

## EXECUTIVE SUMMARY

### AIRCRAFT ACCIDENT INVESTIGATION MQ-1B PREDATOR S/N 03-3104 KANDAHAR AIR BASE, AFGHANISTAN 26 MARCH 2007

On 26 March 2007, at approximately 1355 local time, an MQ-1B Predator remotely piloted aircraft (RPA), serial number (S/N) 03-3104, crashed during landing at Kandahar Air Base, Afghanistan. The mishap aircraft (MA) was deployed from the 15th Reconnaissance Squadron, 57th Wing, Creech Air Force Base, Nevada, and assigned to the 62nd Expeditionary Reconnaissance Squadron at Kandahar in support of Operation ENDURING FREEDOM (OEF). The mishap aircrew included a United States Air Force pilot and a Royal Air Force sensor operator. The aircraft was severely damaged upon landing with losses valued at \$1,727,425. No one was injured in the accident, and there was no damage to government or private property. Media interest was minimal.

After its OEF mission, the MA was handed over to the launch and recovery element at approximately 1335 local time for landing. Following the approach, the aircraft touched down nose first, porpoised and bounced into the air seven times before skidding to a stop on the right side of the runway. Each bounce increased in magnitude, and the force generated by the fourth bounce was sufficient to cause structural failure to the nose gear.

There is clear and convincing evidence the mishap was caused by pilot error. The mishap pilot (MP) misjudged the RPA height above touchdown and confused the initial bounce with a normal aircraft response to his flare inputs. This confusion resulted in the MP setting a neutral pitch input with the erroneous perception that such an input would hold the attitude observed during the bounce. Instead, the neutral pitch input commanded the aircraft to return to its previously trimmed state. As commanded, the aircraft returned to approximately 4-degrees nose low and impacted the runway. Following the subsequent bounce, the MP initiated a go-around; however, he failed to provide the necessary pitch input to establish the go-around attitude. Instead of commanding a nose high pitch attitude, the actual pitch inputs commanded the aircraft nose low on each subsequent bounce. There is clear and convincing evidence that the aircraft hit the runway nose low on the fourth bounce with sufficient velocity to break the gear, and the fifth bounce damaged the multi-spectral targeting system beyond repair. Substantially contributing factors to the mishap are the lack of visual cues and the lack of cues to provide perception of body position and movement in the ground control station. The unique flight control logic and lack of pilot feedback also substantially contributed to this mishap. The lack of cues is part an inherent design flaw making the system conducive to the types of perceptual errors that occurred during the mishap sequence. These perceptual errors, unique flight control logic, and lack of pilot feedback combined to create a situation in which the aircrew was unable to recognize the proper control inputs necessary to effect recovery.

*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 by the United States or by any person referred to in those conclusions or statements.*