CHAIRMAN OF THE JOINT CHIEFS OF STAFF INSTRUCTION

NARROWBAND SATELLITE COMMUNICATIONS TIME DIVISION MULTIPLE ACCESS REQUIREMENTS

References: See Enclosure D.

1. Purpose. This instruction provides high-level operational policy, guidance, and procedures for non-processed Narrowband[1] satellite communications (SATCOM) user requirements and for Joint Interoperability Test Command (JITC) system standards conformance test certification.

2. Cancellation. CJCSI 6251.01B, 16 November 2006, "Ultrahigh Frequency (UHF) Satellite Communications Demand Assigned Multiple Access Requirements," is canceled.

3. Applicability. The instruction applies to all U.S. government, allies, and partners that plan, use, manage, control, and sustain DOD non-processed Narrowband capabilities.

4. Policy. This instruction prescribes policy for the modes of Single Access (SA) and Multiple Access (MA) using Time Division Multiple Access (TDMA) techniques on Narrowband systems. MA is used to maximize communications efficiency for combatant commands and other authorized users. Specifically, it identifies the interoperability requirements of Demand Assigned Multiple Access (DAMA) and Integrated Waveform (IW) terminals when accessing non-processed Narrowband SATCOM. In the event a terminal is not operationally compliant in both the MA and Demand Access (DA) modes of the defined waveforms, or fails to satisfy one or more of the MIL-STD requirements, this instruction defines the process to submit a waiver request for interim use of non-processed Narrowband resources.

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[1] Narrowband SATCOM is defined as current, planned, future DOD-owned, leased, and hosted SATCOM assets in the ultrahigh frequency (UHF) spectrum. Included in this definition are the space, control, and terminal segments, as well as, accesses used to integrate UHF SATCOM into the GIG. Unless stated specifically, the term Narrowband used throughout the remainder of this instruction is a reference to Narrowband SATCOM.

5. <u>Definitions</u>. See Glossary.

6. <u>Responsibilities</u>. See Enclosure B.

7. <u>Summary of Changes</u>. Primary changes clarify roles and responsibilities of the Joint Staff, U.S. Strategic Command, Defense Information Systems Agency, combatant commands, and other organizations participating in non-processed Narrowband operations. This instruction incorporates new guidance on the Narrowband TDMA waiver process and required MIL-STDs.

8. <u>Releasability</u>. This instruction is approved for public release; distribution is unlimited. DOD components (to include the combatant commands), other Federal agencies, and the public may obtain copies of this instruction through the Internet from the CJCS Directives Home Page--http://www.dtic.mil/cjcs_directives.

9. <u>Effective Date</u>. This instruction is effective upon receipt.

For the Chairman of the Joint Chiefs of Staff

LLOYD J. AUSTIN III
Lieutenant General, USA
Director, Joint Staff

Enclosures:

    A – Time Division Multiple Access Policy
    B – Responsibilities
    C – Time Division Multiple Access Waiver Process
    D – References
    GL – Glossary

DISTRIBUTION

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ENCLOSURE A

TIME DIVISION MULTIPLE ACCESS POLICY

1. <u>Purpose</u>. This enclosure prescribes policy for the use of Time Division Multiple Access (TDMA) techniques on DOD Narrowband systems to maximize communications efficiency for combatant commands and other authorized users.

2. <u>Non-processed Narrowband SATCOM User Requirements</u>.

   a. <u>Background</u>. The legacy DOD Narrowband system consist of 5-kHz and 25-kHz transponders onboard current UHF military satellites and the future Mobile User Objective System (MUOS) legacy payload. It is a low-density, high-demand asset providing critical tactical communications-on-the-move capability. The increased demand for training and operational requirements coupled with the decreasing availability of UHF channels on-orbit prompted DOD leadership to mandate the use of Demand Assigned Multiple Access or the Integrated Waveform on non-processed Narrowband resources.

