

EXECUTIVE SUMMARY

AIRCRAFT ACCIDENT INVESTIGATION

F-16CJ, S/N 92-3889

MOUNTAIN HOME AIR FORCE BASE, IDAHO

14 AUGUST 2004

On 14 August 2004 at 1631 Japan Standard Time (0731 Zulu), an F-16CJ, S/N 92-3889 experienced an electrical fire. The F-16CJ, assigned to the 389th Fighter Squadron, 366th Fighter Wing, Mountain Home Air Force Base, was part of a JOINT AIR AND SEA EXERCISE 2004 support mission. The pilot was uninjured. The damage to the aircraft is estimated at \$320,000.

The mishap pilot (MP) noticed electrical problem indications in the cockpit while taxiing to his parking location and the mishap aircraft's (MA) flight data recorder indicated 28 data interruptions over an approximate 5 minute and 20 second period. Several witnesses saw sparks and smoke coming from under the MA approximately two minutes after the MA began taxiing from the end of runway area. The MP stopped the MA to speak with squadron supervision and overheard a transmission stating that "an F-16 taxiing had smokes and sparks coming from underneath the aircraft." The MP declared a ground emergency, performed a normal engine shutdown, and egressed without incident.

There is clear and convincing evidence that the primary cause of the mishap was an electrical short due to exposed wiring within the ALQ-131 electric countermeasures (ECM) pod adapter assembly power harness. There is clear and convincing evidence that the exposed wiring was a result of either chafing or cracking in the power harness due to aging of the wires and/or repeated bending. There is substantial evidence that this shorting condition, combined with an incompatibility problem between the over current sensing contactor (OCSC) and modular mission computer and main generator auto-cycling on the ground, resulted in electrical power cycling throughout the aircraft. Because of the incompatibility, the OCSC power relay did not trip a circuit breaker, allowing continued over current power to flow. Subsequent electrical power cycles, reflected in the MA's crash survivable flight data recorder, were caused by main generator auto-cycling. Auto-cycling occurred when the main generator sensed an over current and stopped power output, which stopped the over current. Once the generator didn't sense the over current, it allowed power output again, and started the cycle over.

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 an aircraft 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.