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UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, D C 20230

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Federal Communications Commission
Office of the Secretary

Mr Edmond J Thomas
Chief, Office of Engineering and Technology
Office of Engineering and Technology
Federal Communications Commission
445 12th Street S W
Washington, DC 20554

Re Amendment of the Commission's Rules Regarding the 37 0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No 95-183

Dear Mr Thomas

In an earlier proceeding, the Federal Communications Commission (Commission) proposed service rules for the bands 37-38.6 and 42 0-42 5 GHz bands that would substantially conform to the rules already adopted for the band 38.6-40 GHz in the *Report and Order and Second Notice of Proposed Rule Making* [1] Recognizing that the Commission will finalize rules in the future, the National Telecommunications and Information Administration (NTIA) requests that the Commission take the following comments into account

The Space Exploration Initiative of 1989 identified the frequency bands 37.0 – 37.5 GHz and 40 0 – 40 5 GHz for use by space research systems in support of U S goals to provide a permanent manned presence in Earth orbit (on or near the moon) and to initiate manned exploration of the planet Mars The United States successfully achieved at the WARC 1992 allocations of the band 37 0 –37 5 GHz for space-to-Earth links and the band 40 0 – 40.5 GHz for Earth-to-space links The safety of the astronauts involved in space exploration requires communication links, some to the vicinity of the moon (perhaps including the lunar surface) and others to the vicinity of Mars, including all points in between, not limited to deep space. Therefore, the allocations are not limited to deep space

January 14, 2004, President Bush announced U S objectives in space exploration, anchored around human presence in Earth orbit (on or near the moon) and Mars This new Presidential tasking reinforces the original intent of these bands and highlights their importance to NASA and to the U.S space program The earth stations required to support data acquisition and command and control for these exploration activities will not be limited to the locations traditionally identified for deep space operations Further, when operating manned spacecraft over distances as far removed from Earth as Mars, NASA may need to combine the received signals

[1] *See* Amendment of the Commission's Rules Regarding the 37 0-38 6 GHz and 38 6-40 0 GHz Bands, *Report and Order and Second Notice of Proposed Rule Making,* ET Docket No 95-183, 12 FCC Rcd 18,600 (1997) (*Report and Order and Second NPRM*), *on reconsideration, Memorandum Opinion and Order,* 14 FCC Rcd 12,428 (1999) (*Memorandum Opinion and Order*)

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simultaneously from more than one receiving site, e.g., Goldstone, CA. and Socorro, NM, in order to achieve mission objectives.

Additionally, the United States identified the entire band 37-38 GHz for space research systems in support of Very Long Baseline Interferometry (VLBI) by satellite. The United States achieved this identification at the WARC 1992, and based on increasing frequency requirements, NASA may need the entire band for such missions.

NASA identifies its current receiving earth stations requirements in the space research service in the band 37-38 GHz as follows: Goldstone, California; Guam, Pacific Ocean; Merritt Island, Florida; Wallops Island, Virginia and White Sands, New Mexico. NSF has identified Green Bank, VA and Socorro, NM as the sites to support their VLBI earth station operations. In the future, Federal agencies may have requirements, including both non-deep space and deep space missions, for earth stations at locations other than those identified above The interference protection criterion from terrestrial operations for these earth stations is -130 dBW/m^2 in any 1 MHz band. Previously, NTIA and the FCC agreed to protect Government space research operations in the 37-38 GHz band by requiring that non-government geostationary and non-geostationary space station transmitters in the fixed-satellite service coordinate with space research operations based on Recommendation ITU-R SA.1396.[2]

The Federal agencies are also allocated to operate space research, fixed, and mobile service systems in the band 37-38.6 GHz. To ensure Government access to this shared spectrum regardless of whether the Commission chooses to use a geographic area licensing mechanism (probably by auction) or link-by-link licensing mechanism, non-government operators will need to coordinate with any existing Federal users on a link-by-link, first-come, first-served basis. If the Commission chooses a geographic area mechanism, those who obtain a license will have to understand that their area may over time be encumbered by Federal operations. Thus, non-government operators may find that, as they seek to establish individual links, they may have some limitations. In an auction, the Commission could include such information in bidder's packages NTIA does not expect the growth of Federal fixed or mobile operations to be very rapid. In many or most cases, Federal agencies may actually obtain services in this band from commercial sources

