DEPARTMENT OF DEFENSE
6000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-6000

CHIEF INFORMATION OFFICER

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MEMORANDUM FOR DIRECTOR, JOINT STAFF COMMAND, CONTROL, COMMUNICATIONS, AND COMPUTERS/CYBER
DIRECTOR, DEFENSE INFORMATION SYSTEMS AGENCY
DEPARTMENT OF THE ARMY, CHIEF INFORMATION OFFICER
DEPARTMENT OF THE NAVY, CHIEF INFORMATION OFFICER
DEPARTMENT OF THE AIR FORCE, CHIEF WARFIGHTING INTEGRATION AND CHIEF INFORMATION OFFICER
COMMANDANT OF THE MARINE CORPS, CHIEF INFORMATION OFFICER
COMMANDER, UNITED STATES STRATEGIC COMMAND, CHIEF INFORMATION OFFICER
VICE COMMANDER, UNITED STATES AIR FORCE SPACE COMMAND

SUBJECT: Guidance for Obtaining Military SATCOM Services from a Commercial Provider via Hosted Payloads Using Military Spectrum

The Department of Defense continues to evaluate the potential of hosting communications payloads on commercial satellites to provide improved service to the Warfighter. There have been discussions with industry of a general nature and with vendors offering specific proposals to host communications payloads authorized to operate in spectrum limited to military usage in the United States and Possessions.

Any contracts using military spectrum will have to comply with the regulations and procedures for federal radio frequency management published by the National Telecommunications and Information Administration of the Department of Commerce. In addition, such contracts may also require action under the International Telecommunication Union's Radio Regulations to register communications satellites to operate at specific orbit locations and at specific frequency assignments.

Attached is a discussion of some issues that need to be addressed to ensure compliance with the above regulations. Point-of-contact at this office is Mr. Kenneth Turner, (571) 372-4900 and Mr. Lawrence Krebs, (571) 372-4937.

Robert E. Wheeler
Major General, USAF
Deputy Chief Information Officer for
C4 & Information Infrastructure Capabilities

Attachment:
As stated

Issues that Need to be Addressed When Obtaining Military SATCOM (MILSATCOM) Services via Commercial Hosted Payloads

September 24, 2012

I. BACKGROUND

The Department of Defense (DoD) continues to evaluate the potential of hosting military communications payloads on commercial satellites to provide better service to the Warfighter. Included in this evaluation process are discussions with industry partners of a general nature and with vendors offering specific proposals to host military payloads using spectrum limited to military usage in the United States and its Possessions (US&P).

There're two separate regulatory structures and authorization regimes for federal and commercial use of spectrum in the United States; they are under the National Telecommunications and Information Administration (NTIA) and the Federal Communications Commission (FCC). A thorough review of spectrum policy and regulations is required to ensure full compliance by the government and any commercial provider with regard to use of Government spectrum. Specific frequencies under consideration are hosted payloads operating at UHF (240-270 MHz, 290-320 MHz), X-band (7250-7750 MHz, 7900-8400 MHz), Ka-band (20.2-21.2 GHz, 30-31 GHz) and EHF (43.5-45.5 GHz) frequencies.

This document discusses the regulatory and contractual issues that must be addressed when considering the use of the hosted MILSATCOM payload concept. This document addresses topics that should be included in any discussions with industry. For the purposes of this document, the hosted MILSATCOM payload is that portion of a satellite operating at any of the frequencies cited above. The guidance is applicable to hosted MILSATCOM payloads whether owned or leased by the DoD.

II. TOPICS

1) **International Registration of the Frequencies Used by the Hosted Payload:** In order to maintain control over military spectrum, the preferred approach is for the United States Government (USG) to secure international authorization by registering and coordinating frequency and orbital slot requirements for the hosted payload with the International Telecommunication Union (ITU). However, hosted payloads registered with the ITU by another country may also be considered.

