

## **Fire Scout Demos Capabilities**

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Northrop Grumman Corporation's (San Diego, CA) Integrated Systems sector has conducted the first in-flight download of real-time sensor imagery from the USNavy's RQ-8A Fire Scout vertical take-off and landing tactical unmanned aerial vehicle (TUAV). The three test flights were conducted on 11 October 2002 at Naval Air Weapons Station, China Lake, California. The tactical common data link was used to download the data to the Navy's Fire Scout ground control station (GCS).



The Fire Scout tactical common data link, which is supplied by L-3 Communications (Salt Lake City, Utah) consists of both directional and omni-directional antennas on the air vehicle (AV) and at the GCS. The data link (Ku band) has a narrow band uplink for vehicle and payload control, and a wide band downlink for digital streaming video and data from the payload (EO/IR/LDRF) to the GCS and on to the C4I architecture. The GCS for the Navy is a S-280 shelter provided by Wenzlau Engineering (South Pasadena, CA). It consists of an air vehicle operator station, a payload operator station, four ARC-210 UHF/VHF radios, the tactical common data link, digital and analog recording capability, full environmental climate control, C4I connectivity and shipboard compatibility. For the Marine Corps, a TCS ground control station mounted on a HMVVV ("humvee") is being deployed.

During the tests, the Fire Scout first flew for 30 minutes through 32 total waypoints at the China Lake range. It climbed to a maximum altitude of 4,000 feet MSL at an air speed of 30 knots GS. On the second and third flights, Fire Scout flew for 15 minutes through 21 total waypoints while again reaching 4,000 feet MSL and 30 knots CAS. The last two flights focused on payload and data link performance. Throughout all the missions, the system's electro-optical and infrared sensors, provided by Northrop Grumman's Electronics Systems sector, Baltimore, Md., demonstrated a full range of capabilities to locate, identify and track a mix of targets including vehicles, buildings and geographic features. In addition, the laser rangefinder was employed to evaluate the precision target location feature of the payload and vehicle management system. Following the download of payload imagery and data to the Navy's GCS using the tactical common data link, the imagery and data was ported to Northrop Grumman's mission control room, a large control van with full telemetry employed for early developmental testing. In subsequent flight tests, the Navy's GCS will assume full vehicle and payload control in addition to receipt of payload information.