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

In the Matter of	)	
	)	
Amendment of the Commission's Rules With Regard to the 3650-3700 MHz Government Transfer Band	)))	ET Docket No. 98-237

COMMENTS OF GE AMERICAN COMMUNICATIONS, INC.

GE American Communications, Inc. ("GE Americom"), by its attorneys, hereby submits its comments relating to the *First Report and Order and Second Notice of Proposed Rulemaking* in the above-captioned proceeding.[1] GE Americom is a member of the Extended C-Band Ad Hoc Coalition (the "Coalition") and joins in the Petition for Reconsideration and Comments being filed today by the Coalition ("Coalition Petition"). We are filing separately here to emphasize our own concerns about the Commission's action and provide GE Americom's views on the new proposals made in the *Order*.

GE Americom has a strong interest in the outcome of this proceeding. GE Americom is currently licensed to offer extended C-band services using INTELSAT space segment. In addition, Columbia Communications Corporation,

[1] *See Amendment of the Commission's Rules With Regard to the 3650-3700 MHz Government Transfer Band, First Report and Order and Second Notice of Proposed Rulemaking*, FCC 00-363 (rel. Oct. 24, 2000) ("*Order*").

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which GE Americom recently acquired, is authorized to launch and operate satellites with extended C-band capacity and has a pending request to include extended C-band capacity on a future replacement satellite. Finally, GE Americom holds a license for a Ka-band satellite system and has applied for authority in the V-band. GE Americom joined with other Ka-band licensees in seeking authority to use extended C-band for TT&C for systems operating at Ka-band and above.[2] The Commission's decision to reallocate the extended C-band for terrestrial operations and the proposals made for future use of the band thus will have a direct impact on GE Americom's ability to provide satellite communications services in accordance with its current authorizations and pending applications.

I. THE COMMISSION MUST RECONSIDER THE RE-ALLOCATION OF THE 3650-3700 MHz BAND

GE Americom strongly agrees with the Coalition Petition that reconsideration of the *Order* is necessary. The Commission's decision to reallocate the 3650-3700 MHz band for terrestrial operations conflicts with the record in this proceeding. That record demonstrates strong satellite use of the band, contrasted with at best lukewarm interest in the band for terrestrial service. Furthermore, the Commission had an obligation to at least explore the possibility of shared use of the band prior to terminating availability of the spectrum for satellite operations.

As the Coalition Petition observes, there is significant demand for satellite communications services in the extended C-band. The Commission's

[2] *See* Petition for Rulemaking, RM-9411 (filed Aug. 7, 1997).

decision to freeze the acceptance of applications to communicate with satellites in the 3650-3700 MHz band will harm both customers and operators of satellite systems. Customers will have their service options significantly curtailed, and operators will have difficulty recovering the enormous sunk investments they have made in extended C-band equipment.

The Commission's action also strikes a blow to the implementation of next-generation broadband satellite services. As GE Americom and others have explained, conducting TT&C operations in-band for systems with service links at Ka-band and above is simply infeasible.[3] Because of the rain fade effects that occur at higher frequencies, TT&C operations in these bands would lack the level of reliability necessary for this critical function. The Commission has also encouraged planned systems to rely on the 3650-3700 MHz band for TT&C. Specifically, the Commission sent forward ITU submissions that identified this band for TT&C, while refusing to permit parties to specify in their ITU filings other spectrum that had been proposed for TT&C use. The *Order*, however, effectively precludes future use of the band for TT&C by making clear that any new earth station applications in the 3650-3700 MHz band will be secondary to terrestrial operations. *Order* at ¶ 30. No satellite operator can accept secondary status for TT&C transmissions.

[3] *See, e.g.*, Reply Comments of GE American Communications, Inc., ET Dkt. No. 98-237, at 2-4 (filed March 3, 1999).

This decision is particularly puzzling given the promising prospects for sharing between terrestrial operations and satellite use of the 3650-3700 MHz band for TT&C. As the Coalition Petition makes clear, TT&C systems use a few earth stations with large antennas and occupy a limited amount of bandwidth. These characteristics make sharing with terrestrial operations much easier and clearly justify consideration of that approach before taking the drastic step of complete reallocation of the spectrum.

Finally, the Commission's decision to set a final date of November 30 for the filing of new or modified earth stations to operate in the 3650-3700 MHz band was clearly arbitrary. The Commission reasonably determined that allowing new satellite uses of the band within 10 miles of existing grandfathered earth stations would not impair availability of the spectrum for terrestrial operations.[4] Given that determination, there was no basis for setting such a short time period for new or modified earth station filings that would be eligible for grandfathering. A longer period would have allowed more careful planning by satellite operators, and there is no reason to believe that it would have materially altered the coordination environment for future terrestrial operations.