   In order for hosted payloads to be registered with the ITU by the USG, the hosted payload contractor would be required to:

   a) Design the hosted payload to be compliant with national spectrum policy, including NTIA spectrum regulations governing satellite systems. NTIA allocates

spectrum to authorized space services in the Federal column of the national table of frequency allocations.

b) Coordinate with the host satellite owner/operator to ensure mutual radio frequency compatibility, define the host satellite orbital parameters (i.e., location on the geostationary arc, inclination excursion, station-keeping, etc.), and ensure the host satellite is controlled within the registered and coordinated parameters.

c) Provide the DoD with information needed for DoD to register and conduct spectrum coordination for the hosted payload.

d) Submit to the DoD all relevant information needed for Form DD1494, "Application for Equipment Frequency Allocation" and for ITU-R forms (Appendix 4 Advance Publication, Appendix 4 Coordination Request, Appendix 4 Notification, Resolution 49 Administrative Due Diligence). The FCC will submit the required registration documentation to the ITU for the hosted payload. The USG will be responsible for coordinating the hosted payload with other administrations (i.e., countries) as required.

2) **License to Operate the Hosted Payload:** If the hosted payload will operate in the US&P, it will require a license to operate (for satellites registered with the ITU by the USG), or a market access authority (for satellites registered with the ITU by another country). The preferred approach is for a Government agency to request the authorization to operate the hosted payload from the NTIA.

   An alternative approach is for the satellite owner/operator to request the license or market access authorization for the hosted payload from the FCC. The FCC will coordinate the request with the DoD through the NTIA. If the request is granted by the FCC, it will include explicit instructions regarding the use and operation of the hosted payload as specified by the DoD.

3) **Use of Military Band Spectrum:** Any proposed contractual agreement should clearly establish that all spectrum limited to military use (used or unused) on-board the commercial satellite is reserved for exclusive use by the US military for the life of the hosting satellite, regardless of the orbital location of the satellite. The satellite owner/operator will not disclose, acknowledge, discuss, or lease the capacity of the hosted payload to allied governments or any other entity without written DoD approval.

4) **Additional Contractual Issues:**

   a) The hosted payload contractor shall be obligated to comply with the International Trafficking in Arms Regulations in the design, implementation, launch, and operations of the hosted payload.

b) Any relocation of the hosting satellite from the originally contracted location shall be approved by the DoD. In order to have further protection against future relocation, the DoD may wish to negotiate Right-of-First-Refusal clauses for lease of the entire commercial spectrum capacity of the satellite.

c) The contractor shall be obligated, upon successful launch of the hosting satellite, to have the satellite at its target location and operating within the timeframe specified by the ITU for bringing a satellite into use.

d) In the event the satellite owner/operator desires to move the satellite to another orbital location, the satellite owner/operator will obtain formal approval from the DoD. The contract should include terms and conditions defining the monetary compensation to the DoD for loss/disruption of hosted payload service. If deemed critical to operations, the DoD shall have the right to restrict movement of the hosting satellite until the DoD can obtain equivalent, usable capacity in the geographic area critical to the operations. International rights and protection from harmful interference in accordance with ITU procedures shall be factors in determining equivalency.

e) In the event of Radio Frequency Interference (RFI) events to the hosted payload that degrade or disable service to DoD, the responsibility for RFI mitigation and financial accountability for loss of service to DoD will be the responsibility of the satellite owner/operator under the contract. Also, the contract should specify the priority of the hosted payload over other payloads onboard in case of a shortage of satellite resources, such as a shortage of bus power.

f) The contract will provide that DoD will "own" the rights granted by the ITU under the filing for the hosted payload and may use those allotments or assignments for Government purposes, including the placement of military satellites or other hosted payloads using the same frequencies at the registered orbital location.

g) If DoD later puts its own military satellite at the same orbit location as the commercial satellite, even after the period of performance of the contract is over, the satellite owner/operator will be obligated to cooperate with DoD in coordinated station keeping of the two satellites. The satellite owner/operator will not disclose, acknowledge, discuss, or lease the capacity of the hosted payload to allied governments or any other entity without written DoD approval.

h) The contract will provide that hosted payload operations shall not be disrupted should the satellite owner/operator declare bankruptcy, sell or otherwise go out of business, terminate the contract, or cease for any other reason to perform the contract. In such cases, the Government shall have the right to order that ownership of the hosting satellite and functioning satellite control station be transferred to a USG-approved buyer or to the USG. The satellite shall not be assigned or transferred to any other entity including a creditor. The USG will

have the right to negotiate with and retain the services of the satellite control station personnel to maintain satellite operations for a period of at least 1 year to facilitate transition of the satellite from original satellite owner/operator to an approved buyer or to the USG .