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AIRCRAFT ACCIDENT INVESTIGATION REPORT

(AFR 110-14)

TYPE: F-16

DATE: 15 MARCH 1991

LOCATION: SELLS, ARIZONA

FEDERAL REGULATORY COMMISSION

Docket No. _____ Official Exh. No. 123
 in the matter of PFS
 Staff _____ IDENTIFIED ✓
 Applicant ✓ RECEIVED _____
 Intervenor _____ REJECTED _____
 Other _____ WITHDRAWN _____
 DATE 2/1/02 Witness _____
 Clerk _____

PFS Exh. 123

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II. SUMMARY OF FACTS

A. History of Flight

The mishap aircraft, F-16A, S/N 82-1003 (call sign: November Lima 02) was the number two aircraft of a two-ship basic fighter maneuver continuation training mission. The aircraft took off in formation at 0804 MST on 15 March 1991 from the 120th FIGp Air Defense Alert Detachment at Davis-Monthan AFB, Arizona and entered the Sells, C/D Military Operations Area. The aircraft conducted basic fighter maneuvers under autonomous control. Approximately 30 minutes after takeoff the mishap aircraft departed controlled flight. The mishap pilot ejected successfully. The mishap aircraft impacted in uninhabited desert on the Papago Indian Reservation and was destroyed. (Tab A) The accident received minor coverage in the news media.

B. Mission

The mission was to conduct basic fighter maneuver training. The mishap pilot was [REDACTED] and the flight lead was [REDACTED]. The duty status of the pilots was: Deployed Special Training (federal) under the authority of 10 USC 672(D); and ANGR 50-01. Both aircraft flew offensive, defensive and neutral roles. The purpose of

the mission was continuation training to maintain proficiency. (Tab V-Schulz and Hamed Statements)

C. Briefing and Pre-flight

The briefing for the mission was accomplished by Major Hamed, the flight lead, according to applicable briefing guides for the flight. Both involved crew members had proper crew rest. All required briefing items were covered. (Tab V- [REDACTED] and [REDACTED] Statements)

The aircraft received a complete pre-flight on 14 March 1991 by TSgt. Donald Ferguson, a senior crew chief at the Alert Detachment. The pre-flight was accomplished pursuant to F-16 6WC-1. All systems were fully operational. The aircraft received an alert pre-flight by [REDACTED] the morning of 15 March 1991. No discrepancies were found. (Tab V- [REDACTED] and [REDACTED] Statements) The mishap pilot reported that [REDACTED] preflight revealed no discrepancies. (Tab V- [REDACTED] Statement)

D. Flight Activity

On 15 March 1991 the pilots completed a TAC Form 337, Local Flight Clearance - Flight Order with a DMA Sells 1 clearance. Planned departure time was 0805 MST and the aircraft took off at 0804 MST. The flight departed under tower and FAA control to Sells MOA and then was under autonomous control. No significant weather was reported and the crews were operating under visual meteorological conditions. (Tab K-1,3)

The aircraft alternated offensive and defensive roles in the Sells airspace, with the mishap aircraft primarily in a defensive role. At approximately 0838 MST, while the mishap aircraft was in a defensive role, the aircraft departed controlled flight. The aircraft altitude and elevation was 10,520 MSL/7,620 AGL. (Tab C) The mishap pilot exercised appropriate recovery procedures until the aircraft reached approximately 7500 MSL at which time the pilot successfully ejected. (Tab V- [REDACTED] Statement)

E. Impact

The aircraft impacted the ground approximately 22 miles south/southeast of Sells, Arizona. (Davis-Monthan TACAN 230°/49; latitude - N.3143.2; longitude - W.11141.6) At impact the aircraft was in a 55-60° nose-down attitude with left wing down indicators varying from 18-45°. (Tab O-6,7) The aircraft's approximate heading at impact was 230°. Air speed at impact was estimated at 320 knots. (Tab O-1,7) The ground elevation at impact was 2,975 feet.

A flash fire occurred at impact as a result of ruptured fuel tanks. Several small secondary fires occurred in the surrounding brush but damage was not significant. (Tab Z)

F. Ejection Seats

The mishap pilot ejected at approximately 7500 feet MSL. The ejection was successful and was conducted within the performance envelope of the system. The pilot does not recall the position of the emergency locator beacon switch. The only deficiency noted was that the switch on the emergency locator beacon was probably impacted during the ejection sequence and was switched from "auto" to "manual". This resulted in the emergency locator beacon ceasing operation after a single beep. (Tab V - Schulz Statement)

