

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

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

**COMMENTS OF MOTOROLA, INC.**

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## SUMMARY

Motorola supports this review of the Commission's rules to ensure that the technical, operational and licensing rules governing spectrum use are both necessary and consistent with the public interest. Motorola provides these comments on the following topics specifically raised by the Commission and also provides a number of additional suggestions for improving Part 90 of the Commission's rules.

- **Frequency Coordination.** Motorola supports efforts to streamline the Commission's application process. However, Motorola firmly believes that the frequency coordination process is vitally important and the Commission should be careful to avoid eviscerating its effectiveness by limiting the information or the circumstances under which information is provided to coordinators.
- **Paging on VHF Public Safety Frequencies.** If supported by public safety, Motorola would not oppose prohibiting new paging operations on channels established as public safety mutual aid frequencies such as 155.340 MHz. However, a general paging prohibition applicable to all public safety frequencies would be draconian and unwarranted.
- **Cross Banding.** Motorola supports the proposal to modify Section 90.243(b)(1) of the Rules to remove language that implies that only public safety medical service systems operating in 150-160 MHz are permitted to be cross-banded to communicate with systems in 450-470 MHz. The proposed change will clarify the rule section in question.
- **Mobile Repeaters.** Motorola supports the proposal to delete Section 90.247(b) to expand the pool of frequencies capable of supporting mobile repeater deployment. Motorola also recommends that the Commission delete Section 90.247(c) to clarify the power restrictions on portable units communicating with mobile repeaters. Finally, Motorola urges the Commission to update the provisions of Section 90.247(f) to reflect the use of digital communications in PLMR bands.
- **Multiple Licensing.** Motorola urges the Commission to continue allowing community repeater licensing. Encouraging shared system use in this manner has allowed end users to minimize their equipment costs and has promoted efficient spectrum use.
- **Public Safety Eligibility & Business Industrial Pool Eligibility.** The existing eligibility restrictions should remain in place with the Commission providing clarification on how it considers specific classes of entities that straddle the definitions of public safety and business/industrial users. With regard to commercially owned transit systems, in most cases, these entities operate pursuant to government contracts. Under the Commission's existing rules, the governing governmental agency could apply for the license in its own name

and allow the commercially-owned transit company to operate under the authority of that license pursuant to Sections 90.463 and 90.421. Situations that are not resolved by this approach can be handled on a case-by-case basis, but, in any case, eligibility alone should not deprive organizations of the benefits of private land mobile communications systems.

- **Reorganization of Part 90.** Motorola believes that reorganizing Part 90 of the Commission's rules would prove more confusing than the current construct and would make it more difficult for the various user groups covered by Part 90 to work together. Therefore, Motorola recommends retaining all relevant provisions within Part 90.
- **4.9 GHz Proposals.** Motorola agrees that the rules regarding fixed links are creating some confusion in the marketplace and would benefit from FCC clarification. While Motorola believes that only clarifications are needed, it would support rule changes that make clear that operation of fixed links on a primary basis are permitted provided they are an integral part of a 4.9 GHz mobile network. Motorola also supports the proposal to conform Section 90.1215 with the average power measurements recently implemented in Sections 15.247 and 15.407 for unlicensed digital devices.
- **Station Identification.** While not specifically covered in the Notice, Motorola urges the Commission to consider certain updates and changes to Section 90.425 governing the transmission of station identification. First, Motorola recommends that the Commission allow, in general, the transmission of the required station identification using digital signals instead of Morse code. Second, Motorola urges the Commission to allow PMRS licensees operating multi-site networks to utilize a single call sign for the required station identification. This same policy is provided to similarly situated CMRS licensees.
- **Mutual Aid Equipment Requirements.** Motorola urges the Commission to conform its equipment rules for UHF, 700 MHz, and 800 MHz mutual aid operations to require all mobile and portable devices to be capable of operating on the relevant mutual aid channels.

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**COMMENTS OF MOTOROLA, INC.**

Motorola, Inc. (“Motorola”) hereby files these comments in response to the Notice of Proposed Rulemaking issued by the Federal Communications Commission (“FCC” or “Commission”) in the above-captioned proceeding.<sup>1</sup> As part of the Commission’s “continuing effort to provide clear and concise rules,” the NPRM recommends numerous changes to Part 90 of the Commission’s Rules governing the Private Land Mobile Radio (“PLMR”) services.

