



MILITARY COMMUNICATIONS-ELECTRONICS BOARD
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MEMORANDUM FOR: US ARMY, DIRECTOR FOR INFORMATION SYSTEMS C4
(CIO/G6)
US NAVY, DIRECTOR, SPACE, INFORMATION WARFARE,
COMMAND AND CONTROL DIVISION (N61)
US AIR FORCE, DEPUTY CHIEF OF STAFF, WARFIGHTING
INTEGRATION (AFXI)
US MARINE CORPS, DIRECTOR C4
US EUROPEAN COMMAND, J6
US PACIFIC COMMAND, J6
US CENTRAL COMMAND, J6
US STRATEGIC COMMAND, J6
US JOINT FORCES COMMAND, J6
US SOUTHERN COMMAND, J6
US SPACE COMMAND, J6
US SPECIAL OPERATIONS COMMAND, J6
US TRANSPORTATION COMMAND, J6

Subject: DoD Spectrum Procedures for the Use of Commercial Satellite Earth Terminals
Outside United States & Possessions

Reference: MCEB Referral 0007-01, 15 October 2001

1. Reference requested the MCEB Frequency Panel develop procedures for equipment certification and frequency assignments for DoD controlled Commercial Fixed Earth Stations. The attachment reflects procedures for those stations located Outside United States & Possessions (OUS&P).
2. These procedures are effective immediately and will be incorporated in to the next revision of ACP 190 US SUPP 1.
3. J6B point of contact is Tim Trusner at (703) 614-7923.


LLOYD E. GILHAM
CAPTAIN, USN
MILITARY SECRETARY

1 Attachment

**DoD Spectrum Procedures for the Use of
Commercial Satellite Fixed Earth Terminals
Outside United States & Possessions**

Purpose: This memorandum provides DoD spectrum procedural guidance for DoD users with requirements for commercial satellite services utilizing fixed earth terminals Outside of the United States and its Possessions (OUS&P). Payment of fees and financial charges for commercial satellite communications use, operations, licensing, and appropriate spectrum analysis that are required is the responsibility of the user or program manager.

Background: The basic DoD policy for Use of Commercial Satellite Communications, dated November 8 1993, implementing commercial satellite capabilities is noted below.

To the extent operationally and fiscally practicable, the Department of Defense will augment its military SATCOM capability with both domestic and international commercial services.

The strategy employed in leasing commercial satellite services must ensure that the day-to-day operational requirements are met and that a surge capability is available to support time sensitive, worldwide Joint Task Force contingency operations requirements.

To maximize savings through economies of scale, all acquisition of commercial SATCOM services shall be consistent with the approved Defense Information Services Network (DISN) acquisition strategy and be acquired through the auspices of the Defense Commercial Communications Office (CSSO) of the Defense Information Systems Agency (DISA), the single utility manager. This shall include, but not be limited to, lease or purchase of circuits and space segments transponders.

As commercial terminals proliferate throughout the Department, basic interoperability among fixed Satellite Services (FSS) terminals must be established and maintained by the use of a standardized core waveform, and in a manner consistent the advancing commercial technology.

To the maximum extent practicable, all new military transportable/deployable FSS earth terminals shall be acquired with the ability to access both the commercial C and Ku frequency bands.

DOD Requirements for Commercial Satellite Services: CJCSI 6250.01, Military Satellite Communication Systems, provide operational policy, guidance, and procedures for the planning, management, employment, and use of DoD Satellite Communications (MILSATCOM) Systems. DoD satellite communications (SATCOM) requirements are documented using the DISA Telecommunications Management System (TMS) SATCOM requirements request form (DISA Form 772) and become part of the SATCOM Database (SDB). The SDB includes current SATCOM operational requirements and future SATCOM requirements. The Joint

Communications Decision Support Center (JCDS) at DISA/D83 is the DoD database Administrator for the SDB. Commercial SATCOM assets are an option to satisfy the military SATCOM operational requirements.

1. DoD Spectrum Policy: DoD Directive 4650.1 states, "all DoD components shall obtain radio frequency spectrum guidance for electronics systems from the MCEB as early as possible during the concept exploration and demonstration and validation stages of system acquisition. MCEB guidance must be obtained before assuming contractual obligations for the full-scale development, production, or procurement of those systems."

2. Procedures:

2.1. Spectrum Supportability:

2.1.1. Spectrum supportability includes equipment spectrum certification and frequency assignment. Equipment certification is the process of reviewing the equipment characteristics to determine realistic supportability expectations to include conformance with the international and national allocation tables and system/equipment standards. Frequency assignment is the authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions.

2.1.2. When referring to commercial satellite communications, the frequency assignment is part of the earth terminal site license. Spectrum supportability for the use of commercial SATCOM can be very confusing because each nation has its own unique commercial regulatory control body that are separate from the government or military control and approval process.

2.1.3. The first consideration for determining the procedures for supportability is based on whether the earth terminal equipment will be or is DoD owned or commercially leased. The equipment certification and frequency assignment procedures for each process are described in the following paragraphs.

3. DoD Owned and Operated Equipment:

3.1. Equipment certification: User must contact the local spectrum manager to determine whether the fixed earth station equipment has an existing, approved DD Form 1494. The approved equipment certification shall be reviewed to assess supportability and use of equipment for the requested site(s). If equipment is approved for use within the host country, proceed with requesting satellite access through appropriate channels.