G. Personal and Survival Equipment

The personal and survival equipment inspections were reviewed and were found to be current. The pilot does not recall the position of the switch on the emergency survival kit. The kit did not automatically deploy, nor was it deployed manually prior to the pilot landing. The mishap pilot utilized the following survival equipment: smoke flare; water rations and the radio. (Tab V- [REDACTED] Statement)

H. Rescue and Crash Response

The crash occurred at approximately 0838 MST, 15 March 1991. The time of the initial rescue call was at approximately 0838 MST on GUARD Channel (emergency) from Major Hamed, the flight lead. This call was received by the Supervisor of Flying (SOF) at the Davis-Monthan tower. The SOF requested rescue assistance from the U.S. Customs Detachment at Davis-Monthan AFB. Customs responded by dispatching a Blackhawk 8T60 helicopter to the scene. The take-off of the helicopter was delayed approximately 20 minutes due to the unavailability of a qualified pilot.

Upon arrival at the crash scene the mishap pilot was located after the rescue helicopter observed a smoke flare fired by the mishap pilot. The helicopter landed approximately 150 yards from the mishap pilot at approximately 0945 MST. The flight surgeon from the helicopter met the pilot as [REDACTED] walked to the helicopter. The helicopter was met by an ambulance at Davis-Monthan base operations and the mishap pilot was taken to the base hospital. (Tab V- [REDACTED] Statement)

I. Maintenance Documentation

A review of all pertinent maintenance documentation for

the aircraft revealed no relevant discrepancies or deficiencies (Tabs H; U).

A thorough pre-flight was conducted by a senior crew chief on 14 March 1991 and an alert pre-flight was conducted just prior to the mishap flight by a senior crew chief. No discrepancies were found. (Tab V-Ferguson and Martinez Statements)

J. Maintenance Personnel and Supervision

Training records for maintenance personnel were properly maintained and correctly documented. Maintenance personnel were task qualified. (Tab U-Training Records Review)

K. Fuel, Hydraulic and Oil Inspection Data

A review of engine records revealed no irregularities or trends. All fluid analyses of fuel, LOX, oil and hydraulic samples were normal. (Tab J)

L. Aircraft Systems

The aircraft engine was not evaluated after the accident. All instruments and associated cockpit components were evaluated by a specialist at Tinker AFB, Oklahoma. (Tab O) All instruments had sustained major crushing impact damage and were extremely fragmented.

M. Operations Personnel and Supervision

The mission was conducted under the authority and procedures of OPOD 90-75, Coronet Pad, Appendix 14 to Annex C, "Alert Detachments". The authorizing activity was Detachment 1, 120th FIGp. The supervisor of flying was [REDACTED] the [REDACTED] The flight was commanded by [REDACTED].

The pre-flight briefing was conducted by [REDACTED]. The SOF did not attend the briefing, which is normal procedure for the detachment. The SOF, however, did review the briefing board after the flight took off and felt it represented a thorough and complete mission briefing. (Tab V-Coubrough Statement)

N. Crew Qualifications

The mishap pilot was a qualified F-16 pilot who was mission ready and qualified to fly alert. [REDACTED] flying experience is as follows:

<u>Total</u>	<u>F-16</u>	<u>F-106</u>	<u>Student and</u>	<u>Previous</u>
1096.6	654.9	234.4	<u>Other</u>	<u>30/60/90 Days</u>
			207.3	15.6/33.0/41.4

[REDACTED] was qualified to perform the scheduled mission on 15 March 1991. (Tabs G; T)

O. Medical

The mishap pilot was medically qualified for alert duty and flying status at the time of the accident. The post-accident toxicology report produced negative results. The post-accident medical examination revealed no significant injuries and the mishap pilot was medically returned to flight status on 15 March 1991. (Tabs X; V [REDACTED] Statement)

P. Nav aids and Facilities

The mishap aircraft crashed approximately 50 miles from Davis-Monthan AFB while engaged in basic fighter maneuvers. The NOTAMS for Davis-Monthan were reviewed and did not restrict the mission nor relate to the mishap.

Q. Weather

The weather at the time of the accident was 25,000, broken, with 50 miles of visibility and light winds. (Tab W, Tab V- [REDACTED] and [REDACTED] Statements)

R. Directives and Publications

The following directives and publications were applicable to the mission:

- AFR 60-15 (visual signals)
- AFR 60-1/TAC SUP.1 (fight management)
- AFR 60-16 (general flight rules)
- TACM 51-50, Vol. 1 (F-16 Aircrew Training)
- ANGM 51-50, Vol. 1 (F-16 Aircrew Training)
- TACR 55-116 (F-16 pilot procedures)
- JR 55-79 (air operations)
- DMAFBR 55-1 (local area operations)
- NR 55-6(c) (rules of engagement)


Brigadier General Paul N. Maxwell
MANG Investigating Officer

Date: 24 APR. 90