Motorola supports these periodic reviews to ensure that the technical, operational and licensing rules governing spectrum use are both necessary and consistent with the public interest. This is especially appropriate for the rules governing the PLMR, which in many instances, reflect policies adopted decades ago. The Commission’s Notice, and the companion Order implementing non-substantive editorial corrections to Part 90, identify numerous rule sections that warrant updating and clarifications and therefore serves the public interest. Motorola offers the following comments to either provide further clarification to the rules under consideration or to support the FCC’s recommendations.

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<sup>1</sup> *Amendment of Part 90 of the Commission’s Rules*, Notice of Proposed Rulemaking and Order, WP Docket No. 07-100, 22 FCC Rcd 9595 (2007) (“Notice” or “NPRM”).

Motorola also offers a few additional suggestions for rule modifications that are consistent with the Notice's general approach.

**Frequency Coordination.** The Notice proposes to eliminate the frequency coordination requirement for license modification applications seeking to convert the regulatory status of the license from CMRS to PLMR or vice versa.<sup>2</sup> The Notice invites commenters to identify other types of applications for which the frequency coordination requirement could be eliminated.<sup>3</sup>

Motorola supports efforts to streamline the Commission's application process. Removing unnecessary administrative requirements will eliminate both financial and time-constraint burdens on applicants. There are likely situations where applications to change the regulatory status of a licensed facility could be submitted without coordination, provided that all other operational parameters are not changed, but identifying those cases requires a thorough review of the implications associated with each one. However, Motorola firmly believes that the frequency coordination process is more important than ever before and the Commission should be careful to avoid eviscerating its effectiveness by limiting the information or the circumstances under which information is provided to coordinators.

For example, the on-going transition to 12.5 kHz and 6.25 kHz technologies in the VHF and UHF bands has resulted in an incredibly complex operating environment that must be vigilantly coordinated to maintain system performance. While coordination is not needed for migration to a 6.25 kHz channel on the same center frequency as the

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<sup>2</sup> Notice at ¶ 3.

<sup>3</sup> *Id.*

original 12.5 kHz channel (unless other parameters that might affect technical compatibility are modified), 6.25 kHz channels at other center frequencies need coordination. To do their job effectively, coordinators need all relevant licensee information. Regulatory efforts that seek ways to minimize the coordination activities should be approached cautiously to avoid an unintended consequence that could have a long lasting detrimental impact on the ability of coordinators to promote efficient, reliable use of the spectrum. The Commission must ensure that the industry has adequate resources focused on coordination activities to promote the efficient use of PLMR spectrum. Motorola believes current frequency coordinators provide a valuable function by understanding the nature of the operations PLMR licensees require and meeting those needs to the maximum extent possible given the very limited spectrum available for PLMR use.

**Paging on VHF Public Safety Frequencies.** The Notice asks if restrictions should be placed on permitting paging operations in the 150-160 MHz band, particularly on frequencies reserved for mutual aid communications.<sup>4</sup> Further, the FCC asks if paging should be eliminated altogether on public safety frequencies.<sup>5</sup>

If supported by public safety entities, Motorola would not oppose prohibiting new paging operations on channels established as public safety mutual aid frequencies such as 155.340 MHz. However, we believe that a general prohibition on paging applicable to all public safety frequencies would be draconian and unwarranted. As the Commission states in its Notice, paging and voice communications “can generally co-exist on the

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<sup>4</sup> Notice at ¶ 5.

<sup>5</sup> *Id.* at ¶ 6.

same channel in the same area” and the benefits that public safety entities receive from paging operations are well documented.<sup>6</sup> Volunteer firefighting organizations in particular rely on their own VHF paging systems as a low cost way to alert volunteers they are needed to help fight a fire. While instances of interference or co-channel incompatibility may have occurred, Motorola believes that the benefit of VHF paging, particularly for firefighters and the public they serve, outweighs any FCC oversight and enforcement requirements. For these reasons, Motorola urges the Commission to retain the general provision to allow paging operations on VHF public safety frequencies.

