



Unmanned Aircraft Systems: Acquisition and Utilization

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Fiscal Year 2016 Report to Congress



Homeland
Security

United States Coast Guard



Unmanned Aircraft System: Acquisition and Utilization

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I. Legislative Language

This report responds to the language set forth in Senate Report 114-68 accompanying the *Fiscal Year 2016 Department of Homeland Security Appropriations Act* (P.L. 114-113) as per the following:

UNMANNED AIRCRAFT SYSTEMS

“The Committee is concerned that the Coast Guard will commission its fifth NSC in the summer of 2015, but have only one UAS pair to support deployments. Since the early days of Coast Guard recapitalization under the Deepwater Program, UAS were integral to the overall “system of systems.” Over a decade later, the Coast Guard still appears unsure of how to incorporate UAS technology despite examples of such integration within DHS and across the Federal Government.

The Committee expects the Coast Guard to continue its longstanding plan to conduct vertical take-off and landing UAS flight demonstrations. The Coast Guard has reported to the Committee that this system would enhance the surveillance capabilities of the NSC and estimates a significant increase in the number of prosecutions achieved by the cutter. The Committee continues to be very supportive of the use of vertical take-off UAS aboard Coast Guard cutters and strongly encourages the Coast Guard to ensure that the acquisition schedule is not delayed for this enhanced surveillance capability. The Committee is encouraged by the successful results of the Coast Guard’s cutter-based testing and evaluation completed in December, 2014. The Coast Guard is directed to provide a report outlining its plans to acquire and utilize this capability with the fiscal year 2017 budget request.”

II. Report

The U.S. Coast Guard's National Security Cutter (NSC) fleet was designed to include fewer hulls than the aging legacy fleet without compromising operational capacity, as the NSC fleet would be comprised of cutters outfitted with greater surveillance capability from a variety of sources. In addition to manned helicopters and other shipboard sensors, the persistent surveillance provided by an unmanned aircraft system (UAS), at a comparatively lower cost than manned aircraft, also was identified as an important part of the overall force package.

As such, cutter-based UAS capability was established as a key performance parameter for the NSC, and initial research and development activities were completed to inform future UAS acquisition activities. Due to ongoing developmental challenges with larger, more complex ship-based UASs, the Department of Homeland Security approved a nonmajor acquisition in 2013, in which Coast Guard will acquire Small Unmanned Aircraft Systems (sUAS) as an interim capability for the NSC.

The Coast Guard Research and Development Center (RDC) evaluated several military/commercial off-the-shelf systems, conducted demonstrations aboard the NSCs, and performed an evaluation of available sensors. The demonstrations included vertical takeoff technology and catapult launch systems. The acquisition team utilized the RDC's demonstration reports and market analysis to inform operational requirements and acquisition strategy development.

Coast Guard's UAS acquisition requirements are split into two discrete segments. Discrete Segment One implements proven, widely used, and low-cost sUASs to provide operational commanders with immediate capability. Discrete Segment Two will implement advanced sensor technologies and airspace deconfliction capability. This strategy provides flexibility to adapt to sUAS technological advances that currently are not available in the sUAS market, while delivering proven and supportable operational capability to the NSC as soon as is feasible.

The Coast Guard is leveraging technical experience and nonrecurring engineering efforts conducted by other armed services and federal agencies to field sUAS capability efficiently and expeditiously. This will enable the Coast Guard to integrate a proven, mature capability already in use by the Navy and several other government entities.

In 2015, the Coast Guard partnered with the Naval Surface Warfare Center to commence a topside integration study for permanent sUAS installation on an NSC. The study includes analysis of NSC antennae configuration and spectrum allocation to minimize blockage and electromagnetic interference associated with the installation of sUAS antennae and equipment. Concurrent to the topside analysis, the Coast Guard is

executing an interagency agreement with the Naval Air Systems Command to acquire the first sUAS capability for an NSC. The Coast Guard plans to release a Request for Proposals under the existing Navy sUAS multiple award contract. Following contract award, the service anticipates installation of the first sUAS system in 2016.