional systems in the 470–512 MHz band that meet the loading requirements of Sec. 90.313 and whose frequency(s) may not be assigned to another entity

without their consent in accordance with Secs. 90.313(b) and (c) are exempt from monitoring requirements.

(e) Trunking of systems licensed on paging-only channels or licensed in the Radiolocation Service (subpart F) is not permitted.

(f) Applicants proposing centralized trunked operation may file written notice with any certified frequency coordinator for the pool (Public Safety or Industrial/Business) in which the applicant proposes to operate. The notice shall specify the channels on which the potential centralized trunked applicant proposes to operate and the proposed effective radiated power, antenna pattern, height above ground, height above average terrain and proposed channel bandwidth. On receipt of such a notice, the certified frequency coordinator shall notify all other certified frequency coordinators in the relevant pool within one business day. For a period of sixty days thereafter, no application will be accepted for coordination which specifies parameters that would result in objectionable interference to the channels specified in the notice. Potential applicants shall not file another notice for the same channels within 10 km (6.2 miles) of the same location unless six months shall have elapsed since the filing of the last such notice. Certified frequency coordinators shall return without action, any coordination request which violates the terms of this paragraph (d).

(g) No more than 10 channels for new centralized trunked operation in the Industrial/Business Pool may be applied for in a single application. Subsequent applications for centralized trunking are limited to an additional 10 channels or fewer and must be accompanied by a certification, submitted to the certified frequency coordinator coordinating the application, that all of the applicant's existing channels authorized for trunked operation have been constructed and placed in operation. Certified frequency coordinators are authorized to require documentation in support of the applicant's certification that existing channels have been constructed and placed in operation. Applicants in the Public Safety Pool may request more than 10 channels at a single location provided that any application for more than 10 Public Safety Pool channels must be accompanied by a showing of sufficient need. The requirement for such a showing may be satisfied by submission of loading studies demonstrating that requested channels in excess of 10 will be loaded with 50 mobiles per channel within a five year period commencing with grant of the application.

(h) If a licensee authorized for centralized trunked operation discontinues trunked operation for a period of 30 consecutive days, the licensee, within 7 days of the expiration of said 30 day period, shall file a conforming application for modification of license with the Commission. Upon grant of that application, new applicants may file for the same channel or channels notwithstanding whether the interference contour of the new applicant's proposed channel or channels overlaps the service contour of the station that was previously engaged in trunked operation.

**Spectrum Management Task Force  
Land Mobile Communications Council  
Recommended Frequency Coordination Policies  
6.25 kHz FDMA – 12.5 kHz TDMA Systems  
As of September 28, 2006**

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The following VHF/UHF frequency coordination policies were agreed to by consensus among all frequency coordinators that are members of LMCC, which represents every active FCC-certified frequency advisory committee.

- 1) If a licensee is currently authorized for an exclusive (FB8) 12.5 kHz channel(s), or if an applicant secures an exclusive (FB8) 12.5 kHz channel(s) through the frequency coordination process, that licensee/applicant may license two 6.25 kHz channel pairs that are 3.125 kHz removed from the center 12.5 kHz channel. The new off-center 6.25 kHz channels receive the same measure of co/adjacent channel protection as the original 12.5 kHz exclusive channel pair.
- 2) If a licensee is currently authorized for a non-exclusive (FB2, FB4, FB6, FB7) 12.5 kHz channel(s), or if an applicant requests through the frequency coordination process non-exclusive 12.5 kHz channels pairs and, in either instance, seeks to create two off-center 6.25 kHz channel pairs, such approval should require a waiver of the FCC rules, specifically section 90.20 for Public Safety and section 90.35 for Business/Industrial applications. Subject to WTB discussion and endorsement, frequency advisory committees are encouraged to submit such applications to the FCC without certification.
- 3) If a licensee is currently authorized for an exclusive (FB8) 25 kHz channel(s), or if an applicant secures an exclusive (FB8) 25 kHz channel(s) through the frequency coordination process, that licensee/applicant may license two 6.25 kHz channel pairs that are 3.125 kHz removed from the center 25 kHz channel. The new off-center 6.25 kHz channels receive the same measure of co/adjacent channel protection as a 12.5 kHz exclusive channel pair. No waiver of the FCC rules appears to be required.
- 4) If a licensee is currently authorized for an exclusive (FB8) 12.5 kHz channel(s), or if an applicant secures an exclusive 12.5 kHz channel(s) through the frequency coordination process, and that licensee/applicant deploys 2-voice path TDMA technology, the 12.5 kHz channel will receive co/adjacent channel protection as currently afforded in the FCC rules. It is noted that pursuant to existing rules that there are no provisions that would serve to protect an incumbent 12.5 kHz exclusive FB8 system from adjacent channel 6.25 kHz or 25 kHz channel systems whose contour will overlap the incumbent's exclusive service area (see item 8 for proposed interim solution pending rule changes).

- 5) If a licensee is currently authorized for an exclusive (FB8) 25 kHz channel(s), or if an applicant secures an exclusive 25 kHz channel(s) through the frequency coordination process, and that licensee/applicant deploys 2-voice path 12.5 kHz TDMA technology, that licensee/applicant will receive co/adjacent channel protection as currently afforded in the FCC rules for 12.5 kHz channels. It is noted that pursuant to existing rules that there are no provisions that would serve to protect an incumbent 25 kHz exclusive FB8 system from adjacent channel systems whose contour will overlap the incumbent's exclusive service area.
- 6) Licensees may deploy 6.25 kHz FDMA technology on 12.5 kHz channel centers in accordance with FCC rules. Frequency coordination is not required when only a reduction in bandwidth is being requested without a change in emission type or any other change to the technical parameters of the license.
- 7) Licensees may deploy 12.5 kHz TDMA technology on 12.5 kHz channel centers in accordance with FCC rules. Frequency coordination is required to amend the emission designator.
- 8) If a licensee or applicant seeks to deploy 6.25 kHz FDMA technology on any 6.25 kHz assignment, regardless of whether the licensee or applicant wishes to secure a shared or exclusive 6.25 kHz channels, frequency advisory committees shall review incumbent license records +/- 7.5 kHz from the 6.25 kHz channel assignment, and apply appropriate technical evaluation best practices to mitigate interference to/from adjacent channel shared/exclusive systems. (Rule change required.)
- 9) For applicants to secure FB8 exclusive licensing status, trunking infrastructure must be utilized and a minimum of two communications paths must be deployed. Trunking systems, however, need not have a FB8 station class associated with the authorization.
- 10) If a licensee is currently authorized for an exclusive 25 kHz (FB8) channel(s), that system will receive protection from adjacent channel 6.25 and 12.5 kHz channel assignments until January 1, 2013, at which time the 25 kHz assignment will receive protection as if it is a 12.5 kHz channel assignment.
- 11) Applications for 6.25 kHz systems will be conducted pursuant to agreed upon "best practices" in order to limit the potential for interference to and from incumbent systems, regardless of applicants' assertions that they are willing to accept system degradation from incumbent systems.