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[4] *See Memorandum Opinion and Order, Amendment of the Commission's Rules With Regard to the 3650-3700 MHz Government Transfer Band, First Report and Order and Second Notice of Proposed Rulemaking,* FCC 00-181 at ¶ 4 (rel. May 22, 2000)

II. THE COMMISSION SHOULD ADOPT RULES TO PROMOTE AND PROTECT SATELLITE USE OF THE 3650-3700 MHz BAND

In acting on the proposed rules in the further notice, the Commission should act to provide a reasonable opportunity for ongoing satellite use of the 3650-3700 MHz band and put in place coordination standards to prevent harmful interference to satellite services.

A. The Commission Should Delete Footnote US 245

First, GE Americom strongly supports deletion of footnote US 245 to the Table of Allocations. As the Commission notes, the footnote, which restricts fixed-satellite service use of the 3650-3700 MHz band to international intercontinental systems, was designed to meet INTELSAT requirements. *Order* at ¶ 128. Given the competitive environment in which INTELSAT now operates, there is no justification for reserving spectrum for its use alone. Deletion of the footnote will provide for more "flexible and efficient use of FSS earth station sites." *Id.* The footnote should be eliminated, and FSS operators should be permitted to use the 3650-3700 MHz band for both domestic and international services.

B. The Commission Should Allow Systems Operating in Ka-band and Above to Use the 3650-3700 MHz Band for TT&C

Second, GE Americom supports the Commission's tentative conclusion that it should amend Section 25.202(g) to permit use of the 3650-3700 MHz band for systems that operate in other bands. *Order* at ¶ 130. As GE Americom and others have explained, systems that operate in the Ka-band and above cannot reasonably rely on in-band TT&C. Rain fade effects in those bands make it infeasible to

achieve the level of consistent reliability required for TT&C operations. Accordingly, GE Americom agrees with the Coalition Petition that TT&C in the 3650-3700 MHz band should be routinely permitted for systems operating at Ka-band and above without a specific showing of need.

The Commission asks whether reliability at higher frequency bands could be assured through use of earth station diversity. *Order* at ¶ 131. As the Coalition Petition explains, most satellite system operators have multiple TT&C stations. GE Americom, for example, has four TT&C sites in the United States, in Maryland, New Jersey, Colorado, and California. However, these multiple sites are used to ensure that TT&C communications are not interrupted by equipment failures, weather events, or other problems, even in the more reliable C- and Ku-bands. Furthermore, the cost of establishing a TT&C earth station is extremely high and would be a barrier to the use of multiple Ka-band or V-band TT&C sites, especially for new satellite service providers. Although the costs of performing TT&C at Ka-band and above might decline slightly over time, GE Americom does not expect that the costs would fall to a level that would make Ka-band TT&C preferable to use of the extended C-band.

In addition, as the Commission recognizes, in certain emergency situations such as attempting recovery of a spacecraft using the satellite's omni-directional antenna, availability of C-band frequencies for TT&C is critical. *Order* at ¶ 131. At a minimum, the Commission must make clear that use of the 3650-3700 MHz band will be permitted for such recovery operations.

C. The Commission Should Adopt Its Proposals for FSS-FS Coordination and Interference Control

Finally, GE Americom supports the Commission's proposals with respect to coordination between terrestrial fixed service operations and FSS systems. Specifically, GE Americom supports the suggestion made by Comsearch regarding the use of coordination procedures contained in Part 25, which are based on Appendix S7 of the ITU Radio Regulations. *See Order* at ¶ 102. GE Americom also agrees that the coordination process needs to accommodate future changes in FSS facilities. GE Americom supports the Commission's proposal to protect an earth station at its existing orientation, plus a fixed arc adjacent to that orientation. *Id.* at ¶ 103. GE Americom suggests that the Commission allow changes in orientation of plus or minus ten degrees. GE Americom agrees with other FSS operators that the Commission should adopt an out of band emission limit of 60 + 10log(p) dB for FS operations in the 3650-3700 MHz band. *See id.* at ¶ 110.

GE Americom also supports the Commission's tentative conclusion that there is no need for earth station size limits in the spectrum adjacent to the 3650-3700 MHz band. *Id.* at ¶ 113. As the Commission has noted, PanAmSat's analysis of the impact of antenna size on susceptibility to adjacent band interference is correct. *Id.* Specifically, filtering, not earth station antenna size, is the most important factor in preventing interference from terrestrial stations into fixed earth stations. As a result, the Commission should not impose earth station antenna size restrictions.

CONCLUSION

For the foregoing reasons and those set forth in the Coalition Petition, the Commission should reconsider the *Order* and adopt rules designed to permit continued use of the 3650-3700 MHz band for satellite services.

Respectfully submitted,

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December 18, 2000

CERTIFICATE OF SERVICE

I, Cecelia Burnett, do hereby certify that on this 18th day of December, 2000, copies of the foregoing "Comments of GE American Communications" were hand delivered to the following parties:

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