

## EXECUTIVE SUMMARY

### AIRCRAFT ACCIDENT INVESTIGATION F-16CJ, S/N 91-0386 NELLIS AIR FORCE BASE, NEVADA 12 MARCH 2007

On 12 March 2007, at 2058 hours Pacific Standard Time (0358 Zulu), an F-16CJ aircraft, serial number 91-0386, crashed 1500 feet short of Runway 32 at Tonopah Test Range Airfield (TTRA), Nevada. The Mishap Pilot (MP) and Mishap Aircraft (MA), assigned to the 16th Weapons Squadron, 57th Wing, Nellis Air Force Base (AFB), Nevada, were participating in a routine Weapons School training mission when the MA experienced a malfunction approximately forty-six minutes after takeoff where the engine remained stuck in afterburner (AB). Eight minutes later the MA flamed-out due to fuel starvation. The MP attempted a night flame-out (FO) landing using night vision goggles to TTRA, but was unable to acquire the airfield and ejected just short of the runway. The MP suffered only minor injuries during the ejection. Aircraft damage is estimated at \$29,277,088 and damage to the runway lighting is estimated at \$6,856.

The MA was participating in a planned two-ship training mission in the Nellis Range Area. Approximately forty-six minutes after takeoff, the MA experienced a stuck throttle condition where the aircraft remained in AB despite throttle inputs. In coordination with the mishap flight lead (MFL), the MP attempted to recover the MA at the TTRA; however, the airfield tower was unoccupied and the runway lights were off. Both the MP and the MFL attempted, unsuccessfully, to activate the pilot controlled lighting at the field. Runway lights were finally activated approximately seventeen seconds prior to impact; at that point the MP acquired the runway environment, realized that he could not safely reach the runway, and ejected. The cause of the mishap, supported by clear and convincing evidence, was the failure of the throttle cable that links the throttle control to the Engine Control Rack Assembly (ECRA). Specifically, the center race inside the throttle cable assembly fractured 63 7/8" (approximately one-quarter of the length of the cable) forward of the ECRA. The failure of the throttle cable was most likely due to one or more separate but contributing factors. First, kinking of the cable assembly occurred due to damage during installation or maintenance in the area. Second, a material smear (defect in the metal race) was likely introduced during the manufacturing process and may have made the race more susceptible to fracture. A combination of these two factors was sufficient to initiate and propagate fatigue cracks which eventually led to the failure of the center race, inability to control engine inputs, fuel starvation, and the loss of the MA. In addition, the inoperability of Pilot Controlled Lighting (PCL) at TTRA, though not causal, nevertheless substantially contributed to the mishap sequence.

*Under 10 U.S.C. 2254(d) any opinion of the accident investigators as to the cause of, or 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.*