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SENATE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

STATEMENT OF
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WARFARE REQUIREMENTS AND PROGRAMS (N6/N7)
BEFORE THE
STRATEGIC FORCES SUBCOMMITTEE
OF THE
SENATE ARMED SERVICES COMMITTEE
ON
FISCAL YEAR 2006 DEFENSE AUTHORIZATION BUDGET REQUEST
FOR SPACE ACTIVITIES
MARCH 16, 2005

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Mr. Chairman, distinguished members of the Committee, I am honored to appear before you today to address Navy space activities. As Deputy Chief of Naval Operations for Warfare Requirements and Programs, we provide the substantive analysis -- the “warfighting story” -- and supporting capabilities investment plan to the Chief of Naval Operations to ensure naval forces remain operationally relevant today... and in the future.

Integrating space capabilities throughout the naval force is fundamental to our Sea Power 21 vision. The objective of Sea Power 21 is to ensure that our nation possesses credible combat capability on scene to promote regional stability, to deter aggression throughout the world, to assure access of joint forces and to fight and win should deterrence fail. Sea Power 21 guides the Navy’s transformation from a threat-based platform centric structure to a capabilities-based, fully integrated force. The pillars of Sea Power 21 -- Sea Strike, Sea Shield, Sea Base -- are integrated by FORCENet, the means by which the power of sensors, networks, weapons, warriors and platforms are harnessed in a networked combat force. It is this networked force that will provide the access with the strategic agility and persistence necessary to prevail in the continuing war on terror, as well as the speed and overwhelming power to seize the initiative and swiftly defeat any regional peer competitor in combat operations.

The Navy of the future must be capabilities-based and threat-oriented. While the fabric of our fighting force will still be the power and speed needed to seize the initiative and swiftly defeat any regional threat, we believe FORCENet’s pervasive awareness (C4ISR) will be more important than mass. And because of its access from the sea, the Navy and Marine Corps are focusing significant effort and analysis in support of joint combat power projection by leveraging this traditional access provided by the oceans through Seabasing, with the access now provided by space and cyberspace through FORCENet. It is the synergistic access provided by these great “commons” -- the sea and space and cyberspace -- that is the revolution of the future.

To this end, the technological innovations and human-systems integration advances in future platforms remain critical. Our future warships will sustain operations in forward areas longer, be able to respond more quickly to emerging contingencies, and generate more sorties and simultaneous attacks against greater numbers of multiple aimpoints and targets with greater effect than our current fleet. However, the future is about the capabilities posture of this fleet, which is why the future is also about establishing C4ISR as a warfighting weapon and integrator... and understanding the impact of changing C4ISR investment strategies on the warfight.

The Navy’s Investment

In the last year, we have realigned the Navy Staff to establish C4ISR as a warfighting weapon and integrator of other Sea Power 21 Pillar efforts (Sea Base, Sea Shield and Sea Strike). We have also established an Analysis Center of Excellence to form the leading edge of mission level analysis and align our modeling analysis -- including the accurate modeling of space and cyberspace networked systems, and how they contribute to warfighting effectiveness -- under the Sea Power 21 FORCENet Pillar. I am particularly enthusiastic about the ongoing assessment of space capabilities with regard to their contribution to Maritime Domain Awareness (MDA), a new operational concept that we have been working closely with the U.S. Coast Guard and

others to develop so that we can better defend the homeland against those who attempt to use the seas to transport terror to our shores, as well as to help forgo threats early forward overseas. MDA will enable identification of threats as early and as distant from our borders as possible to determine the optimal course of action. Armed with this better awareness and visibility, we will provide an active, layered system of defense that incorporates not only the maritime domain, but space and cyberspace as well.

The Navy's space investment portfolio reflects our partnership with the Department's Executive Agent for Space and the rest of the National Security Space community -- as well as our maritime responsibilities. We rely on the Air Force and National Reconnaissance Office (NRO) to acquire most of the major space platforms, collaborating on the required capabilities, and then we buy the user equipment for the fleet. We also take the lead in tackling maritime challenges through our participation in the Science and Technology/Research and Development (S&T/R&D) process.

The Navy's major space segment responsibility to the joint community is the acquisition of the Mobile User Objective System (MUOS). The MUOS contract was awarded to Lockheed Martin on 24 September 2004 and is fully funded in the Fiscal Year 2006 budget request to meet all threshold requirements with an Initial Operational Capability (IOC) of 2010. MUOS will provide "communications on the move", through double canopy foliage and in the urban environment to small antennas used by bandwidth-disadvantaged users. MUOS is the common denominator for command and control providing the capability to communicate from tactical to theater levels, to allies and coalition partners and between defense and non-defense agencies.

