

DarkStar Unmanned Aerial Vehicle Completes Second Flight

The second Tier III Minus DarkStar high-altitude unmanned aerial vehicle (UAV) has successfully completed its second flight.

The vehicle took off yesterday (Sunday) from the U.S. Air Force Flight Test Center at Edwards Air Force Base, Calif., at 6:35 a.m. PST. During the 45-minute flight, DarkStar achieved its planned altitude of approximately 5,000 feet and completed all preplanned basic flight maneuvers. The system successfully executed a fully automated flight from takeoff to landing using the differential Global Positioning System (GPS) satellite constellation.

Mark Sussman, Boeing DarkStar program manager, said the aircraft's second flight is significant because it provides further data on the vehicle's unique wing-body aerodynamics, and validated the changes made to the flight control system to mitigate a low-amplitude oscillation observed in flight one. The program will review the data from the second flight and move ahead with expansion of the flight envelope to its design altitude.

"This flight expanded our detailed data on the flight-control characteristics and further demonstrated DarkStar's robust performance capabilities," Sussman said. "We remain on track to support the Department of Defense-sponsored military utility assessment in 1999."

After a detailed flight analysis, the DarkStar team will schedule more test flights to continue evaluation of the UAV's general flying characteristics and basic system performance, including the high-resolution synthetic aperture radar (SAR) and electro-optical (EO) payloads.

DarkStar is a high-altitude, low-observable endurance UAV optimized for reconnaissance in highly defended areas. It will operate within the current military force structure and with the existing command, control, communications computer and intelligence equipment. It can operate at a range of 500 nautical miles and stay on station for eight hours at an altitude greater than 45,000 feet. The air vehicle will carry either the SAR or EO payload.

The DarkStar program is managed by DARPA on behalf of the Defense Airborne Reconnaissance Office (DARO). Boeing builds DarkStar's wings, provides its avionics and integrates its radar and vehicle management system software.

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