



**FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

March 19, 2008

DA 08-604

Ralph A. Haller
President
Land Mobile Communications Council
8484 West Park Drive
Suite 630
McLean, Virginia 22102

Dear Mr. Haller:

On December 12, 2007, you wrote concerning our interpretation of Section 90.187 of the Commission's rules,¹ and in particular the interference protection to be afforded trunked mobile stations operating in the bands between 150 and 512 MHz.² In your letter, you indicate that "the protection now being required for mobile stations [pursuant to Section 90.187] is excessive and propagation tools are being applied incorrectly."³ Specifically, the Land Mobile Communications Council (LMCC) believes that the interpretation by the Wireless Telecommunications Bureau and Public Safety and Homeland Security Bureau (collectively, "Bureaus") of this rule is too restrictive concerning the treatment of mobile stations when analyzing applications for trunked systems not subject to monitoring requirements (commonly referred to as centralized trunked systems).⁴ On behalf of the LMCC, you ask that we consider an alternative interpretation, especially for public safety trunked applications. For the reasons stated below, we decline to accept your alternative interpretation.

Section 90.187 applies to centralized, decentralized, and hybrid trunking in that any trunked system must monitor unless it meets the criteria therein for exemption. The purpose of this rule is to ensure that trunked systems operating in a shared frequency environment would not have a detrimental impact on the operation of existing systems.⁵ Applicants for centralized trunked systems that do not have the exclusive use of a channel must obtain the written consent of affected licensees.⁶ The rules set forth methods for determining affected licensees in terms of both mileage separation and protected contours.⁷ If no affected licensees are determined then consent for a proposed trunking system is not needed.

¹ 47 C.F.R. § 90.187.

² Letter from Ralph A. Haller, President, LMCC, to Fred Campbell, Chief, Wireless Telecommunications Bureau and Derek Poarch, Chief, Public Safety and Homeland Security Bureau, dated Dec. 12, 2007 (LMCC Letter). The Public Safety Communications Council subsequently filed a letter of support. *See* Letter from Richard Kinsman, Chairman, PSCC, to Fred Campbell, Chief, Wireless Telecommunications Bureau and Derek Poarch, Chief, Public Safety and Homeland Security Bureau, dated Dec. 17, 2007.

³ LMCC Letter at 1.

⁴ In centralized trunked systems, the base station controller provides dynamic channel assignments by automatically searching all channels in the system and assigning to a user an open channel within that system.

⁵ For example, the rule requires that the level of monitoring must be sufficient to avoid causing harmful interference to other systems. *See* 47 C.F.R. § 90.187(b).

⁶ 47 C.F.R. § 90.187(b)(2). Conversely, applicants in the 470-512 MHz band may obtain exclusivity by satisfying certain loading criteria. *See* 47 C.F.R. § 90.313(a).

⁷ 47 C.F.R. § 90.187(b)(2)(ii) and (iii). Affected stations are also a function of channel bandwidth. *See* 47 C.F.R. § 90.187(b)(2)(i).

LMCC expresses concern with how the Bureaus apply the “protected contour” aspect of the rules to mobile stations in order to determine affected licensees under Section 90.187(b)(2).⁸ LMCC states that under the Bureaus’ interpretation, coordinators must base their affected station calculations on mobile stations operating at the edge of their service area, in the direction of the proposed or incumbent station.⁹ LMCC contends that the Bureaus’ approach protects mobiles in areas they rarely may be operating,¹⁰ resulting in, among other things, “poor spectrum management.”¹¹

LMCC argues that, instead of analyzing “mobiles at the edge of the service area,” coordinators should be permitted to use a more relaxed standard, at least in the interim until a more workable model can be employed.¹² More specifically, LMCC avers that coordinators should be allowed to make the affected station calculations based on mobile stations operating at the center coordinates of the service area.¹³ To put this issue in perspective, LMCC describes three scenarios where it claims the Bureaus’ current approach would lead to excessive overprotection of incumbent operations:¹⁴ (i) a proposed MO8¹⁵ mobile to incumbent fixed (base) station scenario, (ii) a proposed MO8 mobile to incumbent mobile station scenario, and (iii) a proposed FB8¹⁶ base station to incumbent mobile scenario.¹⁷

