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OFFICE OF THE SECRETARY
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ADJUDICATIONS STAFF

AFR 110-14
AIRCRAFT
ACCIDENT
INVESTIGATION
REPORT

F-16A SN 82-0943
31 July 1992

183rd Fighter Group
Springfield, Illinois

Investigation Board:

Col Robert D Franke
122 FW IN ANG
Maj Glenn A Bender
122 FW IN ANG

PFS. Exh. 139

Copy Number 2 of 10

57394

NUCLEAR REGULATORY COMMISSION

Docket No. _____ Official Ex. No. 139
in the matter of PFS
Staff _____ IDENTIFIED /
Applicant / RECEIVED _____
Intervenor _____ REJECTED _____
Other _____ WITHDRAWN _____
DATE 7/1/02 Witness _____
Clerk /

II. SUMMARY OF FACTS

A. History of Flight:

1. Description of Flight: RETRO 34 was number four of a flight of eight F-16s (RETRO 31 Flight) which included two F-16s that were airborne spares (TAB K). RETRO 31 Flight was scheduled to depart Springfield, Illinois, Capital Airport at 0400 local hours on the morning of 31 July 1992 and follow the International Flight Plan to the final destination of Karup Air Base, Denmark, with total estimated time en route of 8 hours 10 minutes. (TAB K)

2. Significant Facts:

a. An F-16A aircraft, assigned to the 183rd Fighter Group, Capital Airport, Springfield, Illinois was destroyed when it crashed shortly after takeoff on 31 July 1992.

b. Shortly after takeoff, during a trail departure, the mishap pilot call sign RETRO 34, made a transmission on the flight discrete VHF frequency 138.875 with the words, "fours got a problem". (TAB V-7)

c. The mishap pilot made no further radio transmissions on UHF or VHF frequencies after the transmission noted in paragraph 2b above. (TAB V-7)

d. The pilot, Captain Donald E. Leckrone, Jr., initiated the ejection sequence prior to mishap aircraft impacting the ground. (TAB J-3)

e. Mishap pilot received multiple and extensive injuries which were sufficient to cause his death. (TAB X)

B. Mission: The particular mission of RETRO 34 was as number four aircraft as part of the first flight of F-16s out of two flights of six aircraft each that were deploying to Karup AB, Denmark as part of a Higher Headquarters directed Operational Readiness Inspection and NATO Tactical Evaluation Exercise in Denmark.

C. Briefing and Preflight:

1. Deploying pilots were released by unit in time to accommodate adequate crew rest. (TAB K-3) The pre-mission flight planning was complete and was accomplished by 2nd Aircraft Delivery Group, Air Combat Command, Langley AFB, Virginia.

2. There were no questions raised by Captain Leckrone during initial pilot brief on 30 July 1992, or during final pilot briefing on 31 July 1992 that would indicate any misunderstanding as to deployment procedures. (TAB V-5)

3. [REDACTED] (RETRO 31) briefed the initial deployment briefing to all pilots on 30 July 1992 at 0800 local. All pilots were to be in crew rest at 1300 local time. Captain Leckrone elected to crew rest at home which was optional for pilots that resided in the local area. Mishap pilot did not eat breakfast with other pilots in chow hall at 0100 local. (TAB V-5) [REDACTED] as Flight Lead of RETRO 31 flight, briefed the final flight briefing at 0150 local on 31 July 1992 prior to pilots suiting up for flight. After the final flight briefing, all flight members of RETRO 31 flight proceeded to the Life Support Section and donned their water survival suits (poopie suits). At completion of suiting up in Life Support, mishap pilot proceeded to his assigned aircraft S/N 820943 at approximately 0250 local hours on 31 July 1992.

4. Captain Leckrone's preflight, engine start up and after start checks were all accomplished normally and with no problems, as reported by the F-16 crew chief. (TAB V-16)

D. Flight Activity:

1. The international flight plan called for RETRO 31 flight to proceed from Springfield Capital Airport to Danville, Illinois and then to Fort Wayne TACAN to rendezvous with airborne tankers who would refuel and lead them to Karup, Denmark. (TAB K-2)

2. All UHF radio transmissions between RETRO 31 flight, Springfield Tower, Springfield Departure Control and Launch Control Officer (LCO) are at TAB N. Additional conversations between Air Traffic Control at Springfield Airport and Kansas City Center on the land line are also included. (TAB N)

3. Inter-flight communications on VHF frequency are not recorded.

4. There were no known navigational difficulties.

5. Weather at the time of the mishap was reported as 1000 feet overcast, intermittent 700 feet overcast, visibility 7 miles, intermittent, 3 miles light rain, and the winds were out of 320 degrees at 10 knots. Remarks: Thunderstorms in the vicinity with the tops of the overcast weather at 4500 feet and clear above. (TAB W)

6. The preflight inspection, engine start, after start, and taxi out for takeoff were all normal and as briefed. RETRO 31 flight was cleared for takeoff at 0400 local and surface winds were transmitted to RETRO 31 flight as 320 degrees at 8 knots. (TAB N-1)

7. RETRO 31 flight was cleared right turn on course after takeoff and cleared to 10 thousand feet by Springfield Tower (TAB N-2), and this clearance was acknowledged by RETRO 31 flight lead.