      (1) MJCS-63-89, "UHF Satellite Communications Demand Assigned Multiple Access Requirement." On 17 April 1989, the Joint Staff mandated all users of non-processed Narrowband transponders to possess equipment that was either interoperable with the TDMA-1 Distributed Control mode using the approved 25-kHz standard or in the DAMA mode using the approved 5-kHz standard by 30 September 1996.

      (2) MCM-89-94, "UHF Satellite Communications Demand Assigned Multiple Access Requirement." This memorandum superseded MJCS-63-89 on 28 July 1994 due to technical and programmatic developments in UHF DAMA. MCM-89-94 also introduced a waiver process for users that were unable to comply with the directives in MJCS-63-89.

      (3) CJCSI 6251.01, "UHF Demand Assigned Multiple Access Requirements." The initial version of this instruction superseded MCM-89-94 on 31 July 1996 and incorporated new guidance on the Narrowband DAMA waiver process.

      (4) JROCM 233-05. The Joint Requirements Oversight Council (JROC) endorsed the Integrated Waveform for development and implementation into the Narrowband SATCOM system as recommended by the Net Centric

Functional Capabilities Board (NC FCB) on 1 November 2005 with JROCM 233-05. CJCSI 6251.01B expanded the user requirement for non-processed Narrowband to include the IW capability in future software-programmable terminals.

   b. <u>Non-processed Narrowband Services</u>. Non-processed Narrowband services are currently provided via transponders on selected UHF Follow-on (UFO) and Fleet Satellite (FLTSAT) payloads. MUOS will provide additional non-processed Narrowband services via legacy payloads. These services may be provided on either single access (dedicated or DA) or multiple access (shared) channels. Processed (regenerative) services are described in reference i. This instruction only applies to users of non-processed Narrowband capabilities. Note that MUOS, the next generation Narrowband constellation, will continue to support the categories of services identified in this instruction with on-board legacy UHF transponders through the year 2025.

   (1) Dedicated Channel Service. As required to support mission requirements, combatant commands may assign certain allocated Narrowband resources (5/25-kHz) as dedicated channels, however this shall be limited to only the highest priority strategic and tactical requirements. Assignment to DAMA or IW networks should be the standard, with dedicated channels being the exception. Requirements for Narrowband service are significantly greater than the number of available channels on-orbit. The Narrowband SATCOM dedicated waveform is defined in the MIL-STD-188-181 series.

   (2) DAMA Service. DAMA is an automated channel-sharing method for multiple user networks to concurrently use a single Narrowband channel. Demand-based assignment means that unused transponder space can be dynamically reallocated in near-real time on the basis of precedence, which increases the loading efficiency by providing up to 20 times the effective information throughput of a single-user system. UHF DAMA has two variants with different communications services and operating schemes, the 5-kHz and the 25-kHz DAMA waveforms, which are defined in the MIL-STD-188-182 series and MIL-STD-188-183 series.

      (a) 5-kHz DAMA. The 5-kHz DAMA protocol uses TDMA. It was primarily designed to support multiple-user 75 to 2400 bps secure data that can tolerate delays induced by the waveform, with voice being secondary. It provides efficient handling of short messages, as well as effective resource sharing between voice and data communications. However, the delays associated with the use of 5-kHz DAMA make it unsuitable for voice and many data communications.

      (b) 25-kHz DAMA. The 25-kHz DAMA is also a TDMA protocol. It supports equipment-selective data rates of 75 to 16,000 bps for data and secure voice. It has shorter frame times, and supports more data rates and

simultaneous users than 5-kHz DAMA. A 25-kHz DAMA channel can support a maximum of five (5) 2.4 kbps voice/data network timeslots. Timeslots supporting data rates between 75 bps and 1.2 kbps are impractical for most users and seldom used.

(3) IW Service. IW is the latest in DAMA waveform standards and provides system enhancements that could potentially more than double the present system capacity (with widespread use) and greatly improve quality of service. IW standards are defined in the MIL-STD-188-181C, -182B, and -183B.

(a) IW enhancements over the DAMA waveform:

<u>1</u>. Better voice quality (MELP versus LPC-10). The MELP voice encoder also provides superior voice recognition capability over the LPC-10 encoder.

