



News Release

Defense Advanced Research Projects Agency

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IMMEDIATE RELEASE

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DARPA ANNOUNCES AWARD OF ORGANIC AIR VEHICLE – II CONTRACTS

The Defense Advanced Research Projects Agency (DARPA) today awarded funding to three contractors for the first phase of the Organic Air Vehicle – II (OAV-II) program to develop a prototype ducted fan Class II unmanned aerial vehicle for the Army’s Future Force Unit of Action. The three contractors receiving OAV-II phase I awards are:

- Aurora Flight Sciences Inc., Manassas, Va., HR0011-05-C-0035, \$2,398,275
- BAE Systems Aircraft Controls Inc., Los Angeles, Calif., HR0011-05-C-0042, \$2,534,392
- Honeywell International Inc., Defense and Space Electronics Systems, Albuquerque, N.M., HR0011-05-C-0043, \$3,994,319

The OAV-II program will develop and demonstrate a company-level ducted fan unmanned aerial vehicle (UAV) for operation in diverse missions such as complex environment reconnaissance and surveillance; path finding for friendly ground vehicles (both robotic and manned); maneuver force protection; and targeting for non-line-of-sight fire operations. At the end of the three-phased program, the prototype OAV-II vehicle should be of sufficient maturity to transition into an Army System Development and Demonstration program to fulfill the Army’s requirement for a Class II UAV.

The prototype OAV-II vehicle will have a dry weight of less than 112 pounds and will be a platform to demonstrate advanced sensors for situational awareness and target designation, a non-line-of-sight networked communications capability, and collision avoidance. The vehicle will use advanced heavy fuel propulsion and will incorporate advanced acoustic signature reduction technology. The prototype vehicle will be designed to provide small units with a capability to perform reconnaissance, surveillance and target acquisition (RSTA) missions of up to two hours’ duration and at ranges of tens of kilometers.

During the OAV-II program’s initial six-month phase, contractors will perform design trades and will determine technical requirements for the major subsystems of the air vehicle. Contractors will also study optimum system size and performance, and demonstrate the highest risk elements of the collision avoidance subsystem in a laboratory test. Phase I will culminate with a preliminary design review, after which DARPA will select up to two of the contractors to continue into phase II.

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During the nine-month second phase, contractors will perform detailed design of the OAV-II air vehicle and ground support elements (control station and ground vehicle interfaces). The program will continue development of the collision avoidance system and demonstrate a non-form-factored collision avoidance system in flight tests on a surrogate air vehicle. Contractors will also design the heavy fuel engine. Phase II will culminate in a critical design review. The program will choose a single contractor for phase III.

Phase III will last 33 months. During the first 18 months, the OAV-II contractor will fabricate, integrate, and test the air vehicle, and demonstrate basic collision avoidance functionality. The program will conduct flight tests using surrogate sensors in place of the Class II Mission Equipment Package (MEP), which the Army Communications and Electronics Research, Development and Engineering Center Night Vision and Electronic Sensors Directorate (Fort Belvoir, Va.) will be developing in a parallel program. During the final 15 months of the OAV-II program, the contractor will integrate the Army's developmental Class II MEP elements into the air vehicle and perform flight testing to demonstrate full functional collision avoidance (avoidance of buildings, trees and wires), RSTA, target designation, networked communications and autonomous operations.

The OAV-II program is part of a continuing joint DARPA/Army effort to develop ducted fan air vehicles and associated technologies for unmanned aerial vehicle (UAV) systems that can be owned and operated by small units within the Army Unit of Action.

Previous DARPA/Army ducted fan UAV activities included the OAV program, which ended in August 2004. This program developed generic ducted fan UAV technologies and explored airframe scalability issues, and culminated with the contractor, Honeywell Defense and Space Electronics Systems (Albuquerque, N.M.) demonstrating simulated route reconnaissance and urban perimeter reconnaissance missions at Fort Benning, Ga. These demonstrations were conducted using a 29-inch diameter ducted fan airframe designed and built by Allied Aerospace (San Diego, Calif.).

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