



MAR 12 1999

Mr. William Hatch  
Acting Associate Administrator  
Office of Spectrum Management  
National Telecommunications and Information Administration  
United States Department of Commerce  
Washington, D.C. 20230

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Dear Mr. Hatch:

On December 18, 1998, the Commission released the 3650-3700 MHz *Notice of Proposed Rule Making and Order* ("NPRM"), in which this Government transfer band was proposed to be reallocated to the non-Government fixed service. A copy of the *NPRM* is enclosed. A Report and Order in this docketed proceeding is tentatively scheduled for the spring. The purpose of this letter is to provide information to you, as well as to request information and assistance from NTIA, in resolving issues concerning the 3650-3700 MHz mixed-use band and an associated matter concerning the 3600-3650 MHz Government/non-Government shared band.

3650-3700 MHz Band

The *NPRM* raised two issues requiring NTIA's assistance. First, in accordance with NTIA's request, the *NPRM* did not specify a distance from the U.S. and territorial coastlines beyond which naval vessels would be permitted to transmit in the 3650-3700 MHz band. Instead, the *NPRM* stated that this distance was being considered in the coordination process and that the Commission anticipated specifying this distance in the upcoming Report and Order in this proceeding. In order to prepare the Report and Order, we request that NTIA provide its view of what this distance should be.

Second, the *NPRM* stated that the Commission is working closely with NTIA to make available the information that potential non-Government licensees will need in order to evaluate the viability of new commercial services in the 3650-3700 MHz band. The *NPRM* stated that the Commission intended to obtain: (1) the coordinates of those geographic areas that would be affected by Government systems (assuming signal line-of-sight propagation for an effective 4/3 Earth radius); and (2) the equipment operating characteristics of the Government systems, including the values of radar broadband transmit noise, the radar's e.i.r.p. and spectral characteristics of the e.i.r.p. as a function of frequency. The Commission also stated its intention to use the information provided by NTIA in order to plot the impacted areas and to make this information available to the public. We request that NTIA provide this information.

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In addition, we would like to raise several issues with you that were not addressed in the *NPRM*. It is our understanding that the 3650-3700 MHz band is primarily used by Navy carrier-based air traffic control ("ATC") radars and that the three grandfathered sites are used for test, maintenance, and installation of these shipborne radars. In the 1995 *Spectrum Reallocation Final Report*, NTIA indicated that these radars "have a tuning range of 3590-3700 MHz; however, Navy maintains that they almost exclusively operate the radars between 3640 MHz and 3670 MHz."

First, we note that NTIA did not grandfather the ATC radars at seven of the eight Navy training sites.<sup>1</sup> We interpret this as meaning that there will be no operations in the 3650-3700 MHz band at these locations. Please confirm that our understanding is correct.

Second, we request that NTIA investigate whether ATC radars at the three grandfathered sites can limit their operations to the 3590-3670 MHz segment and thus generally avoid use of the 3670-3700 MHz segment. For instance, we request NTIA comment on whether the use of the 3670-3700 MHz segment at the grandfathered sites could be restricted to short periods of scheduled maintenance, test-calibration, and installation. We believe that the value of the 3650-3700 MHz band to commercial users would be significantly increased by such action.

Third, specific to the grandfathered site at Pascagoula, we request information on whether the radars being installed aboard aircraft carriers at the Pascagoula docks will be tested only when the carrier is tied up to the dock, or whether the radars will be tested out in the Gulf of Mexico.

### 3600-3650 MHz Band

In a related matter, we wish to inform you that nine of the thirteen companies granted fixed-satellite service ("FSS") licenses in the Ka-band<sup>2</sup> have filed a petition for rulemaking, requesting that the Commission designate ten megahertz of spectrum in both the 3600-3700 MHz band (space-to-Earth) and the 6425-6525 MHz band<sup>3</sup> (Earth-to-space) for TT&C functions for geostationary satellite orbit ("GSO") space stations in the fixed-satellite service that operate at

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<sup>1</sup> The Navy's training sites for the AN SPN-43 are located at Corpus Christi, Texas; Jacksonville and Pensacola, Florida; Lemoore, North Island, and Point Mugu, California; Oceana, Virginia; and Patuxent River, Maryland. The Pensacola, Florida training site is one of the three grandfathered sites. Moreover, we note that, per the Government Master File ("GMF"), the energy at the Pensacola training site is dumped into a dummy load. We also observe that the Patuxent River training site is near the Saint Inigoes grandfathered site and thus is essentially protected for much of its 80 mile radius of operation.