<u>2</u>. Better link closure. IW receivers can synchronize to an IW transmitter with approximately half the signal power of a comparable DAMA terminal operating on a DAMA network.

<u>3</u>. Terminal set-up procedures and user operation vastly simplified.

<u>4</u>. Higher channel throughput (more bits per channel). DAMA offers three effective burst rates of 7.2, 14.4, and 24 kbps. IW offers seven burst rates from 9.6 kbps to 56 kbps.

<u>5</u>. More networks supported per channel. IW will support an average of thirteen (13) 2.4 kbps voice/data networks per 25-kHz channel. DAMA supports a maximum of five (5) 2.4 kbps networks per 25-kHz channel.

<u>6</u>. Channel configuration flexibility. An IW timeslot can be tailored to fit size and location within the TDMA frame on a 5 or 25-kHz channel. Additionally, IW offers the asynchronous data transfer (ADT) service to provide configuration flexibility for data communications.

<u>7</u>. Backward compatibility with legacy DAMA. Since IW timeslots can be tailored to any size and location within the TDMA frame, IW services can be placed on DAMA timeslots using compatible DAMA modulation. This does not mean a DAMA user can operate on an IW network; this feature only allows an IW user to operate on a DAMA network.

(b) IW Development Process. IW is a two-phased upgrade for fielded legacy terminals. The NC FCB approved the IW upgrade for the following radios and controllers: ARC-231, MD-1324B, MD-1324 EC2, PRC-117F, PSC-

5C/D, ARC-210 (Gen 4/5), PRC-152, PRC-148, USC-61 DMR, USC-62 JTT, RT-1828/9 and the system access Channel Controller (CC). IW will be required for all future software-programmable radios that access non-processed Narrowband resources.

       <u>1</u>. Phase I. Supports single access (one NET per channel using MIL-STD-188-181C) and multiple access (multiple networks per channel using MIL-STD-188-183B). Only pre-assigned services will be supported during this phase. Pre-assigned services means the user networks are preplanned, assigned a service number, activated and deactivated by the control system and not by the user terminals via orderwire messages. All active pre-assigned services are announced (broadcast) over a system orderwire every 15-20 seconds. User terminals monitor the system orderwire and connect to the service selected by the terminal operator.

       <u>2</u>. Phase II. Implements MIL-STD-188-182B to provide demand assignment capability, or ad-hoc services. These services can be activated and deactivated by user terminals using orderwire messages. IW Phase II improves demand assigned services by permitting assignments across a larger pool of resources. Capitalizing on this simplified and easier to use service-on-demand capability will enable commanders to maximize their allocated Narrowband resources.

   c. <u>Non-processed Narrowband SATCOM Terminals</u>.

     (1) Integrated Waveform Terminals. The ARC-231, MD-1324B, MD-1324 EC2, PRC-117F, PSC-5C/D, ARC-210 (Gen 4/5), PRC-152, PRC-148, USC-61 DMR, USC-62 JTT, RT-1828/9 and the CC are identified to receive IW software upgrades. IW terminals must be fully interoperable and operationally compliant using the latest revisions of the following waveforms:

       (a) MIL-STD-188-181C.

       (b) MIL-STD-188-182B.

       (c) MIL-STD-188-183B.

       (d) MIL-STD-188-184 (when terminal requires use of a link layer protocol).

     (2) Demand Assigned Multiple Access Terminals. All existing terminals accessing non-processed Narrowband systems not identified for the IW upgrade must be fully interoperable and operationally compliant in accordance with the appropriate revisions of the following waveforms:

       (a) MIL-STD-188-181 series.

(b) MIL-STD-188-182 series.

(c) MIL-STD-188-183 series.

(3) All control segments and SATCOM tools are required to be interoperable and support operations for terminals operating in SA and DAMA modes over 5-kHz and 25-kHz channels. Those control segments and tools identified for the IW upgrade must also be interoperable and support operations in the IW mode. Control terminals must be fully interoperable and operationally compliant using the latest revisions of MIL-STD-188-185/185A and appropriate interface control documents (ICD).