LMCC also contends that an *Order Proposing Modification*, released by the Wireless Telecommunications Bureau, “provides a workable interim solution and that all frequency coordinators agree to.”¹⁸ LMCC specifically cites to footnote 18 of the *Order Proposing Modification*, which states in part that “we believe that it is sufficient, as an initial matter, to coordinate a temporary fixed or mobile-only application based on the center coordinates of the authorized service area, as AAA apparently did in this case.”¹⁹

The *Order Proposing Modification* cited by LMCC is distinguishable from the instant matter. That order addressed use of the TIA/EIA/TSB-88 interference criteria in coordinating 12.5 kHz “offset” channels in the 470-512 MHz band rather than operations between the 150 and 512 MHz bands under Section 90.187, as is the case here. Unlike the TIA/EIA/TSB-88 interference study cited in the *Order*

⁸ LMCC Letter at 1-2.

⁹ *Id.* at 2.

¹⁰ *Id.* In the case of mobile-to-mobile interference, LMCC states that “the proposed and incumbent mobiles would have to be in exactly the right locations for interference to occur and then be trying to communicate exactly at the same time.” *Id.*

¹¹ *Id.* at 3.

¹² *Id.* at 4.

¹³ *Id.* at 4-5.

¹⁴ *Id.* at 2-3.

¹⁵ The MO8 station class code is used to identify mobile channels associated with base/mobile relay stations with an FB8 code. It shows that the mobile channel is assigned on an exclusive basis inside the service contour of the FB8 station. We note here that mobile-only MO8 operations are not permitted. See Wireless Telecommunications Bureau Establishes a New Station Class Code in Connection with Licensing Trunked Radio Systems Operating Between 150-512 MHz, *Public Notice*, 16 FCC Rcd 7515 (WTB 2001).

¹⁶ In centralized trunked systems base/mobile relay stations have an FB8 station class code to denote exemption from the monitoring requirement.

¹⁷ LMCC Letter at 2.

¹⁸ LMCC Letter at 4, citing License Communications Services, Inc., *Order Proposing Modification*, 22 FCC Rcd 17596 (WTB MD 2007) (proposing license modification for a station operating in the 470-512 MHz band), *protest pending*.

¹⁹ *Id.* citing *Order Proposing Modification*, 22 FCC Rcd at 17598 n.18.

Proposing Modification, the analysis performed under Section 90.187 determines whether an applicant will receive authority to operate without being subject to the monitoring requirement in shared bands. We therefore find that a more conservative approach when determining whether a licensee is an “affected licensee” under Section 90.187 is appropriate. Thus, Section 90.187 requires applicants for centralized trunked systems to obtain the consent from stations that would be subject to objectionable interference from the proposed trunked system (*i.e.*, consent from licensees of affected stations).²⁰

Objectionable interference is considered to exist when the interference contour of the proposed station intersects the *service contour* of an existing station.²¹ Based on this language, and to avoid trunked systems from causing interference to existing stations operating in a shared environment, affected station calculations must be determined with mobile units located at the edge of their associated base station’s service contour.²² In this regard, we also note that, even in the absence of consent from affected licensees, an applicant may operate a de-centralized trunked system as long as it satisfies the monitoring requirements intended to limit interference in shared bands.²³

LMCC further argues that the Commission’s approach could overprotect existing mobile units in the context of evaluating potential interference from a proposed mobile or base station to incumbent mobile units.²⁴ In this scenario, LMCC states that the level of protection provided by evaluating an incumbent mobile at the edge of its mobile service area is excessive. For example, LMCC states that this approach protects mobiles in areas beyond the incumbent’s licensed service area (*i.e.*, in areas where it cannot legally operate).²⁵ Further, LMCC raises a spectrum efficiency argument with this approach (*i.e.*, the probability of interference occurring in this scenario is highly unlikely). LMCC raises legitimate points. However, LMCC’s alternative approach underestimates the potential for interference by placing an incumbent’s mobile units at the center point of its authorized service area. This results in incumbents not being protected in areas where they are authorized to operate. As noted above, we believe that our approach would ensure that trunking systems do not cause interference to existing stations operating in a shared environment.²⁶

