

EXECUTIVE SUMMARY
AIRCRAFT ACCIDENT INVESTIGATION
HH-60G, S/N 97-26778
23 MARCH 2003

On 23 March 2003, at approximately 2056L, an HH-60G, S/N 97-26778, impacted the terrain during air refueling operations while on an operational mission in support of Operation Enduring Freedom (OEF). Six crewmembers were fatally injured and the helicopter was destroyed. There was no other government or private property damage or injuries to civilians on the ground.

Two HH-60G helicopters departed from a Forward Operating Base (FOB3) on a medical evacuation mission near City 1. The flight was deemed urgent and scheduled to recover two children who had injuries requiring further medical treatment. The lead helicopter was Partially Mission Capable (PMC) due to an inoperable Forward Looking Infra Red (FLIR) system and the #2 helicopter's (MA2) FLIR was operational. Prior to takeoff, the #2 helicopter developed problems requiring the spare helicopter to replace it in the formation. The new #2 helicopter (the spare helicopter, MA3) was also PMC for an inoperable FLIR. Regulations and policy allow helicopters to fly operational missions without an operable FLIR. The weather was marginal due to a line of thunderstorms and low clouds over the route of flight. As a result, there were decreased visual cues available to the crews. Takeoff and departure were uneventful and although Air Refueling was planned for after recovering the children, the lead helicopter Aircraft Commander made an inflight decision to perform this difficult operation prior to recovering the children. Joinup with the tanker was uneventful and the lead helicopter successfully engaged the refueling drogue (a basket like device attached to the refueling hose into which the helicopter inserts its probe to refuel inflight) on the third attempt for a contact. The #2 helicopter was positioned in the observation position (a position just outside the tanker's wingtip but no more than approximately two rotor disks away from the tanker) when the tanker signaled for an upcoming turn due to poor weather on the last ten miles of the air refueling track. During the turn, the #2 helicopter momentarily flew through a cloud, then the lead helicopter had an inadvertent disconnect and shortly thereafter, the lead helicopter impacted the terrain.

After a careful and complete investigation of this mishap, there was insufficient evidence to find, by clear and convincing evidence, the primary cause of the accident. However, there is substantial evidence that three factors contributed to this incident. First, the HC-130P tanker aircraft was 350 feet above the terrain, as measured by the radar altimeter, when the required altitude was no lower than 500 feet. The rolling nature of the terrain made it difficult to precisely gauge adequate altitude clearance and the HC-130P is not equipped with any terrain avoidance/terrain following equipment. It maintains terrain clearance by visual observations and radar altimeter crosscheck. Onboard radar assists the navigator to clear terrain, but has no measuring capability for precise clearance. Second, this was a night mission with zero moon illumination and only marginal starlight and cultural lighting (man made lighting such as street lights etc). This limited illumination reduced night vision goggle effectiveness and led to spatial disorientation and loss of situation awareness. Third, the terrain's high altitude (approximately 9000 feet above sea level) combined with the tanker's 30-degree bank, climbing turn, restricted the helicopter's aerodynamic performance, making it more difficult to maintain the helicopter in the refueling contact position. Additionally, following the disconnect, the helicopter moved away from the tanker's power enhancing drafting effect and then abruptly lost altitude and impacted the rising terrain.

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.