(4) Terminals (to include controllers) will be certified for the required military standard using the Joint Interoperability Test Command (JITC) system standard conformance test certification. All program offices developing terminals/controllers that fail to comply with this policy are required to submit a waiver via their respective combatant command, Service, or Agency (C/S/A) to the Joint Staff/J-6 using the process in Enclosure C.

d. Integrated Broadcast Service Common Interactive Broadcast Terminals. The Common Interactive Broadcast (CIB) is near-real time intelligence and information sharing using a Narrowband SATCOM interactive broadcast. CIB uses a subset of the DAMA/IW standards as tailored by MIL-STD-188-181C, -182B, and -183B test plans. Additionally, the CIB includes another protocol layer defined by MIL-STD-188-186. Terminals certified to operate or access the Narrowband CIB service must be fully interoperable and operationally compliant with the latest revision of MIL-STD-188-186. Terminals will be certified using the JITC system standard conformance test certification. All program offices developing terminals that fail to comply with this policy are required to submit a waiver via their respective C/S/A to the Joint Staff/J-6 using the process in Enclosure C.

3. TDMA Orderwire Transmission Security. For all Narrowband TDMA systems, the channel control information (orderwire) is unclassified national security-related information of value to an adversary. Significant risk of telecommunications exploitation of the uplink and downlink channel control signals exists if the orderwire is exploited. Narrowband satellite orderwire transmissions shall utilize an approved Type I algorithm and is required on all TDMA systems in all operating modes to preclude intrusion or exploitation by an adversary. Encryption shall be implemented as defined in the military standards in references k-s. NIPRNET orderwire transmissions shall utilize standard commercial encryption practices to preclude intrusion or exploitation by an adversary.

ENCLOSURE B

RESPONSIBILITIES

1. <u>Purpose</u>. To define non-processed Narrowband SATCOM organizational responsibilities and functions.

2. <u>Responsibilities</u>

    a. <u>Assistant Secretary of Defense (Networks and Information Integration)</u>

        (1) Provides overall communications systems policy, planning, programming, and budgeting guidance and direction, as well as architecture and standards approval for the DOD.

        (2) Ensures SATCOM systems are integrated in the GIG and are compliant with approved technical standards agreements within the Department of Defense and between the Department and other Federal agencies, international military allies, and appropriate civil and commercial entities.

    b. <u>Chairman of the Joint Chiefs of Staff</u>

        (1) Maintains oversight of operational SATCOM activities and resources supporting Presidential and DOD requirements at all levels of conflict through peace, crisis, and war.

        (2) Provides operational policy, guidance, and procedures for the planning, management, employment, and use of SATCOM resources.

        (3) Provides guidance and ensures compliance with joint and allied SATCOM system and technical standards.

    c. <u>Director for Command, Control, Communications, and Computer Systems (J-6), Joint Staff</u>

        (1) Monitors, coordinates, and formulates actions requiring CJCS approval for strategic, tactical, and contingency SATCOM resources. Develops a coordinated Joint Staff position on SATCOM issues having operational implications.

        (2) Monitors the health and operational status of SATCOM systems and relevant connected networks, as reported by USSTRATCOM.

(3) Chairs the Net-centric Functional Capability Board that validates and approves key performance parameters and capabilities documents for SATCOM, terminal, and other communications systems in accordance with reference c.

(4) Maintains the waiver process for Narrowband SATCOM terminals unable to meet the interoperability standards and/or unable to support operations using the non-processed Narrowband required waveforms.

d. Commander, U.S. Strategic Command

(1) Under combatant command authority for on-orbit SATCOM systems, serves as the SATCOM operational manager (SOM). Directs day-to-day operational management of DOD-owned and leased SATCOM resources to provide authorized users with global SATCOM support as operations and evolving requirements dictate in accordance with reference a.

(2) Develops, coordinates, and implements operational management policies and procedures for use of all SATCOM resources.

(a) Publishes and maintains documentation that defines the operational capability and replenishment criteria for SATCOM systems and provides the operational concept for system control, system policies, and procedures for effective and efficient SATCOM resource management.

