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November 12, 1996

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Federal Communications Commission
Office of Secretary

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Ex Parte Submission, PR Docket 89-552, GN Docket 93-252 & PP Docket 93-~~252~~ 253

Dear Mr. Caton:

On behalf of Securicor Radiocoms Limited ("Securicor") and pursuant to Section 1.206(a) of the Commission's Rules, attached are two copies of a written ex parte presentation in the above-referenced Dockets.

Should there be any questions regarding this submission, please contact this office.

Sincerely,

Robert B. Kelly

Attachment

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November 12, 1996

The Honorable Reed E. Hundt
Chairman, Federal Communications Commission
1919 M Street, N.W., Room 814
Washington, D.C. 20554

The Honorable James H. Quello
Commissioner, Federal Communications Commission
1919 M Street, N.W., Room 802
Washington, D.C. 20554

The Honorable Rachelle B. Chong
Commissioner, Federal Communications Commission
1919 M Street, N.W., Room 844
Washington, D.C. 20554

The Honorable Susan Ness
Commissioner, Federal Communications Commission
1919 M Street, N.W., Room 832
Washington, D.C. 20554

Re: Ex Parte Submission, PR Docket 89-552, GN Docket 93-252 & PP Docket 93-252

Dear Chairman Hundt and Commissioners Quello, Chong and Ness:

On behalf of Securicor Radiocoms Limited ("Securicor"), this letter will respond to the October 28, 1996 Ex Parte submission of Metricom, Inc. ("Metricom") and the Joint Supplemental Comments of Comtech, Inc., et al., ("Joint Commenters") in the above referenced Dockets.

Both the Metricom and Joint Commenters' submissions address the issue of implementation of a spectrum efficiency standard with respect to the introduction of non-narrowband technologies on contiguous channel assignments in the 220-222 MHz band. Metricom, in particular, opposes the implementation of any efficiency standard. The Joint Commenters suggest that any efficiency standard should apply only to the 100 non-nationwide trunked channel assignments in the 220 MHz band.

Consistent with the FCC's proposal in its Third Notice of Proposed Rulemaking in the above-referenced Dockets,[1] Securicor has supported the implementation of a spectrum efficiency standard to preserve the essential character of the 220 MHz Band as promoting the introduction of advanced spectrally-efficient technologies. Securicor will not at this late date restate in detail its views here, but notes that there is much record evidence in this Docket that supports the implementation of a meaningful spectrum efficiency standard and quantifies the public benefits that have accrued as a result of the allocation of the 220-222 MHz band for use by spectrally-efficient narrowband technologies.

Securicor, however, does wish to clarify for the record certain matters addressed by Metricom and the Joint Commenters. In particular, the Joint Commenters (Supplemental Comments at 6-7) attempt to measure spectrum efficiency by subscriber estimates. The Joint Commenters have not provided any traffic and use assumptions that underlie their relative subscriber estimates for the FLEX™ and Inflexion™ technologies and for the existing narrowband 5 kHz technologies. It is therefore impossible to assess the Joint Commenters estimates regarding the subscribers that may be meaningfully served by these technologies. In any event, the number of subscribers served by a particular technology, standing apart from the amount of system capacity, is simply not an appropriate measure of spectrum effieciency. Rather, as recognized by the Commission in its refarming docket (PR Docket 92-235) the total system capacity measured in digital terms in bits per second per hertz, or, in analog terms, in bandwidth needed to provide acceptable quality voice transmission, provides an appropriate measure of spectrum efficiency.

The Joint Commenters also erroneously sugggest that 5 kHz narrowband technologies may not be as capable of providing frequency reuse or simulcasting as technologies operating on wider bandwidths. Simulcasting, indeed, operates to decrease the overall level of operational spectrum efficiency by broadcasting the same information over multiple sites and a wider geographic area; frequency reuse methodologies, in contrast, typically increase the overall level of operational spectrum efficiency. Securicor's Linear Modulation 5 kHz technology in fact is as capable of both simulcasting and frequency reuse as any technology. These, indeed, are matters of system design (i.e., site location, antenna height and power) and are not benefits attributable to bandwidth.

Finally, the Joint Commenters' proposal to apply an efficiency standard only to non-contiguous channels is essentially discriminatory and of suspect legality. The spectrum efficiency standard proposed in the Third Notice of Proposed Rule Making in this Docket was intended to ensure that non-narrowband technologies introduced into the 220 MHz band operate

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[1] Amendment of Part 90 of the Comission's Rules to Provide for the Use of the 220-222 Mhz Band by the Private Land Mobile Radio Services (Second Memorandum Opinion and Order and Third Notice of Proposed Rule Making, 11 FCC Rcd 188 (1995).

with comparable efficiency to the narrowband 5 kHz systems deployed as a result of the Commission's reallocation of the 220 MHz band from the amateurs to promote the deployment of spectrally-efficient technologies consistent with the mandate of Sections 7, 303 and 332 of the Communications Act. Adoption of a spectrum efficiency standard applicable only to systems already operating on spectrally efficient narrowband channelization would simply be a meaningless act. In addition, there is no record evidence in this Docket, other than the recent and belated filings of the Joint Commenters and Metricom, that would support the distinction between the groups of channels proposed by the Joint Commenters.

Metricom proposes a spectrum efficiency standard of 0.6 bps/hz in the event the Commission adopts any spectrum efficiency standard. Metricom's proposal is derived from its attempt to translate an analog spectrum efficiency estimate into a digital standard. Metricom suggests that since the bandwidth used for voice transmission is 3 kHz, the analog efficiency of 5 kHz narrowband equipment is 0.6 (3 kHz/5 kHz), and that this should therefore be the digital standard for efficiency if one is to be adopted. Securicor strongly disagrees with the efficiency methodology proposed by Metricom.

At the outset, Metricom has not even attempted to use the current operating data capabilities of existing 5 kHz narrowband equipment as a measure of digital spectrum efficiency, which, for Securicor's LM system, currently is 14.4 kb/s, or 2.88 bps/hz. Instead, Metricom has avoided the issue of the real efficiencies of currently operating narrowband equipment simply by comparing analog apples to digital oranges. As a technical matter, Metricom has erroneously assumed that a "unit of information" for analog voice is equivalent to 1 Hz. In fact, analog voice requires a continuous signal process and cannot be measured in the manner suggested by Metricom's "unit of information" of 1 Hz. A measure of bandwidth does not, as Metricom suggests, equate to a measure of a rate of data transfer. For example, a reduction in data speed does not affect the quality of the information, only the speed at which it is transmitted. A reduction in bandwidth, in contrast, does affect the quality of the information transmitted.

Should there be any questions regarding this submission, please contact this office.

Sincerely,

Robert B. Kelly

cc: Jackie Chorney, Esq.
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