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HOUSE ARMED SERVICES COMMITTEE  
TACTICAL AIR AND LAND FORCES  
SUBCOMMITTEE

STATEMENT OF  
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DEPUTY CHIEF OF NAVAL OPERATIONS  
DEPUTY DIRECTOR, AIR WARFARE  
BEFORE THE  
TACTICAL AIR AND LAND FORCES SUBCOMMITTEE  
OF THE  
HOUSE ARMED SERVICES COMMITTEE  
ON  
FY 2007 NAVY UAS, UCAS, and ACS PROGRAMS  
APRIL 6, 2006

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Mr. Chairman, Congressman Abercrombie, distinguished members of the Subcommittee, thank you for this opportunity to appear before you to discuss the Navy's Fiscal Year (FY) 2007 Acquisition and RDT&E Unmanned Aircraft Systems (UAS) and Aerial Common Sensor (ACS) programs.

Since its initial experience with UAS during DESERT STORM, operating Pioneer from the sea, the Navy has pursued a strategy of developing a family of UAS that support maritime Intelligence Surveillance and Reconnaissance (ISR) and penetrating strike to facilitate our Naval Power 21 strategy.

The Navy has transferred its operational Pioneer systems to the Marine Corps, which have been used to good effect in Operations ENDURING FREEDOM and IRAQI FREEDOM. The Navy continues to support USMC Pioneer efforts with one Pioneer system used for Test and Evaluation and a second Pioneer system used for training.

In addition to Pioneer, Navy has taken delivery of one Global Hawk UAV, procured in concert with Air Force production, for a Maritime Demonstration Program. A second vehicle is scheduled for delivery in the summer of 2006. The Navy operates one Predator A system for the United States Joint Forces Command's Joint Operational Test Bed System (JOTBS) to examine UAS interoperability, and received funding in 2006 to procure additional Predator B air vehicles. The Navy is also employing Scan Eagle, a small, persistent UAS, through a number of ISR "fee-for-service" contracts to meet tactical ISR capability shortfalls.

There are plans to acquire a new UAS in the near-term - Fire Scout - to provide the Littoral Combat Ship (LCS) an organic UAS capability in 2008. Additionally, a Broad Area Maritime Surveillance (BAMS) UAS is being developed to provide a worldwide, persistent, maritime ISR capability in 2013.

The GWOT, OEF and OIF continue to demonstrate the enormous contributions that UAS make to the effectiveness of Joint and coalition forces. UAS support both surveillance and strike missions with persistent, distributed, netted sensors. UAS have played a critical role in recent operations and are a key element of naval transformation.

## **NAVY UNMANNED AIRCRAFT SYSTEM (UAS) PROGRAMS**

The Army has selected the Fire Scout air vehicle for their Army Future Combat System Class IV UAS. Numerous similarities in hardware components, testing, logistics, training, software and support requirements offer potential for overall program cost reduction that will clearly benefit both the Army and Navy. A

Memorandum of Agreement with the Army for the acquisition of the Fire Scout airframe, and selected subsystems on a single Navy contract was signed in 2005. The airframes will be subsequently modified to Service-specific requirements under separate existing Navy and Army contracts. The goal is to maximize common support, eliminate redundant costs and testing, and maximize both common avionics and sensor configuration to promote interoperability.

Tactical Control System (TCS) - The Fiscal Year 2007 Budget requests \$9.2M to continue TCS development. TCS provides interoperability and commonality for mission planning, command and control, and C4I interfaces for tactical and medium altitude unmanned platforms as part of a UAS. The TCS program continues development of a standards-based architecture using NATO STANAG 4586 to ensure UAV interoperability that will enhance Fire Scout functionality and facilitate integration with LCS, as well as plug and play payload capability. TCS currently flies Fire Scout and Navy Predators with Joint Forces Command's Joint Operational Test Bed System ground control system (GCS).

Global Hawk Maritime Demonstration System (GHMD) - The Fiscal Year 2007 Budget requests \$17.3M in O&M,N funding to support maritime radar technology maturation, fleet battle experiments and CONOPS development with two Global Hawk UAS the Navy procured in FY03 in concert with Air Force production. As part of the GHMD program, the Global Hawk Integrated Sensor System (ISS) radar software has been modified to provide the wide area search, maritime moving target indicator (MMTI), and inverse synthetic aperture radar (ISAR) modes that are necessary to meet surveillance requirements in the high clutter maritime environment. GHMD participated in the NETWARCOM led Trident Warrior 05 Sea Trial Exercise in December 2005 and the first, Air Vehicle N-1, was delivered to its main operating base at Naval Air Station Patuxent River on 25 March 2006.

Broad Area Maritime Surveillance (BAMS) UAS - The Fiscal Year 2007 Budget requests \$26.4M to continue development of the BAMS UAS. BAMS UAS will provide a persistent, multi-sensor, maritime Intelligence, Surveillance and Reconnaissance (ISR) capability in support of Sea Shield and is a key system, along with the Multi-mission Maritime Aircraft (MMA) and the EP-3 replacement, to recapitalize the Navy's airborne ISR fleet. The BAMS UAS program is now scheduled for Milestone B in fourth quarter FY07, leading to an IOC in late FY 2013.

BAMS UAS will enhance maritime domain awareness, provide wide area surveillance of maritime and littoral targets, and link its sensor data to afloat units and MMA. Additionally, it will provide standoff strike support and communications relay.

