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HOUSE ARMED SERVICES COMMITTEE  
AIR AND LAND FORCES SUBCOMMITTEE

STATEMENT OF  
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DEPUTY DIRECTOR, AIR WARFARE  
BEFORE THE  
TACTICAL AIR AND LAND FORCES SUBCOMMITTEE  
OF THE  
HOUSE ARMED SERVICES COMMITTEE  
ON  
FY 2008 NAVY UAS, UCAS, and EPX PROGRAMS  
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Mr. Chairman, Congressman Saxton, distinguished members of the Subcommittee, thank you for this opportunity to appear before you to discuss the Navy's Fiscal Year (FY) 2008 acquisition and RDT&E Unmanned Aircraft Systems (UAS) and Aerial Common Sensor (ACS) (now called the EPX) programs. Brigadier General Conant is with me today on behalf of the US Marine Corps.

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 maritime Intelligence Surveillance and Reconnaissance (ISR) and penetrating strike UAS that supports our Navy Strategic Plan and Naval Power 21 strategy. This family of systems encompasses a range of small tactical, tactical, persistent, and penetrating platforms that are being developed to provide maritime domain awareness across the Sea Shield, Base, and Strike pillars that embody naval power in the 21<sup>st</sup> century.

In the area of small tactical UAS, the Navy continues to employ Scan Eagle through a number of ISR "fee-for-service" contracts that mitigate the current tactical ISR shortfall. To date, these contracted air vehicles have supported Global War on Terrorism (GWOT) operations from both ships and land based facilities. During FY08 the Navy will begin, in concert with the Marine Corps, a Small Tactical UAS (STUAS)/Tier II Program of Record (POR) that will replace Scan Eagle fee for service ISR operations in FY11.

In the tactical realm, the Navy continues to support the Marine Corps by providing

Pioneer UAS training. This Pioneer support effort is expected to be phased out during FY08, when the Marine Corps transitions to the U.S. Army RQ-7B Shadow UAS as a near term solution to immediate operational needs.

Plans to acquire the Fire Scout UAS, a helicopter derivative that will provide the Littoral Combat Ship (LCS) tactical organic UAS capability in 2008, continue on track. The Fire Scout will play an integral role in the Surface Warfare, Anti-Submarine Warfare, and Mine Interdiction Warfare missions of LCS.

In the persistent ISR arena, the Navy has taken delivery of two Global Hawk UAVs that are the core of a Maritime Demonstration Program. This Demonstration Program supports sensor testing and both Maritime Patrol and Reconnaissance Aircraft community and Joint exercises, with the objective of developing manned/unmanned maritime surveillance concepts of operations (CONOPS) as well as tactics, techniques, and procedures that will accelerate the initial operational effectiveness of the Broad Area Maritime Surveillance (BAMS) UAS Program. The attributes of the BAMS UAS, which will be informed by the Global Hawk Maritime Demonstration Program, are being shaped to provide a worldwide, persistent, maritime ISR capability by 2014. This program will reach a Milestone B decision in 4Q of FY07.

The Navy employs one Predator A system as part of the United States Joint Forces Command's Joint Operational Test Bed System (JOTBS), which examines UAS

interoperability. The Navy is also in the process of procuring a Predator B air vehicle, using funding provided by Congress in FY06, to address the growing Service and Joint persistent ISR operational demand.

In the area of penetrating ISR, the Navy is continuing its efforts to demonstrate the suitability of a relevant low observable platform air vehicle in a carrier environment by 2013. This demonstration represents the first step in a process that will lead to an unmanned, penetrating ISR and future strike capability for the carrier air wing.

Finally, the Navy is refining its overall ISR strategy to align its manned and unmanned ISR capability with Naval Strategy and Sea Power 21. This study, led by the Navy intelligence community, will inform the Navy's POM-10 submission.

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

Small Tactical UAS (STUAS)/Tier II UAS - The Fiscal Year 2008 budget includes a request for \$6.2M in RDT&E that will be used to begin System Development and Demonstration efforts for a STUAS/Tier II UAS POR. This funding will support a combined Navy and Marine Corps acquisition program (an additional \$5.7M RDT&E is funded by USMC) that will field a small, persistent ISR platform in FY11 that can be operated from both ships and land facilities.

Fire Scout Vertical Takeoff UAV (VTUAV) - The Fiscal Year 2008 budget requests

\$33.0M in RDT&E and \$37.73M in Aircraft Procurement, Navy (APN) for the Fire Scout program. Fire Scout is on track to complete test and evaluation in 2008 and reach Initial Operational Capability (IOC) in 4Q FY08 onboard the Littoral Combat Ship.

Procurement funds will be used to buy three Low Rate Initial Production (LRIP) air vehicles, plus associated Ground Control Stations (GCS) and equipment. Analysis supporting the Navy's employment of Fire Scout VTUAV includes an LCS aviation warfighting requirements analysis, LCS and draft VTUAV CONOPS, the campaign analysis completed in support of the DoN FY08 budget submission, and the applicable Joint Capabilities Integration and Development System (JCIDS) documents. The procurement profile in FY08 begins the process of fielding VTUAV systems aligned to meet LCS mission module deliveries in the FYDP and beyond.

Tactical Control System (TCS) - The Fiscal Year 2008 Budget requests \$9.4M to

continue TCS development. TCS provides mission planning, command and control, and C4I interface commonality for tactical and medium altitude unmanned UAS. The TCS program continues development of a standards-based architecture compliant with NATO STANAG 4586 that integrates Fire Scout functionality with LCS, and facilitates future interoperability and payload capability enhancements. TCS will IOC in FY08 as part of the Fire Scout VTUAV system. With the help of \$1.0M provided in FY07, the TCS program is also transitioning to open architecture and open source software.