(3) Directs engineering analyses and other performance-related studies for currently deployed and future systems, as necessary.

(a) Provides information on system use and status to the Joint Staff, supported combatant commands, DISA, and other authorized users as requested (e.g., status and system trends). Analysis must also include recommendations or ongoing actions to fix identified operational deficiencies.

e. Director, Defense Information Systems Agency

(1) Defines system performance criteria for MILSATCOM systems and through coordination with DOD components, develops, and performs general systems engineering to achieve a long-term, interoperable, mission-capable systems. The Director, DISA, shall continually analyze Military Department programs, plans, budgets, and MILSATCOM systems performance to identify areas of deficiency and shall recommend or initiate corrective actions as appropriate.

(2) Serves as the Systems Engineer for SATCOM (SES) and focal point for SATCOM systems architectural engineering for the Department of Defense.

(a) Provides enterprise-wide SATCOM system engineering support to ASD(NII), Joint Staff, EA for Space, and USSTRATCOM SOM.

(b) Assists USSTRATCOM SOM and the SSEs with terminal certification and waivers for their assigned systems. Performs technical evaluations to ensure all SATCOM systems and terminals are compliant with approved DOD SATCOM MIL-STDs and agreements.

(c) Assists the EA for Information Technology Standards, develops, and maintains DOD MIL-STDs and the adoption or adaptation of commercial standards suitable for DOD applications.

f. Military Departments. (Navy and Marine Corps within the Department of the Navy)

(1) Provide "organize, train, and equip" support to USSTRATCOM components tasked with SATCOM responsibilities, as appropriate.

(2) Support the MCEB, Joint Staff, USSTRATCOM, ASD(NII), EA for Space, and DISA in the development and assessment of SATCOM requirements, systems standards, and other studies and working groups as requested and outlined in reference a.

(3) Ensure all current and future systems (satellites, control segment, and terminals) are compliant with military and appropriate commercial standards and published policies.

g. Combatant Commands and Heads of Defense Agencies

(1) Provide operational control of sub-networks for allocated SATCOM resources, including:

(a) Manage allocated SATCOM resources and utilize those resources provided in support of validated requirements.

(b) Establish access priorities for subordinate units in accordance with appropriate OPLAN, CONPLAN, or mission requirement.

ENCLOSURE C

TIME DIVISION MULTIPLE ACCESS WAIVER PROCESS

1. <u>Purpose</u>. This enclosure defines the waiver process for Narrowband SATCOM terminals accessing non-processed Narrowband systems that do not meet the interoperability standards or are unable to support operations using the waveforms listed in Enclosure A.

2. <u>Technical Waivers</u>.

   a. A technical waiver is required when the terminal cannot technically operate within the military standards required in Enclosure A. Program offices requiring a technical waiver will submit the waiver in memorandum format to the Joint Staff/J-6 via the appropriate C/S/A. Copies of the waiver request will be furnished to USSTRATCOM and to DISA, the Narrowband SATCOM military standards preparing activity. Services and agencies have primary responsibility for submitting and maintaining waivers to support present or future systems and networks not technically compliant with defense standardization policies and procedures in reference d. Combatant commands have responsibility for those systems that are not fielded by a Service or agency, but are mission specific for their area of responsibility.

   b. Technical waiver requests must include the following minimum information:

      (1) Type of network. Identify the communications topology of the user network/system and type of the communication requirements.

      (2) Terminals and terminal nomenclature.

      (3) Function of the network (voice or data). If used for data, identify the data volume and delivery requirements.

      (4) Provide the assigned SATCOM database (SDB) number or documentation requesting the network/SDB number.

      (5) Actual network usage (duty cycle/activity level).

      (6) Justification (technical reason(s) for MIL-STD incompatibility).

(7) A detailed plan to achieve MIL-STD compliance or a description of the specific required operational capabilities that are preventing MIL-STD compliance.

