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December 16, 1999

BY HAND

RECEIVED

Magalie Roman Salas, Secretary
Federal Communications Commission
445 Twelfth Street, S.W. - Suite TW-A325
Washington, D.C. 20554

DEC 16 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE CLERK

Re: WT Docket No. 99-168 and WT Docket No. 96-86
Written Ex Parte Presentation

Dear Ms. Salas:

Transmitted herewith are four copies of a written *ex parte* presentation by FreeSpace Communications (FreeSpace) for inclusion in the public record of the two above-referenced proceedings. This presentation sets forth FreeSpace's comments regarding a recent proposal by Motorola, Inc. for reversing the public safety and mobile transmit bands in the spectrum bands at issue in WT Docket No. 99-168. (See Letter of Steve Sharkey, Motorola, WT Docket Nos. 99-168 & 96-86 (filed Dec. 13, 1999).) The Commission staff has previously solicited FreeSpace's views on this proposed change.

As set forth in the enclosure, this proposed change does not implicate the operations by commercial licensees such as FreeSpace in the proposed guard bands that would be adjacent to public safety communications. FreeSpace has submitted proposals in this proceeding that would provide strong protection for public safety systems against interference from commercial services operating in these guard bands.

The changes proposed in Motorola's December 13 letter, however, do have implications for the viability of commercial services operating in the remaining portions of the spectrum bands at issue in this proceeding and for the need to protect public safety communications in adjacent bands. The enclosure raises a number of issues the Commission should carefully consider before reaching a decision in this proceeding. We also note that other parties have expressed concerns about Motorola's proposal. For example, Bell Atlantic has stated that it "is concerned about Motorola's conclusion that future commercial mobile services deployment may be inhibited in this band." (Letter of Donald Brittingham, Bell Atlantic, to Magalie Roman Salas, WT Docket No. 99-168 (filed Dec. 9, 1999).)

FreeSpace urges the Commission to give all interested parties an opportunity to address the important issues raised by Motorola's December 13 letter.

No. of Copies Filed 074
Date Filed

Sincerely,

A handwritten signature in black ink, appearing to read "Charles W. Logan", with a long horizontal flourish extending to the right.

Charles W. Logan

Enclosure

cc:

Ari Fitzgerald

Bryan Tramont

Adam Krinsky

Julius Knapp

James Schlichting

Marty Liebman

Herbert Zeiler

Mark Schneider

Peter Tenhula

Dale Hatfield

Thomas Sugrue

Kris Monteith

Jay Jackson

FreeSpace Comments on the Proposed Reversal of Public Safety Base and Mobile Transmit Bands

In a recent filing,¹ Motorola proposes reversing the public safety base and mobile transmit bands to improve the compatibility of Commercial Mobile Radio Service (CMRS) systems and public safety systems that will occupy adjacent bands in the 746-806 MHz portion of the spectrum. In this letter, FreeSpace Communications (FreeSpace) offers its comments on the proposed reversal.

FreeSpace agrees with the goal of designing the service rules for this band to maximize protection to public safety operations. To the extent that reversing the base and mobile transmit bands achieves this goal, the Commission should consider adopting the modified band plan. The Commission must carefully consider the complex interference issues raised by this new proposal and the techniques proposed to mitigate them. The Commission should also give interested parties a sufficient opportunity to comment on the proposal. FreeSpace believes that there are certain additional issues to those raised in Motorola's December 13 filing that the Commission may wish to consider when evaluating the efficacy of the proposed rules. FreeSpace offers these comments in the interest of aiding the Commission in selecting the plan that maximizes the protection to public safety units while protecting the commercial viability of nearby CMRS operations.

It should be noted that the operation of services in the proposed 1.5MHz guard bands would be little affected by Motorola's proposed change. FreeSpace has submitted a proposal in this proceeding whereby commercial services would operate in the guard bands subject to strong interference safeguards that will protect public safety communications from interference whether or not the Commission adopts the proposals set forth in Motorola's December 13 letter.

Potential Interference Across the 806MHz Band Edge

The proposed band plan change in Motorola's December 13 letter may create a new potential for interference that would exist at the 806MHz boundary between the public safety mobile receive band and the mobile transmit band in the existing shared public safety / PMRS allocation from 806-824 MHz. This interference boundary was not considered in the recent Motorola filing and could potentially lead to significant interference issues between base units in the two bands and between mobiles in the two bands.

In the first case, existing PMRS and public safety base units operating in the 806-824MHz band would receive interference from new public safety base stations in the adjacent 794-806MHz band. Because public safety systems are typically required to

¹ Letter of Steve Sharkey, Motorola, Inc., to Magalie Roman Salas, FCC Secretary, WT Docket Nos. 99-168 & 96-86 (filed Dec. 13, 1999).

operate over very large coverage areas, this mode of interference could severely limit the deployment of public safety systems in the new bands in areas where older 800MHz systems are already in use. Because of this base-to-base interference, site collocation may be unavailable and may actually increase interference if used. This could greatly complicate the siting of new public safety systems and might make these systems unusable in certain areas. At the very least, public safety officials would have to acquire new sites and erect new facilities and towers to avoid such interference, which would prevent them from taking advantage of the significant savings afforded by reusing existing facilities and towers. The situation is even worse when one considers the widespread use of SMR systems in the 806-821MHz band. New public safety installations that have to avoid interference to existing SMR sites could be virtually impossible to site in areas where such SMR services exist if the band plan promotes base-to-base interference.

In the second case, public safety mobile units in the 794-806MHz band would be the recipients of interference from PMRS and public safety mobile units in the 806-824MHz band. This mode of interference would be of particular concern for public safety mobile radios operating in the two bands because it would prevent the simultaneous operation of two mobile units that are in close proximity. Because of this, public safety officials would find that officers using the newer 794-806MHz radios would be unable to use their handsets in the vicinity of fellow officers operating on the older system. This would be an unacceptable situation that would constantly place public safety communications at risk. Furthermore, public safety mobile units would be desensitized by nearby SMR handsets operating in the 800MHz band.

Concerns About Interference Between CMRS and Public Safety Bases

In addition to these concerns, the proposed band reversal would create a new potential for base-to-base interference between CMRS base units in the 777.5 – 792.5MHz band and public safety base units in the 764-776MHz band. As noted by Motorola, achieving the same level of protection previously advocated for base-to-mobile interference would require extremely strict emissions limits (greatly in excess of –57dBm in a 6.25kHz bandwidth) or, alternatively, cooperation between the licensees through antenna relocation, down tilt on CMRS antennas and/or the use of voting receive sites for public safety systems. The Commission should carefully assess the additional restrictions that this interference potential would create for the deployment of new commercial systems in the 777.5 - 792.5MHz band and the increased burden to preventing interference that will be placed on all parties. It would, at least, be useful for the Commission to consider the analysis underpinning the proposed new requirement of –62dBm in a 6.25kHz bandwidth in the 764-776MHz band.

Conclusion

We believe that these additional issues should be considered by the Commission along with the other issues raised by Motorola when evaluating the newly-proposed band plan. As a general principle, FreeSpace urges the Commission to adopt the plan that provides the best protection to public safety units. As for operations in the proposed guard bands adjacent to the public safety bands, such a band reversal appears to have little effect on the viability of the services to be operated there.