To identify the current Federal requirements, the Commission needs to include the space research and radio astronomy sites in US footnotes (see enclosure 1). Also, NTIA requests that the Commission include for information in any future proceeding the areas in Enclosure 2 to indicate the geographic areas where we believe, based on Federal long-range planning, encumbrances are most likely to develop. NTIA does not seek protection or spectrum reservations for the areas in Enclosure 2, merely the recognition of the potential encumbrances that we can predict based on current information. Thus, in providing this information, NTIA does not seek any change from traditional first-come, first served link coordination concepts.

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[2] *See* V-Band Second Report and Order adopted November 17, 2003, ¶ 39. It is also stated in this paragraph that "At the time of application, GSO and NGSO FSS applicants must demonstrate how the proposed systems will protect SRS receiving stations. The coordination process shall include representatives from the non-Government operator and the Interdepartment Radio Advisory Committee (IRAC) (and its Frequency Assignment Subcommittee (FAS)), which is an interagency committee of Federal radio frequency managers that advises the Executive Branch on the Federal Government's use of the spectrum."

Because Enclosures 1 and 2 are based on information available as of March 1, 2004, non-government operators need to understand that Federal agencies may have requirements to deploy additional systems at these and other locations in the future.

Sincerely,

Fredrick R. Wentland
Associate Administrator
Office of Spectrum Management

Enclosures

ENCLOSURE 1

US Footnotes for Space Research Stations in the Band 37-38 GHz
and Radio Astronomy Stations in the Band 37-38.6 GHz

USxxx In the band 37-38 GHz, the following Federal Government receiving earth stations in the space research service have been coordinated with the FCC and shall be protected from non-Federal Government operations in the fixed and mobile services in the band 37-38 GHz and from non-Federal Government fixed-satellite service (space-to-Earth) transmissions in the sub-band 37.5-38 GHz Non-Federal applications for the fixed and mobile services use of frequencies in the band 37-38 GHz shall be coordinated through the Interdepartment Frequency Advisory Committee (IRAC) within the following coordination areas/distances. The coordinates of the earth stations in the space research service (space-to-Earth), specified in terms of the North American Datum of 1983, are as follows:

Site	Coordination Area
NASA Goldstone Deep Space Communications Complex, Goldstone, California	Rectangle between latitudes 34° 21' N and 35° 59' N and between longitudes 115° 26' W and 118° 21' W
NASA Tracking Station, Guam, Pacific Ocean	30 kilometer (18.64 mile) radius centered on latitude 13° 36' 55" N, longitude 144° 51' 22" E
NASA Tracking Station, Merritt Island, Florida	30 kilometer (18.64 mile) radius centered on latitude 28° 21' 28" N, longitude 80° 42' 13" W
NASA Tracking Station, Wallops Island, Virginia	30 kilometer (18.64 mile) radius centered on latitude 37° 55' 45" N, longitude 75° 28' 35" W
NASA Tracking Station, White Sands, New Mexico	80 kilometer (49.96 mile) radius centered on latitude 32° 20' 59" N, longitude 106° 36' 31" W
National Radio Astronomy Observatory, Very Large Array, Socorro, New Mexico	Rectangle between latitudes 32° 30' N and 35° 30' N and between longitudes 106° 00' W and 109° 00' W
National Radio Astronomy Observatory, Green Bank, West Virginia	Rectangle between latitudes 37° 30' N and 39° 15' N and between longitudes 78° 30' W and 80° 30' W (National Radio Quite Zone)

USyyy The Federal Government radio astronomy operations in the band 37-38.6 GHz at the locations listed below have been coordinated with the FCC and shall be protected from non-Federal Government operations in the fixed and mobile services in the band 37-38.6 GHz and from non-Federal Government fixed-satellite service (space-to-Earth) transmissions in the band 37 5-38.6 GHz. Non-Federal applications for the fixed and mobile services use of frequencies in the band 37-38 GHz shall be coordinated through the Interdepartment Frequency Advisory Committee (IRAC) within the following coordination areas/distances The coordinates of the sites, specified in terms of the North American Datum of 1983, are as follows:

National Radio Astronomy Observatory, Very Large Array, Socorro, New Mexico	Rectangle between latitudes 32° 30' N and 35° 30' N and between longitudes 106° 00' W and 109° 00' W
National Radio Astronomy Observatory, Green Bank, West Virginia	Rectangle between latitudes 37° 30' N and 39° 15' N and between longitudes 78° 30' W and 80° 30' W (National Radio Quite Zone)

ENCLOSURE 2

Federal Government Facilities and Locations Where Federal Terrestrial Operations are Likely to be Implemented in the Band 37-38.6 GHz [1]

In the 37-38.6 GHz band, non-Government operators will need to coordinate each link with the Federal Government. Link-by-link coordination will occur within the Interdepartment Radio Advisory Committee (IRAC) process. Discussions with the local Federal frequency manager of the concerned Federal agency may be beneficial to facilitate this coordination.

A. FACILITIES AND LOCATION

Coordination areas would be defined as a circle of 30 km radius, centered on coordinates listed below.

Location (Federal Agency)	Coordinates
China Lake, CA (U.S Navy)	35° 35' 43" N, 117° 13' 33" W 35° 31' 20" N, 117° 18' 12" W 35° 45' 44" N, 117° 36' 02" W 35° 41' 28" N, 117° 40' 09" W
San Diego, CA (U.S. Navy)	32° 41' 00" N, 117° 14' 00" W
Nanakuli, HI (U.S. Navy)	21° 23' 00" N, 158° 08' 00" W
Fishers Island, NY (U S Navy)	41° 15' 00" N, 72° 01' 00" W
St. Croix, VI (U.S Navy)	17° 44' 50" N, 64° 52' 48" W
Ft. Irwin, CA (U.S Army)	35° 16' 00" N, 116° 41' 00" W
Ft. Carson, CO (U S. Army)	38° 43' 00" N, 104° 39' 00" W
Ft Hood, TX (U.S. Army)	31° 07' 00" N, 97° 46' 00" W
Ft Bliss, TX (U.S. Army)	31° 48' 27" N, 106° 25' 18" W
Yuma Proving Grounds, AZ (U S. Army)	32° 29' 00" N, 114° 20' 00" W

[1] The information contained in this enclosure is included to indicate where the Federal agencies are most likely to operate. Non-Government operators should view this information as an indication of geographic areas in the United States and Possessions under a geographic licensing approach that may become encumbered or where interference may occur either to or from Federal operations Coordinates ending in "00" are listed only to the nearest minute of arc

Ft Huachuca, AZ (U.S. Army)	31° 33' 00" N, 110° 21' 00" W
White Sands Missile Range, NM (U.S. Army)	33° 21' 00" N, 106° 18' 00" W
Moody Air Force Base (USAF), GA	30° 58' 01" N, 83° 11' 06" W
Hurlburt Air Force Base (USAF), FL	30° 25' 26" N, 86° 42' 25"

FEDERAL POINTS OF CONTACT FOR FREQUENCY COORDINATION

Federal Agency	Name	Telephone
United States Army	Mr. Steve Harris	703-325-8225

United States Navy

East Coast

Joint Frequency Management Office, Atlantic	757-836-8006
Director, JFMOLANT (USJFCOM/J642)	757-836-5436
1562 Mitscher Ave STE 200	757-836-8008
Norfolk, VA 23551-2488	

West Coast

Western Area Frequency Coordinator (WAFC)	805-989-7983
Code 521J00E	
575 I Ave , Suite 1	
Point Mugu, CA 93042-5049	

Hawaii

Naval Computer and Telecommunications	
Area Master Station, Pacific (NCTAMSPAC)	808-653-5507
500 Center Street	808-653-0121
Wahiawa, HI 96786	

United States Air Force

Technical Director	703-428-1501
Air Force Frequency Management Agency	
Hoffman 1, Suite 1203	
2461 Eisenhower Ave.	
Alexandria, VA 22331-1500	