(8) Point of contact.

c. Technical waivers must include a C/S/A endorsement letter.

d. Approved technical waivers do not authorize or guarantee satellite access. The applicable combatant commander or agency has the authority to grant access over their allocated resources.

e. Approved technical waivers will be reflected in the SDB and, if not in compliance, must be resubmitted to the Joint Staff for revalidation every 2 years.

3. <u>Certification Waivers</u>.

a. Terminals shall be tested to certify compliance with the required MIL-STDs in accordance with Joint Interoperability Test Command (JITC) system standards conformance test certification procedures. To avoid ambiguities and inconsistencies between the MIL-STDs and certification test documents, the certification test plans and procedures will be developed by the UHF SATCOM Technical Working Group (TWG), which develops the MIL-STDs and reports to the Satellite Interoperability and Standards Committee (SISC). The UHF SATCOM TWG is chaired by DISA and is open to terminal program managers and industry participation.

b. Certification waivers are required when terminals fail to completely meet all applicable requirements outlined in references k-s. JITC will formally report deficiencies to the Program Manager and the Joint Staff/J-6. Upon review of the JITC standard conformance certification test report, the Narrowband SATCOM preparing activity will classify terminal certification deficiencies as critical or non-critical. Certification deficiencies shall be marked as critical when they impact interoperability with other Narrowband systems, effective user communications, performance of waveform functions, Narrowband system efficiency, or overall operational effectiveness. Certification test disputes will be resolved by the MIL-STD preparing activity via the UHF SATCOM TWG and the SISC.

c. The Program Manager will submit the waiver request, via the supporting Service, to the Joint Staff/J-6. The waiver request must:

(1) Describe the specific shortcomings of the terminal in terms of the portions of the MIL-STDs that the terminal does not meet. List the numbers of

unsatisfied requirements as defined in the appropriate MIL-STD test plan (i.e., MIL-STD-188-181C requirement 35, 64, and 123).

(2) Define the operational requirements in general terms (i.e., type of service, number of terminals, net participants, and periodicity) and refer to approved requirements in the SDB.

(3) Define the technical and/or operational impact to the overall system. The engineers developing the DAMA/IW controllers will assist with the impact to the interim and final control systems.

(4) Describe plans to bring the terminal into full compliance.

(5) Describe the fiscal, schedule, and operational impacts if the waiver is not granted.

(6) Provide alternative terminal options (if any) to meet the requirement.

d. The Joint Staff/J-6 will task the Narrowband SATCOM preparing activity to evaluate each waiver request on a case-by-case basis, with operational assessment assistance (if needed) from the combatant commanders, DAMA/IW controller developers, and JITC.

e. The Joint Staff/J-6 will coordinate all critical terminal certification waivers with combatant commanders and Service Chiefs.

f. The Chief, Joint Staff Information Transport Division (J-65A), will be the final approving authority for all certification waivers.

g. Critical certification waivers will be valid for a maximum of 2 years. Non-critical certification waivers will be valid for the life of the terminal. Any certification waiver will be cancelled or revoked if it becomes apparent that the use of the terminal(s) creates a detrimental impact on other non-processed Narrowband users. Technical waivers are not required for systems with approved certification waivers.

ENCLOSURE D

REFERENCES

a. CJCSI 6250.01C, 30 April 2007, "Satellite Communications"

b. CJCSI 6212.01D, 8 March 2006, "Interoperability and Supportability of Information Technology and National Security Systems"

c. CJCSI 3170.01E, 11 May 05, "Joint Capabilities Integration and Development System"

d. DOD 4120.24M, 9 March 2000, "Defense Standardization Program (DSP)"

e. DODD 4630.5, 5 May 2004, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)"

f. DODD 5100.1, 1 August 2002, "Functions of the Department of Defense and Its Major Components"

g. DODD 5144.1, 2 May 2005, "Assistant Secretary of Defense for Network and Information Integration/DOD Chief Information Officer (ASD (NII)/DOD CIO)"

h. DODD 5105.19, 25 July 2006, "Defense Information Systems Agency (DISA)"

i. U.S. Strategic Command Instruction (SI) 714-1, 2 February 2006, "DOD Gateways (STEP/Teleports)"