**Cross Banding.** Motorola supports the proposal in the Notice to modify Section 90.243(b)(1) of the Rules to remove language that implies that only public safety medical service systems operating in 150-160 MHz are permitted to be cross-banded to communicate with systems in 450-470 MHz.<sup>7</sup> While Motorola is not aware that the rule’s wording has prevented any non-medical service licensee from deploying a cross-band repeater, Motorola recognizes the greater clarity in the Commission’s proposed revisions to the rule section in question. Cross band repeaters can be useful to any public safety licensee and the rules should reflect this necessary flexibility.

**Mobile Repeaters.** The Notice proposes to remove the restriction in Section 90.247(b) that limits mobile repeaters to low power business and industrial pool channels,

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<sup>6</sup> The benefits of paging operations to public safety personnel were well chronicled by the Commission’s panel studying the impact to communications networks by Hurricane Katrina. See, e.g., *Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, Report and Recommendations to the Federal Communications Commission*, Notice of Proposed Rulemaking, EB Docket No. 06-119, 21 FCC Rcd 7320 (2007).

<sup>7</sup> Notice at ¶ 7.

*i.e.*, channels limited to 2-watt devices or less.<sup>8</sup> The Notice argues that this condition was imposed at a time before consolidation of the various business and industrial radio services when fewer channels were available to end-users.<sup>9</sup> The Notice suggests that the condition can now be removed.

Motorola supports the Commission's proposal to delete Section 90.247(b). Expanding the pool of frequencies capable of supporting mobile repeater deployment will provide for greater licensee flexibility and spectrum efficiency. However, Motorola notes that Section 90.247(b) currently acts as a *de facto* power limit on business/industrial mobile repeaters. With its deletion, there would be no specific power regulation left in force for such operations. Also, Section 90.247(c) currently limits hand-held portable transmitter output power to 2.5 watts when communicating with a mobile repeater. Under the rules, however, portable units would be permitted to operate at higher power levels on the same channel when bypassing the mobile repeater and communicating unit-to-unit or unit-to-base.<sup>10</sup> So as the Commission deletes Section 90.247(b), it should also address these related power requirements for mobile repeater systems. In addition, the Commission should ensure that these mobile repeaters are coordinated in order to achieve compatibility with other operations in the relevant frequency bands, especially if the power levels and available frequencies for this type of use are expanded.

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<sup>8</sup> Notice at ¶ 8. Public safety applicants do not have a similar restriction and can generally deploy mobile repeaters on any public safety pool channel.

<sup>9</sup> *Id.*

<sup>10</sup> *See, e.g.*, Section 90.541(c) (power levels associated with portable (hand-held) transmitters in the 700 MHz bands).

Motorola recommends that the Commission delete Section 90.247(c). In so doing, portable units communicating with mobile repeaters would be limited to the power restrictions applicable to the specific frequency in use. Because the mobile repeater would not generally need any more power than that authorized to the associated hand-held transceiver(s), these same power restrictions should also apply to the mobile repeater.<sup>11</sup> If the mobile repeater operates on a frequency where 3 watt or 5 watt portables are allowed, then the mobile repeater would be allowed to operate at those power levels. However, if the mobile repeater is deployed on a frequency restricted to a maximum output power of 2 watts (frequency limitation number 11 in Section 90.35) both the hand-held unit and the mobile repeater would be bound by that power limitation. Finally, Motorola notes that Section 90.247(f) requires mobile repeaters to be controlled using a “continuous coded tone.” This term is an analog reference and should be updated to acknowledge the use of digital communications in the PLMR bands. Motorola recommends that the term be replaced with “continuous access signal” which will accommodate both digital and analog control techniques. Alternatively, the Commission could simply add the term “continuous access signal” and specify both analog and digital methods in the rule.