As you know, MUOS is critical to satisfying the demand for tactical satellite communications. During OPERATION ENDURING FREEDOM, UHF Follow-On (UFO) and LEASAT 5 supported only 80% of narrowband tactical UHF satellite communication requirements. Additionally, in the 2010-2012 timeframe, LEASAT 5 will reach end of life and UFO is expected to reach an unacceptable level of performance. Complete loss of these UHF satellite communication resources would have a significant impact on combat operations if not replaced by MUOS. Today, UFO supports approximately 500 accesses worldwide. Based on evolving future warfighting concepts in support of the Defense Planning Guidance (DPG), access requirements have grown by at least a factor of four. MUOS will provide a minimum of 1,997 worldwide accesses. As Lockheed Martin refines its design, we expect this capacity to grow.

Innovation

The Navy continues to invest in its Tactical Exploitation of National Capabilities (TENCAP) Program. Navy TENCAP's R&D process includes matching innovative responses to emerging Fleet requirements and mission capability gaps identified within the analytical Naval Capability Development Process (NCDP). This R&D process emphasizes the following rigor: (a) rapid prototyping (12-24 months); (b) testing under field conditions; and (c) rigorous, independent assessment of results. Over the past 24 years, Navy TENCAP has completed 110 R&D efforts with 54% resulting in new operational and improved ISR capabilities for the Fleet and joint forces all for a cost less than \$20M per year.

Additionally, the Naval Research Laboratory (NRL) built TacSat-1 as part of the Office of Force Transformation Operationally Responsive Space initiative, and it is ready for launch this year on Space-X's Falcon launch vehicle. TacSat-1 uses a commercial MicroStar spacecraft to carry several sensor payloads into low earth orbit. The payloads are designed to allow machine-to-machine collaboration between Air and Space assets for geo-location, as well as specific sensor discrimination capability. Even more significant, TacSat will demonstrate tactical control of payload and dissemination of data through SIPRNET -- a truly net-centric thrust. For TacSat-1, NRL is working in partnership with the Air Force Space Command, NRO Office of Space Launch, and NASA. The Air Force is leading subsequent TacSat demonstrations, on which Navy will also have secondary payloads; TacSat-2's Navy payload is focused on the Maritime Domain Awareness challenge. This partnership is a significant step forward to leverage small satellite technology to design more responsive space capabilities.

Space Cadre

The key to success is the mix of operational experience and space savvy found in our Navy Space Cadre. As members of the National Security Space team, we participated in the development of the National Security Space Human Capital Resources Strategy and the establishment of the Space Professional Oversight Board, the Senior Officer Forum for the discussion and resolution of matters concerning space professional development within the Department of Defense.

Navy Space Cadre officers are assigned to NRO, the National Security Space Office, USSTRATCOM, many Joint Program Offices and throughout the fleet. Their operational expertise provides critical insight into how space can optimize warfighting capabilities. To further improve the management of our space cadre, we have designated VADM McArthur, Commander, Naval Network Warfare Command, as the Navy's Space Cadre Functional Authority, providing strategic guidance on priorities for the development and employment of the Navy Space Cadre. He recently released the Navy Space Cadre Human Capital Strategy, which outlines our vision and way ahead.

The Navy Space Cadre Advisor is working closely with his Service counterparts to meet both Navy and National Security Space goals. The Naval Postgraduate School (NPS) Space Systems Operations and Space Systems Engineering curricula continue to provide the Navy and other Services graduate education, post-graduate (Engineer) degrees and doctoral degrees. In addition, the Navy has developed a Space Certification at the NPS, with courses available on-line. We also created a formal Educational Alliance with the Air Force through a memorandum of agreement between NPS and the Air Force Institute of Technology (AFIT), with the goal of leveraging strengths and eliminating duplication in space education.

Summary

Our mission remains bringing the fight to our enemies. The increasing dependence of our world on the seas, coupled with growing uncertainty of other nations' ability or desire to ensure access in a future conflict, will continue to drive the need for naval forces and the capability to project decisive joint power by access through the seas, space and cyberspace.

Accordingly, we will continue to fight the global war on terror while transforming for the future fight. We will continue to refine our operational concepts and appropriate technology investments to deliver the kind of dominant military power from the sea envisioned in *Sea Power 21*. We will continue to pursue the operational concepts -- such as MDA -- even as we invest in technology and systems to enable naval vessels to deliver decisive, effects-based combat power in every tactical and operational dimension. We understand that space capabilities will be critical to our efforts and must be integrated throughout the naval force... and we understand that because the future of the Navy is tied to space, we must succeed in growing and maintaining our space cadre. We also look forward to the future from a strong partnership with Congress that has brought us many successes today.

My highest priority is to transform Navy organizational processes and culture to fully integrate the warfighting capabilities that space systems present to our warfighters. And to that end, Navy intends to be a full joint partner in space.