j. U.S. Strategic Command Directive (SD) 714-2, 20 September 2005, "Satellite Communications (SATCOM) System Expert (SSE) Responsibilities"

k. MIL-STD-188-181B, 20 March 1999, "Interoperability Standard for Dedicated 5 kHz and 25 kHz UHF Satellite Communications Channels"

l. MIL-STD-188-181C, 30 January 2004, "Interoperability Standard for Access to 5 kHz and 25 kHz UHF Satellite Communications Channels"

m. MIL-STD-188-182A, 31 March 1997, "Interoperability Standard for 5 kHz UHF DAMA Terminal Waveform"

n. MIL-STD-188-182B, 30 January 2004, "Interoperability Standard for UHF SATCOM DAMA Orderwire Messages and Protocols"

o. MIL-STD-188-183A, 30 March 1998, "Interoperability Standard for 25 kHz UHF TDMA/DAMA Terminal Waveform"

p. MIL-STD-188-183B, 30 January 2004, "Interoperability Standard for Multiple Access 5 kHz and 25 kHz UHF Satellite Communications Channels"

q. MIL-STD-188-184, 20 August 1993, "Interoperability and Performance Standard for Data Control Waveform"

r. MIL-STD-188-185, 29 May 1996, "Interoperability of UHF MILSATCOM DAMA Control System"

s. MIL-STD-188-186, 31 March 2006, "Interoperability Standard for UHF SATCOM Short-Delay Report – Broadcast Service"

GLOSSARY

PART I – ABBREVIATIONS AND ACRONYMS

ADT	Asynchronous Data Transfer
ASD (NII)	Assistant Secretary of Defense (Network and Information Integration)
CC	Channel Controller
CIB	Common Interactive Broadcast
C/S/A	Combatant Command, Service, Agency
DA	Demand Assigned
DAMA	Demand Assigned Multiple Access
DISA	Defense Information Systems Agency
DISN	Defense Information Systems Network
DOD	Department of Defense
DOD CIO	Department of Defense Chief Information Officer
DSP	Defense Standardization Program
EA	Executive Agent
FLTSAT	Fleet Satellite
IBS	Integrated Broadcast Service
ICD	Interface Control Document
IW	Integrated Waveform
JITC	Joint Interoperability Test Command
JP	Joint Publication
JROC	Joint Requirements Oversight Council
LPC-10	Linear Predictive Coding – Coefficient 10
MA	Multiple Access
MCEB	Military Communications and Electronics Board
MELP	Mixed Excitation Linear Prediction
MILSATCOM	Military Satellite Communications
MIL-STD	Military Standard
MUOS	Mobile User Objective System
NC FCB	Net-centric Functional Capabilities Board
NSS	National Security Systems
SA	Single Access
SAR	Satellite Access Request
SATCOM	Satellite Communications
SDB	Satellite Communications Database
SES	Systems Engineer for Satellite Communications
SISC	Satellite Interoperability and Standards Committee
SOM	Satellite Communications Operational Manager

SSE	Satellite Systems Expert
TDMA	Time Division Multiple Access
TWG	Technical Working Group
UFO	Ultrahigh Frequency Follow-On (satellite)
UHF	Ultrahigh Frequency
USSTRATCOM	U.S. Strategic Command

PART II – DEFINITIONS

NOTE: The following terminology is chiefly specialized for satellite communications. It has not been standardized for general, DOD-wide use and inclusion in the *Department of Defense Dictionary of Military and Associated Terms* (JP 1-02) <u>unless</u> indicated by the parenthetic phrase "(JP 1-02)" after the definition. In some cases, JP 1-02 may have a general, DOD-wide definition for a term used here with a specialized definition for this instruction.

1. <u>Access</u>. The right to enter a SATCOM network and make use of communications payload resources.

2. <u>Allocation</u>. The authorized use of SATCOM resources to support validated requirements.

3. <u>Approval</u>. Official sanction of an access requirement that may result in the assignment of a SATCOM allocation for a specific mission or purpose. This definition is specific to the SATCOM requirements process described in this instruction and not necessarily identical to its usage in other requirements or acquisition documentation.