**Multiple Licensing.** Mobile relay stations (*i.e.*, base repeaters) are sometimes shared among multiple PLMR licensees. In practice, this allows multiple entities to be

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<sup>11</sup> This would maintain the approach of the existing provisions of Section 90.247 where the power of the mobile repeaters is limited to the same power levels as the portables with which it is communicating, and would minimize the possibility for self-interference between the mobile repeater and other operations of the same mobile station. See 47 C.F.R. § 90.247(b) (where both mobile repeaters and portables are limited to an output power of 2 Watts), and § 90.247(d) and (e) (which limit both the mobile repeaters and associated portables to an output power of 6 Watts).

individually licensed to access the same repeater. The Notice requests comments on whether this form of multiple licensing should continue to be permitted.<sup>12</sup> The Commission noted that it has created new means for multiple entities to share facilities or otherwise meet their communications needs.<sup>13</sup> The Commission also expressed some concern that there may be parties using community repeaters that do not hold licenses.<sup>14</sup>

Motorola urges the Commission to retain the current policy to continue allowing “FB4” community repeater licensing. Encouraging shared system use in this manner has allowed end users to minimize their equipment costs and has promoted efficient spectrum use. Other than suggesting that community repeaters may encourage unlicensed use, the Notice offers no public interest benefits for eliminating this licensing provision. And there is nothing to suggest that the elimination of community repeaters will eliminate the problem of unlicensed operation. Parties that choose to ignore the FCC’s licensing requirements will most likely continue to do so even if the Commission eliminates community repeaters.

It is true that in promoting spectrum leasing and secondary market transactions, the Commission has created possible alternatives to the community repeater concept. However, the availability of these options does not necessarily mean that they are superior to, or a direct replacement for, multiple licensing for PLMR users. In Motorola’s view, multiple licensing offers a simpler means of spectrum access than leasing, which typically involves the signing of binding legal documents with higher

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<sup>12</sup> Notice at ¶ 11.

<sup>13</sup> *Id.*

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

transaction costs. Absent any public interest rationale for its elimination, Motorola recommends the retention of the community repeater multiple licensing concept to provide end users with another viable service option.

**Public Safety Eligibility & Business Industrial Pool Eligibility.** Under the current rules, publicly-operated transit systems are eligible to hold authorizations in the Public Safety Pool. The Notice notes, however, that not all metropolitan transit systems are publicly owned – some are privately-owned non-profit entities that operate under contract or similar arrangement with a governmental entity, and thus are ineligible to use Public Safety Pool frequencies.<sup>15</sup> The Notice asks whether the current policy should be changed.<sup>16</sup> In a similar vein, the Notice asks if state and local government entities should be eligible for use of Industrial/Business pool frequencies, where they operate commercial enterprises such as golf courses, electrical utilities, etc.<sup>17</sup> Finally, the Notice seeks comment on a request from NPSTC for government surveying crews to gain access to industrial frequencies reserved for commercial surveying operations.<sup>18</sup>

Motorola believes that the eligibility restrictions serve a significant purpose and should not be easily waived or modified. On the other hand, entities should not be disadvantaged by blind application of rigid eligibility requirements. Preferably, the existing eligibility restrictions should remain in place with the Commission providing clarification on how it considers specific classes of entities that straddle the definitions of public safety and business/industrial users.

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<sup>15</sup> Notice at ¶ 14.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

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

With regard to commercially owned transit systems, in most cases, these entities operate pursuant to government contracts. Under the Commission's existing rules, the governing governmental agency could apply for the license in its own name and allow the commercially-owned transit company to operate under the authority of that license pursuant to Sections 90.463 and 90.421. Situations that are not resolved by this approach can be handled on a case-by-case basis. Alternatively, while some governmentally-controlled organizations, such as municipally operated golf courses, clearly operate commercial enterprises and can establish eligibility in the business/industrial pool, other cases are not so clear-cut. These too can be handled on a case-by-case basis. In the final analysis, PLMR frequencies should be made available to the broadest cross-section of users consistent with general FCC policies and provided that the applicants propose to operate in a manner that is not harmful to existing users. Eligibility alone should not deprive organizations of the benefits of private land mobile communications systems.