3.2. If no DD Form 1494 exists or no foreign coordination has been initiated with host government for that particular equipment, the user must submit an accurate and completed DD Form 1494, Application for Equipment Frequency Allocation, and request for host nation government coordination (releasable) to the MILDEP Frequency Management Office (FMO). The DD Form 1494 must indicate whether host nation coordination is required. The MILDEP FMO will submit the DD Form 1494 to the Equipment Spectrum Guidance (ESG)

working group for entry in to the spectrum certification system. The DD Form 1494 will also be sent by the MILDEP FMO to the MCEB FP for forwarding to the CoComs for host nation coordination as necessary. The CoComs will determine whether coordination is required and forward in accordance with host nation requirements. The CoComs will provide comments and appropriate recommendations back to the MCEB FP.

3.3. Frequency assignment: The frequency assignment typically is part of obtaining a fixed earth station site license. Earth station site license could include construction permits, and mission approval, as applicable. The frequency assignment specifies the equipment's technical parameters, operating over a specific frequency (ies), and at specified location (s).

3.4. A DoD frequency assignment in a non-military frequency band registered in a respective allied country will normally not be allowed. The frequency assignment or site license must be part of the service contract and coordinated by the service provider. Generally, the procedures to obtain a frequency (license) assignment are the procedures used for commercially leased equipment. See procedures noted in the commercially leased paragraph for details. Upon obtaining the complete site license that should include the frequency license from the host nation's regulatory body, the CoCom may require the submission of an SFAF to document the frequency usage and provide a background for frequency engineering analysis in Spectrum XXI for Electromagnetic Compatibility (EMC) purposes. If this is the case the user must submit the SFAF through appropriate frequency management channels for posting within the FRRS database.

4. DoD Leased Equipment: In cases where the terminal equipment is commercially leased the following applies.

4.1. Equipment certification: Commercial leased equipment cannot be certified through DoD channels; therefore, the commercial provider must ensure any equipment certification required for use outside the US&P is accomplished. The user must ensure the requirement for equipment certification to include host nation approval is included in the lease contract provisions.

4.2. Typically, the satellite carrier is a consortium of signatories' countries. Each signatory member authorizes a particular corporation or investor that provides the satellite services to customers. Signatory countries usually have regional/local offices and/or investor satellite service providers that provide the support to earth station customers. Only satellite service providers authorized by that signatory country should be contracted with for services within that respective nation which also facilitates the certification and licensing process.

4.3. Each satellite carrier provider has earth station equipment standards that must be complied with to insure the protection and integrity of the space segments. The earth station's antenna and transmitter are the manufacturer's equipment measured specifications that are tested and validated by the satellite carrier. The satellite carrier upon their validation typically will assign a registration ID number, or an antenna name and number to that terminal.

5. Frequency Assignment: Just as with equipment certification, the commercial provider is responsible for securing a frequency assignment or site license for you to operate. This requirement should also be part of the lease contract provisions. The CoCom or MILDEP may require the commercial assignment be entered in the DoD database for electromagnetic compatibility (EMC) purposes, so the user must notify their spectrum manager so a decision can be made on whether to enter the frequencies being used into the DoD database.

5.1. If the satellite service provider has completed coordination agreement with the nations involved, the satellite service provider should be able to obtain a site license for that earth terminal. Part of that site license is the proposed up and down link frequency for that site, coordinated with the satellite carrier since the carrier must let the site know what satellite channel the site is to operate on. This is normally a routine task that the satellite service provider performs. The satellite service provider will usually assign their registration number or ID for a site license.

5.2. The respective host nation PTT may require a frequency interference analysis and coordination for earth station transmitting the frequency bands shared with equal rights (i.e., C and Ku band) between terrestrial and space services. The satellite service provider usually will provide the support to conduct the interference analysis with the proposed up and down link frequencies with all licensed terrestrial users in the operating area and conduct the coordination with all of the affected user companies with licensed frequency assignments.

5.3. A report on the analysis and the coordination is required from the satellite service provider to the military sponsor. The typical time line for this is a few months, dependent on the complexity of the analysis and the difficulty of coordination required with incumbents. The combination of the satellite carrier's registration or ID number and the satellite service provider's site license become part of the "total license" of the site to operate on that particular satellite. The military sponsor will notify the CoCom of such a license normally through a documented frequency assignment.

5.4. For frequency assignments outside US&P, the user will submit an Standard Frequency Action Format (SFAF) through channels to the Service component. Due to the issues related to DoDs use of commercial SATCOM, the Service component will determine whether further processing to the host nation is required.

6. References, Glossary and Acronyms

6.1. References

DoD Directive 4650.1, Management and Use of the Radio Frequency Spectrum
CJCSI 6250.01, Military Satellite Communications Systems

6.2. Glossary

6.2.1. SATCOM Data Base (SDB): Documents and records the SATCOM requirements using DISA Form 772, (TMS-C SATCOM Requirement Request).

Requirements can be submitted at any time by the Combatant Commanders, Services, or DoD Agencies. The Joint SATCOM Panel (JSP) reviews and recommends approval for all SATCOM requirements to the Joint Staff J3 and J6. The Joint Decision Support Center (JCSC) at DISA/D83 is the DoD database Administrator for the SDB.

6.2.2. DD Form 1494, Application for Equipment Frequency Allocation, (JF 12): Documents and upon approval certifies that the equipment/system operates in the allocated frequency band and the equipment operating parameters meets the spectrum and operating technical standards.

6.2.3. Frequency Resource Records System (FRRS): Documents all of DoD frequency assignments worldwide. Records include the GMF assignments.

6.3. Acronyms

CoCom	Combatant Commanders
FSS	Fixed Satellite Services
JCDSC	Joint Communications Decision Support Center
MILDEP FMO	Military Department Frequency Management Office
OUS&P	Outside of the United States and its Possessions
PTT	Post Telephone and Telecommunications
SATCOM	Satellite Communications
SDB	SATCOM Database
SFAF	Standard Frequency Action Format