

## EXECUTIVE SUMMARY

### AIRCRAFT ACCIDENT INVESTIGATION MQ-1B PREDATOR, T/N 07-3182 KANDAHAR AIRFIELD, AFGHANISTAN 5 May 2011

On 5 May 2011, at 0916 Zulu time (Z), the mishap remotely piloted aircraft (MRPA), an MQ-1B Predator, tail number 07-3182, crashed approximately 0.5 nautical miles (nm) northeast of Kandahar Air Field (KAF), Afghanistan.

The MRPA was an asset of the 3rd Special Operations Squadron, 27th Special Operations Wing, Cannon Air Force Base, New Mexico. At the time of the mishap, the MRPA was flown by a launch and recovery element (LRE) crew from the 62nd Expeditionary Reconnaissance Squadron, 451st Air Expeditionary Wing, KAF, Afghanistan. The home unit of the mishap pilot (MP) is the 18th Reconnaissance Squadron, 432nd Air Expeditionary Wing, Creech Air Force Base, Nevada. The mishap sensor (MSO) is a member of the Texas Air National Guard whose home unit is the 111th Reconnaissance Squadron, 147th Reconnaissance Wing, Ellington Field, Texas. There were no injuries, deaths, or reported non-governmental property damage as a result of the crash. The \$4.2 million MRPA was destroyed and the airfield perimeter fence was slightly damaged.

After normal pre-flight checks and taxi, the MRPA departed KAF in support of Operation ENDURING FREEDOM. Four hours and 48 minutes after takeoff, the mission crew observed high turbocharger oil temperature and conducted the engine overheat checklist, however the temperature did not return to normal. The crew initiated a return to KAF and approximately 15 minutes later after observing additional anomalous engine indications, declared an emergency. The MRPA was handed off to the MP and MSO at 15,200 ft above field elevation (AFE) approximately 10 miles from KAF. The MP descended the MRPA over the runway while conducting normal and emergency checklists. At approximately 7,600 ft AFE and 8 minutes prior to the crash, the engine failed. The crew did not recognize the engine failure at this time. The MP began the final orbit 2,100 ft above the flight manual recommended altitude for an engine-out recovery. The MP flew an extended pattern while maintaining a higher than recommended airspeed. On final approach, 0.8 miles from the runway, the crew recognized the MRPA was too low on the approach and the MP moved the throttle to full power with no response from the engine. The MRPA impacted the top of the perimeter fence and crashed inside the base perimeter.

The Accident Investigation Board (AIB) President determined by clear and convincing evidence that there were two causes of the mishap. First, failure of the engine cooling system resulted in engine failure. Second, the MP failed to properly execute a successful engine-out recovery, causing the aircraft to crash prior to the runway. In addition, the AIB President determined by the preponderance of the evidence that a leak at the coolant feed elbow on the number one engine cylinder was a substantially contributing factor to the mishap.

*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, if any, 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.*