**Reorganization of Part 90.** The Notice asks if Part 90 of the Commission's Rules should be significantly reorganized.<sup>19</sup> One cited option is to move those provisions applicable to CMRS operations to either Part 22 or Part 27 and to have a separate rule part for public safety. Motorola believes that separating the rules as proposed would prove more problematic and confusing than the current construct and would make it more difficult for the various user groups covered by Part 90 to work together. Because of user requirements, the Part 90 frequency bands do not contain uniform spectrum uses like the cellular radio service or the personal communications services. Rather, licensees conducting public safety, commercial, and private internal communications all have

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<sup>19</sup> Notice at ¶ 17.

varying requirements but must share the spectrum. These varying services can operate both adjacent channel and, in some bands, co-channel to each other. Motorola believes that it would be impossible to coherently segregate the rules applicable to these different services without creating operational problems and confusion that far outweigh any minimal benefits of the rule consolidation. Further, there are advantages for licensees to be fully aware of the operating environment for their frequency band of operation. Therefore, Motorola recommends retaining all relevant provisions within Part 90.

**4.9 GHz Proposals.** The Notice seeks comments on the issues raised in a petition filed by M/A-Com concerning the licensing of facilities in the 4.9 GHz band allocated for public safety use.<sup>20</sup> In pertinent part, Section 90.1207 currently reads as follows:

**§ 90.1207 Licensing**

\* \* \*

(c) A 4940-4990 MHz band license gives the licensee authority to operate base and mobile units (including portable and handheld units) and operate temporary (1 year or less) fixed stations anywhere within the area authorized by the license. Such licensees may operate base and mobile units and/or temporary fixed stations outside of their authorized area to assist public safety operations with the permission of the jurisdiction in which the radio station is to be operated. Base and temporary fixed stations are subject to the requirements of paragraph (b) of this section.

(d) A 4940-4990 MHz band license does not give the licensee authority to operate permanent fixed point-to-point stations. Licensees choosing to operate such fixed stations must license them individually on a site-by-site basis. Such fixed operation will be authorized only on a secondary, non-interference basis to base, mobile and temporary fixed stations.

In its petition, M/A-COM urges the Commission to clarify its rules to explicitly state that licensees in the 4.9 GHz band have authority to operate point-to-point and

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<sup>20</sup> Notice at ¶ 19.

point-to-multipoint fixed links using directional antennas on a primary basis.<sup>21</sup> M/A-COM believes that the rules are ambiguous regarding the status of permanent fixed links that operate as part of an integrated 4.9 GHz network utilizing “hot spots” to provide mobile links.<sup>22</sup>

Motorola agrees that the rules regarding fixed links are creating some confusion in the marketplace and would benefit from FCC clarification. In Motorola’s view, this confusion is created, in part, by the fact that 4.9 GHz networks do not share the same architecture as mobile networks used by public safety in other frequency bands. Mesh networks, for example, utilize a grid of fixed access points to provide wireless broadband communications access across a localized geographic area such as a town or city. Communications are distributed throughout the service areas through the fixed access points. However, similar to the internet, the paths are not rigidly defined but are instead dynamically assigned to maximize efficiency. Often times, mobile and portable units are also used to extend paths where fixed access points are either blocked or otherwise not available.

The operation of a mesh network in the 4.9 GHz band is mobile in nature, even though it employs some “fixed” links as an inherent part of its operation. However, for the most part, the fixed paths are neither permanent nor specified. Therefore, Motorola does not believe that specific changes to Section 90.1207 are essential to facilitate this type of operation, as a logical interpretation of the rules would provide for primary

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<sup>21</sup> *In the Matter of Clarification of Sections 90.1207(c), 90.1207(d), and 90.1215 of the Commission’s Rules to Conform with Findings and Conclusions in WT Docket No. 00-32, Amended Petition for Clarification or, in the Alternative, Petition for Rulemaking of M/A-Com, Inc., WT Docket No. 00-32 (filed Aug. 23, 2005).*

<sup>22</sup> Notice at ¶ 19.

operation of all elements in a mesh system. However, we recognize that the technology has essentially advanced beyond the historical definitions of “Fixed” and “Mobile” as they have been previously applied. Should the Commission determine, nonetheless, that it is necessary to revise its rules with respect to fixed operations, Motorola would support changes that allow operation of fixed links on a primary basis provided they are an integral part of a 4.9 GHz mobile network.<sup>23</sup>

