

Future Combat System (FCS) Unmanned Aerial Vehicles (UAVs):

Class I - Platoon; Class II - Company; Class III - Battalion; Class IV - Brigade

Executive Summary

- The Future Combat System (FCS) Unmanned Aerial Vehicles (UAVs) are designed to provide enhanced situational awareness to the FCS Brigade Combat Team and its subordinate organizations through a robust, organic suite of systems.
- The Army began System Requirements Review for all four classes of FCS UAVs in 2005 and completed the functional review for Class I and Class IV in February 2006. All four classes of UAVs are part of the core FCS program.
- Test and evaluation activity during FY06 involved Class I and Class IV FCS UAVs. The Army postponed the selection of FCS Class II and III UAVs in order to conduct a UAV study, based on the requirements of each echelon commander, to determine whether the Army needs four classes of UAVs or if the proposed fleets could be combined.

System

- The FCS UAV program consists of four classes of unmanned aerial systems, one each for platoons, companies, battalions, and brigades.
- The Army intends FCS UAVs to be:
 - Multifunctional and tailorable
 - Operable in varying terrain, including urban environments
 - Teamed with manned aircraft and ground maneuver forces

FCS Unmanned Aerial Vehicles

Class	FCS Unit Size	Air Vehicle Weight (lbs)	Time on Station	Operational Radius
I	Platoon	10 to 15	50 minutes	8 km
II	Company	112	2 hours	16 km
III	Battalion	300 to 500	6 hours	40 km
IV	Brigade	3,200	24 hours	75 km



Mission

- Units will use FCS UAVs to conduct reconnaissance, surveillance, target acquisition, and communication relay missions.
- Platoons will use Class I FCS UAVs to collect reconnaissance, surveillance, and target acquisition information for increased situational awareness.
- Companies will use Class II FCS UAVs for reconnaissance, security, early warning, and beyond line-of-sight targeting in support of the ground tactical plan.
- Battalions will use Class III FCS UAVs to conduct beyond line-of-sight and non-line-of-sight targeting, mine detection, and chemical, biological, and radiological monitoring.
- Brigade Combat Teams will use Class IV FCS UAVs to conduct wide aerial surveillance and communications relay.

Activity

- The Army awarded Honeywell a contract to enter System Design and Development of the Micro Air Vehicle (MAV) for the Class I UAV.
- The MAV was originally a Defense Advanced Research Projects Agency (DARPA) Advanced Concept Technology Demonstration (ACTD). In support of the ACTD, DARPA conducted an operational experiment with a platoon from the 3rd Brigade, 25th Infantry Division in August 2005.
- The Army completed the System Functional Review for Class I and Class IV in February 2006.
- The Army and Navy signed a memorandum of agreement to perform combined risk reduction Electromagnetic Environmental Effects testing for the Class IV and Navy Firescout UAVs. The Army is also using information gained from the Navy's component level testing of the rotor hub and landing gear.

ARMY PROGRAMS

- The Army delayed the Class IV UAV program due to lack of funding.
- The Army postponed the selection of vendors for two FCS UAVs (Class II and Class III) until at least the end of FY06 to conduct a UAV study, based on the requirements of each echelon commander, to determine whether the Service needs four classes of UAVs or if the proposed fleets could be combined.

Assessment

- Class I should be able to leverage the ACTD of the MAV operational experiments to develop platoon level tactics, techniques, and procedures.
- MAV will require significant design and development to meet the FCS ORD requirements. Integration of a heavy fuel engine, system weight and size, air vehicle endurance, service

ceiling, and acoustic signature are all areas of technological risk.

- Overall operational test strategy and details for FCS UAVs are being developed in the current FCS Test and Evaluation Master Plan.

Recommendations

- Status of Previous Recommendations. No FY05 report was submitted.
- FY06 Recommendations. The Army should:
 1. Continue to leverage the Navy's developmental test activities with Firescout to avoid duplication of efforts for the FCS Class IV UAV.
 2. Include detailed measures and criteria for UAV platform testing in the revision of the FCS TEMP.