

## **EXECUTIVE SUMMARY**

### **AIRCRAFT ACCIDENT INVESTIGATION MQ-1B, "PREDATOR," T/N 05-3147 NORTH OF BALAD AB, IRAQ 14 SEPTEMBER 2009**

On 14 September 2009, at approximately 0948 Zulu (Z) time, the mishap remotely piloted aircraft (MRPA), a MQ-1B Predator, tail number (T/N) 05-3147, crashed north of Balad Air Base (AB), Iraq. The Predator was an asset of the 27th Special Operations Wing, Cannon Air Force Base, New Mexico and was flown by a Mishap Crew (MC) from the 15th Reconnaissance Squadron, 432d Wing, Creech Air Force Base, Nevada.

The MRPA departed Balad AB, Iraq at 0056Z to fly a sortie in support of Operation IRAQI FREEDOM. At 0945:56Z, the MRPA, reported a left tail servo flight control malfunction and subsequently lost its SATCOM datalink with the Ground Control Station (GCS) approximately eight hours and fifty minutes after takeoff. Efforts by the MC, which consisted of the Mishap Pilot (MP) and Mishap Sensor Operator (MSO), to reestablish datalink were unsuccessful. The MRPA crashed north of Balad AB, Iraq and its wreckage was subsequently recovered. There are no known injuries, deaths, or reported property damage. The MRPA was carrying one AGM-114P HELLFIRE missile. The aircraft loss is valued at approximately \$3.7 million.

The post-mishap investigation revealed no anomalies with regards to the MRPA at the time of the mishap. The preflight and launch was performed with no reported discrepancies. Both the MC, and the previous Mission Control Element crew, reported there were no anomalies with the operation of the MRPA in the several hours of flight immediately prior to the mishap. A review of the performance data recorded prior to loss of link showed no indications of degradation or anomalous readings thus eliminating many other mishap scenarios.

The Accident Investigation Board President determined by clear and convincing evidence that the cause of the mishap was a loss of servo control of the left tail board. The loss of servo control was due to a failure of either a servo potentiometer or a cable that connects the servo potentiometer to the Secondary Control Module. Either failure mode would have resulted in the loss of servo control of the left tail causing the tail board to move to a significant trailing edge down position causing the aircraft to lose attitude control and depart from controlled flight. The loss of attitude control resulted in loss of SATCOM link and the subsequent crash. Due to ground impact and extensive fire damage to the wreckage, it was not possible to determine which of the two suspected components failed. The MC had no previous indication of, or reason to suspect an impending servo failure.

**Under 10 U.S.C. 2254(d), any opinion of the accident investigators as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report may not be considered as evidence in any civil or criminal proceeding arising from the accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements.**