While unfettered use of the band for traditional “back-haul” fixed links could pose interference risks to non-affiliated access points and user devices operating in the same band, Motorola does support use of the 4.9 GHz band for fixed links in cases where the links can be implemented without negatively impacting use of the spectrum for mobile services. Such uses help to ensure that the spectrum is used as efficiently as possible while maintaining the emphasis on the primary mobile use. To this end Motorola notes that advanced technologies can greatly improve the ability of fixed links to use this spectrum while minimizing interference to mobile uses or otherwise impacting use of this spectrum for mobile services. Fixed systems that employ dynamic spectrum monitoring and access techniques to avoid co-channel interference to base/mobile systems can effectively operate around the mobile operations and would promote more efficient use of

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<sup>23</sup> Motorola notes that the Commission’s Notice did not seek comment on the specific language contained in M/A-Com’s recommended revisions to section 90.1207. For the record, Motorola believes that M/A-Com’s proposed revisions to Section 90.1207(c) and (d) unnecessarily removes references to the term “base stations” when describing the types of 4.9 GHz facilities that can be authorized. Motorola believes that, if adopted, the M/A-Com rule revisions could create new confusions and unnecessarily eliminate licensee flexibility. Motorola recommends that the FCC retain the references to “base stations” in these two rule sections and merely clarify that fixed links which are an integral part of a 4.9 GHz mobile system can be operated on a co-primary basis.

the spectrum, provided adequate equipment design and selection of appropriate parameters to avoid interference.

The FCC also proposes to revise the power measurement procedures for 4.9 GHz devices currently specified in Section 90.1215 to conform with the average power measurements recently implemented in Sections 15.247 and 15.407 for unlicensed digital devices.<sup>24</sup> The FCC proposes to define the maximum power as maximum output power as opposed to peak transmit power and to adopt a 13 dB maximum peak-to-average ratio, which is consistent with existing Part 15 requirements. Motorola supports these changes, which will harmonize measurement procedures for similar devices operating in nearby frequency bands. Motorola notes, however, that the Notice's proposed revision to Section 90.1215 modifies the text of paragraph (a) following the table to limit peak power spectral density to 20 dBm per megahertz. The rule currently limits peak power spectral density to 21 dBm/MHz. This change was not discussed in the Notice and Motorola suspects it to be a typographical error. If not, Motorola urges the Commission to retain the existing 21 dBm/MHz limit in order to maximize coverage and robustness of public safety transmissions.<sup>25</sup>

#### **Additional Recommended Changes to Part 90 Rules.**

**Station Identification.** While not specifically covered in the Notice, Motorola urges the Commission to consider certain updates and changes to Section 90.425

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<sup>24</sup> Notice at ¶ 23.

<sup>25</sup> Motorola notes that the power levels in the table of Section 90.1215 allow for a power of 20 dBm in a 1 MHz channel bandwidth, and that the power for larger channel bandwidths increases linearly. It is appropriate for the power spectral density to be somewhat higher (e.g., 21 dBm/MHz vs. 20 dBm/MHz) in order to allow for transmissions that do not have completely flat spectrum across the channel bandwidth.

governing the transmission of station identification. First, Motorola recommends that the Commission modify section 90.425(d) to allow, in general, the transmission of the required station identification using digital signals instead of Morse code. The FCC has already made this change for 800 MHz and 900 MHz Part 90 operations and is considering rule changes for the 700 MHz public safety band in Docket No. 96-86.<sup>26</sup> The rules, however, do not provide the same flexibility for digital operations having earned a protected service area in either the VHF or UHF bands. The FCC should adopt comparable regulations to similarly situated licensees and should therefore provide VHF and UHF licensees this same flexibility.

Second, Section 90.425(e)(2) provides that CMRS stations are permitted to use a single call sign for commonly-owned facilities that are operated as part of a single system. The same flexibility does not apply to PMRS stations. Motorola urges the Commission to remedy this disparate regulatory approach to similarly situated licensees and provide similar flexibility for PMRS stations.<sup>27</sup>

Motorola notes that the Part 90 rules do not restrict the number of base stations that can be authorized under a single call sign. However, the Commission's Universal Licensing System (ULS) limits each call sign to no more than 6 base stations. Therefore, PMRS networks that contain more than 6 base stations must accept the additional cost and burden of ensuring that the system controller accurately assign the appropriate call sign to each base station in order to comply with the provisions of Section 90.425. Increasingly, larger statewide systems are being deployed which efficiently use the

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<sup>26</sup> See, e.g., 47 C.F.R. § 90.647(c).