Global Hawk Maritime Demonstration System (GHMD) - The Fiscal Year 2008 Budget requests \$17.7M in O&M,N funding to support CONOPS development and fleet battle experiments with the two Global Hawk UAS the Navy procured 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 provide required capability in the high clutter maritime environment. GHMD participated in the NETWARCOM led Trident Warrior 05 Sea Trial Exercise in December 2005 and the FY06 Joint Expeditionary Force Experiment (JFEX) in July 2006. The FY08 budget includes \$5.9M in APN to procure needed spares to support continued GHMD operations.

Broad Area Maritime Surveillance (BAMS) UAS - The Fiscal Year 2008 Budget requests \$116.7M to continue development of the BAMS UAS. BAMS UAS will provide a persistent, multi-sensor, maritime Intelligence, Surveillance and Reconnaissance (ISR) capability and communications relay in support of major combat operations and the GWOT. BAMS is a key component of the Navy's future Maritime Patrol and Reconnaissance Force, which includes the P-8A Multi-Mission Maritime Aircraft (MMA) and the EPX Information Operations aircraft. The BAMS UAS program is now scheduled for Milestone B in fourth quarter FY07, leading to an IOC in late FY14. A competitive request for proposal was issued to industry on 14 February 2007.

Responses are due in April and the source selection results will be part of the MS B decision process.

Navy Unmanned Combat Air System (N-UCAS) - The Fiscal Year 2008 Budget requests \$161.7M to continue development of the Navy's carrier suitable, Unmanned Combat Air System. Navy is committed to a carrier based, penetrating, persistent UCAS to provide the Joint warfighter with a responsive ISR and time-sensitive strike capability that fills the gap identified in the Joint Strike Enabler Initial Capability Document. To field that capability, the Navy is conducting a risk reduction demonstration program of a relevant low observable platform air vehicle. This carrier demonstration, scheduled to complete in FY13, will inform a decision to continue UCAS development in a program that will leverage the complementary developmental efforts of Air Force and other Services' unmanned programs.

## **CURRENT FIELD OPERATING EXPERIENCE**

Scan Eagle – During the past year, Scan Eagle ISR fee for service contracts provided persistent ISR coverage for deployed Expeditionary Strike Groups (ESG), Expeditionary Action Groups (EAG), and independent naval ships, as well as land-based operations in the Central Command area of responsibility. There are currently 3 contracts (two ship-based and one shore-based) in use, with a follow-on contract in work. To date Scan Eagle UAS have completed in excess of 925 sorties / 7,700 hours. A typical contract

provides 10 hours of ISR coverage per day / 300 hours per month. Reliability data is not directly tracked, but mishap rates for the Scan Eagle system have averaged 1 air vehicle loss per 214 hours historically. The mishap rate for recent shipboard operations has improved to 1 per 500 hours (or one to two lost air vehicles per six month deployment). This rate is not atypical for this size/class of “expendable” air vehicle. A loss in this case is categorized as an air vehicle that is no longer in an airworthy status. Scan Eagle video has been linked to its Ground Control Station, Toughbook based Remote Video Terminal (RVT), and Rover III RVT’s.

Other UAS Initiatives - During this fiscal year the Navy, as the lead service for Explosive Ordnance Disposal (EOD), will sponsor the demonstration of small UAS capabilities in support of EOD forces deployed in the GWOT. This in-theater demonstration, scheduled during 3Q FY07, will employ 3 Silver Fox UAS and 10 Micro Air Vehicle (MAV) systems in response to a validated Joint Urgent Operational Need (JOUN).

Additionally, the Navy continues to support the Marine Corps’ Pioneer program. Program management, testing, and training support for its currently fielded systems is programmed through FY08.

EP-3E - The EP-3E flew more than 8000 mission hours in support of Maritime Component Commanders and Combatant Commander GWOT missions world-wide. The details of those missions are classified, but can be provided upon request.



## **NAVY'S AERIAL COMMON SENSOR (ACS) PROGRAM RECOVERY PLAN**

Since the Aerial Common Sensor (ACS) contract with Lockheed Martin (LM) was cancelled by the Army in January 2006, an OSD-directed Joint ISR (JISR) study co-led by Army and Navy has been completed. This study reexamined the multi-intelligence requirements that were the core of the ACS program, and considered potential manned and unmanned solutions. The JISR study validated the need for a manned, multi-Int platform to meet the tactical commander's direct support ISR needs and highlighted the specific attributes required to be effective in this regard.

Additionally, Navy campaign analysis for POM-08 refined the electronic warfare capabilities required to meet the threat posed by emerging peer rivals. Specifically, the Navy requires a platform with an unrefueled on station time of 4 hours at a combat radius of 1200 NM. While collaboration on the mission system continues with our sister Services, the significant difference in range and endurance requirements for the Army and Navy have prompted both Service Chiefs to pursue separate platform solutions. In the case of the Navy, the follow-on to the EP-3E is being called the EPX, pending development of the acquisition strategy. The EPX will be an integral part of the Maritime Patrol and Reconnaissance Force family of systems that includes the MMA and BAMS UAS.

The Navy is fully committed to sustaining the EP-3E airframe and keeping its mission systems effective until the EPX is fielded. Three spiral upgrades to the mission system and installation of Special Structural Inspection Kits (SSI-K) similar to the P-3 are programmed to sustain the EP-3E through 2019. Of note, the EPX will incorporate the EP-3E Spiral 3 capabilities as the baseline for EPX Block 0, plus additional capabilities that will result in a true multi-intelligence platform.

## **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 our Navy Strategy and 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.