



# Navy Communications Satellite Program Office

Office of Congressional and Public Affairs  
Space and Naval Warfare Systems Command  
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## Mobile User Objective System (MUOS)

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Building on the foundation of the ultra high frequency (UHF) communication system, the Navy-managed Mobile User Objective System will provide warfighters a next-generation narrowband satellite system that meets the tactical communication requirements of tomorrow's increasingly complex battlefield. New UHF-dependent applications and missions are, predictably, on the increase, all vying for a piece of this indispensable but constrained resource.

MUOS will be a protected narrowband (64 kbps and below) satellite communications system that will support a worldwide, multi-Service population of mobile and fixed-site terminal users. The \$6.4 billion system will provide a minimum of 10 times more throughput compared to the current UHF Follow-On (UFO) system.

The UHF spectrum has evolved into the military's workhorse because its capability penetrates jungle foliage, inclement weather and urban terrain. U.S. military personnel rely on secure and reliable UHF communications, and as a result, ground troops, surveillance aircraft, submarines and every fast moving entity in-between have made UHF their mode of choice for mobile communications.

It's estimated that there are more than 20,000 UHF satellite terminals currently in use, many of which are small and portable enough to be carried deep into theaters of operation. MUOS will provide true "comms on the move" capability to the mobile warfighter

MUOS will be more than a satellite system due to the significant amount of ground infrastructure required for network management. MUOS, which is scheduled to become operational in 2010, will be compatible with both the legacy terminals that are already fielded and the Joint Tactical Radio System (JTRS).

JTRS terminals will be software programmable to accommodate a multitude of communications waveforms. These new terminals will range from handheld microterminals to platform-specific (vehicle, ship, submarine, aircraft) and fixed-site terminals. Users of these terminals will require on-demand communications services that include narrowband voice, fax, low-speed data, alphanumeric short message paging, voice mail and call waiting.



**F11, the final UFO satellite, was launched in December 2003 from Cape Canaveral, Fla. F11 was designed as a gapfiller satellite to sustain the UHF constellation until the advent of MUOS.**



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### **Procurement and Acquisition**

The first phase of the MUOS process, a 21-month Concept Exploration phase, was completed in July 2001. Eight industry teams of commercial and Defense Department contractors recommended system concepts and architectures to meet MUOS performance requirements.

The second phase, the Component Advanced Development phase, began when request for proposals were released in April 2002. A Lockheed Martin team and a Raytheon team were awarded contracts in September 2002 to examine critical technical issues, risk reduction and system definition.

The original request for proposal for phase three – the Risk Reduction / Design Development and Acquisition and Operations Support contract – was issued Dec. 19, 2003, with a proposal due date of Feb. 17, 2004. On July 1, 2004, an amended request for proposal was provided to the two industry teams. Phase three commenced on Sept. 24, 2004, when the Lockheed Martin-led team was awarded a \$2.1 billion contract to achieve system initial operational capability by 2010. The contract includes options, which if exercised, would bring the cumulative value to nearly \$3.3 billion with efforts continuing until 2015.

The MUOS constellation is required to provide communications to the warfighter for 10 years beyond full operational capability, which will extend the system's service until 2024. Over the lifespan of the program, \$3.3 billion will be directed to the Lockheed Martin contract and the remainder will be directed to the cost of launch vehicles, network operations and program management.

### **About PEO Space Systems, SPAWAR and PEO C4I & Space**

PEO Space Systems, headquartered in Chantilly, Va., provides naval space and warfare expertise to develop superior and affordable space systems in support of naval, joint and combined operations. The PEO's acquisition and systems development branch, the Communications Satellite Program Office, executes procurement of the Defense Department's narrowband communications satellites, which provide secure narrowband communication for the Department of Defense, as well as the Department of Homeland Security, the State Department and the White House.

Headquartered in San Diego, the Space and Naval Warfare Systems Command's Office of the Chief Engineer designs the architecture and standards for FORCEnet, the Navy's vision for network centric warfare and a pillar of the Chief of Naval Operations Sea Power 21 philosophy. PEO Space Systems and PEO C4I and Space acquire, align and field more than 100 space and C4I programs and projects to help make FORCEnet a reality. The three commands work together to dramatically increase current and future readiness while simultaneously implementing FORCEnet and a new era in warfighting capabilities.

**For more information on SPAWAR, PEO Space Systems and PEO C4I & Space initiatives, contact Steven A. Davis via the following: Desk: 619.524.3432 / Cell: 619.925.4304 / Email: [steven.a.davis@navy.mil](mailto:steven.a.davis@navy.mil)**

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