4. <u>Apportionment</u>. The SATCOM resources assumed to be available to a combatant commander for planning purposes.

5. <u>Combatant Command</u>. A unified or specified command with a broad continuing mission under a single commander established and so designated by the President, through the Secretary of Defense and with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or functional responsibilities. (JP 1-02)

6. <u>Coordinate</u>. Unless parties are specifically identified, generally means synchronizing an action with Joint Staff, C/S/As and USSTRATCOM (as the SATCOM Operational Manager).

7. <u>Demand Assigned Multiple Access</u>. A channel access scheme in which access to time slots on a channel from geographically distributed communications terminals are allocated in accordance with demand.

8. <u>Defense Information Systems Network (DISN)</u>. The DISN is a composite of DOD-owned and leased telecommunications subsystems and networks comprised of facilities, personnel, and material under the management control and operational direction of DISA. The DISN provides the long-haul, point-to-point, and switched network telecommunications needed to satisfy the requirements of the Department of Defense and certain other departments and agencies.

9. <u>Global Information Grid</u>. The globally interconnected, end-to-end set of information capabilities, associated processes and personnel for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel. The Global Information Grid includes all owned and leased communications and computing systems and services, software (including applications), data, security services, other associated services and National Security Systems. (JP 1-02)

10. <u>Mixed Excitation Linear Prediction</u>. MELP is a DOD speech coding standard used mainly in military applications and satellite communications, secure voice, and secure radio devices.

11. <u>Military Satellite Communications</u>. Satellite communications resources owned and operated by the DOD, primarily in the government frequency bands.

12. <u>Narrowband SATCOM</u>. Current, planned, and future DOD-owned, leased, and hosted SATCOM assets in the Ultrahigh Frequency (UHF) spectrum. Included in this definition are the space, control, and terminal segments, as well as accesses used to integrate UHF SATCOM into the GIG.

13. <u>Network Centric</u>. The realization of a robust, secure, globally connected network environment in which information is shared in a timely manner and seamlessly among users, applications, and platforms.

14. <u>Non-processed SATCOM Channel</u>. A satellite channel that uses a non-regenerative transponder. Non-regenerative transponders can only receive, amplify, frequency translate, and re-transmit a received signal (signals are neither processed nor reconstituted). Only non-processed channels can be operated in UHF DAMA mode.

15. <u>Operational Management</u>. Encompasses the capability and processes needed to effectively plan, monitor, manage, and control all available resources and to provide global resource situational awareness for the combatant commands and other authorized users as an integral part of the global communications management structure. It requires visibility into commercial, allied, and civil SATCOM resources to determine status and availability for

operational missions. It includes performing apportionment, allocation, assignment, and integration management in accordance with operational requirements. For MILSATCOM, it also includes satellite platform and payload control, as well as day-to-day resource management of space and ground resources.

16. <u>SATCOM System Expert</u>. The component or designated organization responsible for providing the technical planning and functions in support of the operational management of a specific SATCOM constellation.

17. <u>SATCOM Operational Manager</u>. The organization responsible for day-to-day operations and management of SATCOM resources.

18. <u>SATCOM resources</u>. DOD-owned and leased SATCOM systems, networks, personnel, and equipment that support SDB requirements.

19. <u>Time Division Multiple Access</u>. A communications technique that allows multiple terminals to share a given frequency spectrum. Each terminal has exclusive use of the frequency spectrum for a small time interval (fraction of a frame), which is known as a TDMA time slot.

20. <u>Validation</u>. Official confirmation by a C/S/A that a SATCOM requirement meets a mission need and warrants approval consideration by the Joint Staff. This definition is specific to the SATCOM requirements process described in this instruction and not necessarily identical to its usage in other requirements or acquisition documentation.

21. <u>Waveform</u>. The combination of baseband signal structure, RF signal structure, and protocols required to define a signal transmission and reception. In Narrowband SATCOM, the term waveform is most often used to refer to the signal being used (e.g., 5-kHz or 25-kHz DAMA).