LMCC also contends that the propagation model employed to predict mobile service interference contours (*i.e.*, R-6602 curves) is faulty because it generates excessively large service and interference contours.²⁷ While LMCC does not suggest an alternative propagation model to determine mobile service contours, we realize that R-6602 may be a less than ideal model for calculating mobile service and interference contours for the purposes of determining affected stations under Section 90.187. In this regard, however, we note that the rules do not require use of R-6602. Rather, the rules state that the calculation of service contours “shall be done using generally accepted engineering practices and

²⁰ 47 C.F.R. § 90.187(b)(2)(iii).

²¹ *See id.* (emphasis added).

²² The service contour for VHF and UHF stations, respectively, is 37 dBu and 39 dBu. If the existing station is a mobile-only operation, then the mobile should be studied at the edge of the mobile area of operation specified on the license. *See, e.g.*, Letter to David Smith, Frequency Coordinator, Forest Industries Telecommunications, from Barry J. Ohlson, Acting Chief, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau, dated Mar. 13, 2002 (stating that because mobile units are entitled to protection throughout their entire licensed service area, mobile units should be studied at the edge of their service area).

²³ *See* 47 C.F.R. 90.187(b); Private Land Mobile Radio – Monitoring Levels for Non-Exempt Trunked Systems on Channels Between 150-512 MHz, *Public Notice*, 16 FCC Rcd 21421 (WTB PSPWD 2001).

²⁴ LMCC Letter at 3.

²⁵ *Id.*

²⁶ *See* 47 C.F.R. § 90.187(b)(2)(iii).

²⁷ LMCC Letter at 2-3.

standards.”²⁸ Thus, coordinators may continue to use R-6602 curves for mobile units until they form a consensus as to the use of another propagation model that meets this standard.²⁹ As another alternative, coordinators may form a consensus to specify a mobile unit derating factor to apply to the R-6602 curves.³⁰

Both the Wireless Telecommunication Bureau and the Public Safety and Homeland Security Bureau acknowledge the public interest in having a consistent and uniform interpretation of Section 90.187 across the services administered by both Bureaus. We believe this letter furthers that objective. We also recognize that application of the trunking rules can be complex, especially with respect to centralized trunking operations in the 150 MHz PLMR band where licensees are operating in a shared environment with non-standard pairs or unpaired frequencies.³¹ We would be happy to work with LMCC and its members to identify potential problem areas in the trunking rules as well as to promote trunking overall. In this regard, we will place a copy of LMCC’s letter in the record in the Commission’s open Part 90 omnibus proceeding in WP Docket No. 07-100.³² Also, if LMCC believes that the public interest would be furthered by a rule that is consistent with its interpretation, it may wish to consider a petition for rulemaking.

We trust that this letter is responsive to your inquiry. If you have any additional questions, please contact Scot Stone of the Wireless Telecommunications Bureau at (202) 418-0638 or Zenji Nakazawa of the Public Safety and Homeland Security Bureau at (202) 418-7949.

Sincerely,

Fred Campbell
Chief
Wireless Telecommunications Bureau

Derek Poarch
Chief
Public Safety and Homeland Security Bureau

²⁸ See 47 C.F.R. § 90.187(b)(2)(iv).

²⁹ *Id.*

³⁰ See LMCC Letter at 3.

³¹ In the 450-470 MHz and 470-512 MHz bands the rules provide for standardized pairing, so usually the calculations only involve base stations.

³² Amendment of Part 90 of the Commission’s Rules, WP Docket No. 07-100, *Notice of Proposed Rulemaking*, 22 FCC Rcd 9595 (2007).