Unmanned Combat Air System (UCAS) - The Fiscal Year 2007 Budget requests \$239.2M to continue development of the Navy's carrier capable, Unmanned Combat Air System. Navy has been unyielding in the belief that a carrier based, penetrating, persistent UCAS will provide the Joint warfighter with a responsive ISR and strike capability that fills the gap identified in the Joint Strike Enabler Initial Capability Document. The restructuring of the Joint Unmanned Combat Aircraft System, directed in Program Decision Memorandum III, supports Navy demonstration of a carrier suitable, low-observable shaped vehicle in FY2011. The technology maturation necessary to accomplish this demonstration is critical to fielding a carrier based UCAS. The results of this demonstration will inform a decision to continue UCAS development, a process that will heavily leverage the complementary developmental efforts of Air Force and other Services' unmanned programs.

Navy UAS requirements and employment concepts are being developed to fill identified capability gaps and improve the effectiveness of the Joint force. During the past year, the Navy employed Scan Eagle UAS to help meet short range, unit level, GWOT focused tactical ISR requirements. Scan Eagle contract support provided ISR capability for deployed Expeditionary Strike Group (ESG), Expeditionary Action Group (EAG), and independent naval ships, as well as land-based operations in the Central Command area of responsibility. The Navy is currently examining the requirement being filled by these service contracts to determine if a long-term need exists for this tactical, unit-level ISR capability. Pending the outcome of this study, the Department, considering other requirements competing for limited resources, may initiate a full Program of Record (POR) to procure a Standard Tactical UAS.

Beyond short range, GWOT focused tactical ISR, Fire Scout provides the LCS and ships in company with organic tactical ISR, targeting, and limited kill capability; along with communications relay and data sharing with off-board LCS systems. BAMS UAS provides persistent, broad area maritime ISR and will operate as an adjunct to MMA. UCAS provides ISR support to Carrier Strike Groups during the Air Wing's non-flying hours and a persistent, penetrating ISR capability that will support strike operations and time-sensitive-targeting in highly defended areas.

Additionally, the Navy remains firmly behind support of Marine Corps UAS programs, providing program management, testing and training support for its currently fielded UAS's.

## **STANDARDS-BASED INTEROPERABILITY**

A standards-based approach has been adopted in the development of the Tactical Control System (TCS) for command and control of Navy Unmanned Aircraft.

TCS will develop and implement a standards-based interoperability solution that will build on the current TCS modular, scalable, open system architecture to include a Naval approved technical standard for datalink and C4I interfaces utilizing NATO Standardization Agreement (STANAG) 4586. This agreement, which was ratified by nine member nations of NATO, will form the basis for future TCS architectures. This builds upon the other aspects of UAS that have developed standards, such as those for imagery and data links.

In the past, the focus on interoperability has been between data link terminals on the specific airborne collection platform and its related receiving station. However, true interoperability occurs when the requirement is extended to encompass sensor-to-display or "end-to-end" interoperability - addressed in compatible data links, standardized framing of data, and common sensor data formats. The Navy has developed a common configuration profile for end-to-end interoperability among Naval CDL systems to assure interoperability through a common mode of operation, and to provide guidance to buyers of Naval CDL systems and other Services that require assured interoperability with Naval CDL systems. The DoN is implementing this common approach on our new UAV programs - Fire Scout and BAMS, as well as manned aircraft including the Multi-mission Maritime Aircraft (MMA), SH-60R, and P3-AIP.

The DoN focus on standards-based interoperability encompasses ground, air and C4I functional elements. It is intended to be a scaleable scheme that will enhance capability, flexibility and achieve a distributable Common Operational Picture (COP).

## **AERIAL COMMON SENSOR (ACS) PROGRAM**

The Aerial Common Sensor (ACS) contract with Lockheed Martin (LM) was cancelled by the Army in January 2006. While some progress had been made in developing the next generation Airborne Intelligence, Surveillance, and Reconnaissance (AISR) platform, the ACS contract was terminated at the convenience of the government.

Program Decision Memorandum III, dated 20 December 2005, directed the Navy and Army, in coordination with the Air Force, to conduct an Airborne Intelligence, Surveillance, and Reconnaissance study to reexamine the multi-intelligence requirements that had engendered the ACS program, and to consider potential manned and unmanned solutions.

Mr. Walter Hollis, SES, Deputy Under Secretary of the Army for Operations Research (DUSA (OR)) and I co-chair the Study Advisory Group. Inputs from the offices of the Marine Corps, Army, Joint Staff, Under Secretary of Defense

(Policy), Under Secretary of Defense (Intelligence) and Office of the Secretary of Defense for Program Analysis and Evaluation (OSD PA&E) have helped shape the scope of the study and refined its methodology.

The results of the Joint Army-Navy ISR study, which will inform a process leading to a restructured Joint ACS program, are due to the Deputy, Secretary of Defense not later than 31 July 2006.

## **SUMMARY**

The Navy continues to make positive progress in developing and fielding unmanned aircraft systems specifically designed to address maritime capability gaps. These systems are a key element of our transformation. We will continue to refine our UAS operational concepts and make appropriate technology investments to deliver the kind of dominant military power from the sea envisioned in Sea Power 21. We look forward to continuing our strong partnership with Congress, and thank you for your support of the Navy and Marine Corps team.