<sup>27</sup> This could either be accomplished by expanding the scope of existing Section 90.425(e)(2) or adding a new subparagraph specifically intended for PMRS licensees.

spectrum to serve both state and local entities. However, such systems require a large number of sites to cover the service area and agencies must obtain multiple licenses solely because of the Commission's limitation on the number of sites it can accommodate under its Universal Licensing System. Given that the full licensee contact information would be provided to anyone monitoring the transmission of a single network call sign, the FCC should adopt comparable regulations for PMRS and CMRS licensees.

**Mutual Aid Equipment Requirements.** The equipment rules applicable to interoperability or mutual aid channels in various frequency bands are not consistent. In the 700 MHz band, Section 90.547 specifies that:

mobile and portable transmitters operating on narrowband channels in the 746-776 MHz and 794-806 MHz frequency bands must be capable of operating on all of the designated nationwide narrowband Interoperability channels.

There is no companion requirement for 700 MHz base stations.

The policy for 700 MHz equipment is consistent with the rules for VHF and UHF mutual aid frequencies. Specifically, Section 90.203(j)(1) states that:

[a]pplications for certification received on or after January 1, 2005, for mobile and portable transmitters designed to transmit voice on public safety frequencies in the 150–174 MHz band will be granted only if the mobile/portable equipment is capable of operating on the nationwide public safety interoperability calling channel in the 150– 174 MHz band . . . Applications for certification received on or after January 1, 2005, for mobile and portable transmitters designed to transmit voice on public safety frequencies in the 450–470 MHz band will be granted only if the mobile/portable equipment is capable of operating on the nationwide public safety interoperability calling channel in the 450– 470 MHz band.

Again, there is no companion requirement for VHF and UHF base stations.

In contrast, the rules applicable to 800 MHz transmitters are defined in Section 90.203(i) and apparently apply to all transmitters:<sup>28</sup>

Equipment certificated after February 16, 1988 and marketed for public safety operation in the 806–809/851–854 MHz bands must have the capability to be programmed for operation on the mutual aid channels as designated in § 90.617(a)(1) of the rules.

As drafted, the 800 MHz equipment rule is applicable to all transmitters designed to operate in the public safety national plan frequencies. In contrast to the rules for 700 MHz and UHF and VHF equipment, the 800 MHz provision therefore requires all base stations to be capable of operating – in analog mode – on each of the five mutual aid channels in the 800 MHz band.

Motorola recommends that Section 90.203(i) be revised to read as follows:

Mobile and portable transmitters certificated after February 16, 1988 and marketed for public safety operation in the 806–809/851–854 MHz bands must have the capability to be programmed for operation on the mutual aid channels as designated in § 90.617(a)(1) of the rules.

Many of the base stations deployed in the 800 MHz band normally operate in a digital only mode, are generally deployed as single frequency base stations and are not frequency agile due to transmitter combining technology. Therefore, there is no need for these stations to be programmed to operate (*i.e.*, operate in an analog mode) on the mutual aid channels. A separate base station would be deployed in the analog mode for mutual aid operation.

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<sup>28</sup> This version of Section 90.203(i) does not become effective until August 20, 2007. However, the existing rule is identical to this version except for the frequency bands in question – the new rule shows the public safety national plan frequencies post 800 MHz rebanding.

This proposed change will provide consistency with requirements for other bands and will not undermine 800 MHz interoperability capabilities. Manufacturers can still provide models of base stations in the 800 MHz band that provide for analog operation on mutual aid channels. However, public safety entities that are expanding during the transition to more efficient digital equipment will be spared the increasing expense of including analog capabilities on every model base station certified, whether or not analog operation of that model base station is needed. Revision of the rule as proposed therefore will ensure that mobile and portable devices are capable of operating on the mutual aid channels and licensees will include this functionality at transmitter sites as appropriate, but will not incur the added and unnecessary cost of including the functionality in every transmitter. For these reasons, Motorola urges the Commission to modify the rule as requested.

## **Conclusion**

Motorola urges the Commission to proceed expeditiously with the adoption of its clarifications and streamlining proposals, consistent with the recommendations herein.

Respectfully Submitted.

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