<sup>2</sup> Ka-band satellites will operate in the 17.7-20.2 GHz (downlinks) and 27.5-30.0 GHz (uplinks) bands.

<sup>3</sup> The 6425-6525 MHz band is non-Government exclusive spectrum.

bands above Ku-band.<sup>4</sup> A copy of the petition is attached. These TT&C functions include transfer orbit TT&C, standard on-orbit TT&C, and emergency-mode TT&C. The petitioners estimate that the designation of ten megahertz of spectrum in each direction for TT&C operations would be sufficient to meet the needs of the GSO FSS systems operating in bands above Ku-band for the foreseeable future. In its comments on the petition, TRW Inc. requests that the Commission also permit non-geostationary satellite orbit ("NGSO") systems to be eligible to use these frequencies for transfer orbit TT&C and emergency/recovery mode TT&C on a non-interfering basis to GSO systems.<sup>5</sup>

As a result of this petition, we wish to explore the possibility of TT&C operations in the 3600-3650 MHz frequency band.

Footnote US245 currently restricts the use of the fixed-satellite service in the 3600-3700 MHz band to international inter-continental systems, subject to a case-by-case electromagnetic compatibility analysis. It is our understanding that the intent of this footnote was to limit the number of non-Government earth stations in this band, so as not to impact Government uses in much of the nation's geographic area. Because TT&C operations typically involve a limited number of large diameter earth stations, it is our view that authorization of TT&C stations in the 3600-3650 MHz band would be consistent with the intent of footnote US245.<sup>6</sup>

When footnote US245 was adopted, the only systems meeting the definition of international intercontinental systems were Inmarsat and Intelsat. In recent years, however, the Commission has eliminated regulatory distinctions between international and domestic satellite systems. Thus, the number of systems that may qualify as "international intercontinental" has substantially increased. It would be appropriate, therefore, to explore whether the text of US 245 should be modified. It would also be appropriate to explore other technical and regulatory limits that may be appropriate for non-Government earth stations operating in this band.

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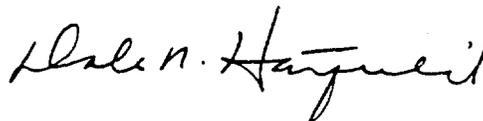
<sup>4</sup> See Petition for Rulemaking, entitled "Amendment of Parts 2 and 25 of the Commission's Rules to Designate Extended C-band Spectrum for TT&C Functions of GSO FSS Systems Operating in Bands Above Ku-band," filed by Comm. Inc., EchoStar Satellite Corporation, GE American Communications, Inc., Hughes Communications Galaxy, Inc., KaStar Satellite Communications Corp., Lockheed Martin Corporation, Orion Network Systems, Inc., PanAmSat Licensee Corp., and VisionStar, Inc., received August 7, 1997. The TT&C Petition (RM-9411) was placed on Public Notice on November 23, 1998 (Report No. 2306). Ku-band is 11.7-12.2 GHz (downlinks) and 14.0-14.5 GHz (uplinks).

<sup>5</sup> See Comments of TRW Inc., received December 23, 1998, at para. 3. TRW also requests that the Commission clarify that the extended C-band TT&C frequencies would be available to all GSO FSS services above Ku-band, including both the Ka- and V-band. V-band satellites will operate in the 36.0-51.4 GHz band.

<sup>6</sup> We would also note that the Commission has received a request from Inmarsat to use 75 megahertz of the 3550-3700 MHz band for feeder links for a new mobile satellite system. We anticipate that this use would involve a limited number of earth stations.

We believe that a meeting focused on these issues would be beneficial, and therefore suggest that the appropriate staff meet in the next few weeks. I have designated Fred Thomas of my staff (418-2449) as the point of contact on these matters and have asked him to set-up the meeting. We will insert a copy of this correspondence into the record of ET Docket No. 98-237 and RM-9411.

Sincerely,

A handwritten signature in cursive script that reads "Dale N. Hatfield".

Dale N. Hatfield  
Chief  
Office of Engineering and Technology

Enclosure