8. RETRO 31 flight took off one at a time 20 seconds apart, so the mishap aircraft RETRO 34, took off one minute after RETRO 31 lead.

9. During the departure on VHF inter-flight frequency, RETRO 34 called "fours tied", which means RETRO 34 was saying that he had a radar contact or a radar lock-on on the aircraft ahead of him. (TAB V-6)

10. Shortly after RETRO 34 called tied, he (RETRO 34) made another VHF transmission as reported by RETRO 31 with the words "fours got a problem". (TAB V-7)

11. During this initial departure phase, after RETRO 34 made his radio call on VHF about a problem, there were numerous other transmissions on the UHF as well as VHF (none from RETRO 34) throughout this time span as reported by RETRO 31. (TAB V-7)

12. As number three (RETRO 33) was in his right turning departure above the cloud tops, he stated that he looked back over his shoulder and saw four airplanes above the clouds with one farther back than he thought it should have been. RETRO 33 stated he then transmitted on VHF for RETRO 34 to "turn right to 330 we're at your right 2:00 high." Simultaneously with RETRO 33's call to RETRO 34, he (RETRO 33) saw a flash in the clouds. (TAB V-13)

13. RETRO 31 testified that he saw a flash at approximately the same time and location as RETRO 33. (TAB V-7)

14. No radio transmissions or contact of any kind was established with RETRO 34 after the mishap pilot's call of "fours got a problem".

15. No positive ground based radar contacts with the mishap aircraft were identified. (TAB O-19)

16. According to the Electronic Component Assembly (ECA), memory data obtained from the seat mounted data recorder shows that after takeoff on the mishap flight, RETRO 34 achieved an altitude of 5719 feet at 2 minutes and 8 seconds after takeoff. (TAB O-1, LOC 4) Mishap aircraft impacted the ground prior to the next (every 64 seconds) update on the ECA recorder. (ECA entry LOC 5 and all subsequent entries are from previous flights recorded on the mishap aircraft.)

E. Impact:

1. At approximately 0403 CDT on 31 July 1992, the mishap aircraft impacted the ground 1.5 NM southeast of Curran, Illinois at N3943.7 latitude and W8944.8 longitude. (TAB A-1)

2. The mishap aircraft impacted the ground inverted, in an attitude of 70 degrees nose down and 20 degree of right bank. (TAB J-5)

3. Mishap aircraft heading at time of impact was approximately 050 degrees magnetic. (TAB R)

4. Mishap pilot ejected from the aircraft prior to its impacting the ground.

F. Ejection Seat:

1. The ejection sequence was initiated by the mishap pilot pulling the seat mounted ejection control handle. (TAB J-3)

2. Evidence presented in TABS J-1 thru J-4 plus J-31 indicated that ejection was initiated in excess of 250 knots of airspeed.

3. Ejection seat timed functions all operated normally based upon recovered components. (TABS J-2 and J-3) However, ejection was initiated out of the design envelope of the ejection system. (TAB J-30)

4. During escape episode left parachute riser contacted a hard fixed surface during personnel parachute deployment, also parachute canopy structure sustained significant damage. (TAB J-3 and J-25)

G. Personal and Survival Equipment: All inspections on personal and survival equipment were current. Pilot did not use personal and survival equipment.

H. Rescue:

1. Crash occurred at approximately 0403 local, 31 July 1992. Sangamon County Sheriff's Department received numerous calls on 911 of a loud explosion and large orange ball south of Curran at approximately 0412 local. A deputy was dispatched to the area immediately.

2. Chatham Emergency Personnel arrived and along with other agency personnel, located the pilot and confirmed that he had in fact expired.

I. Crash Response: No significant difficulties were encountered during the crash response; however it was a dark, overcast, moonless night, and the ground was muddy due to rain in the area prior to the accident.

J. Maintenance Documentation:

1. The AFTO Forms 781 revealed no delayed maintenance or discrepancies that would be related in any way to the aircraft accident. (TAB-H)

2. All relevant Time Compliance Technical Orders had been complied with. (TAB H-4)

3. Only aircraft inspection overdue was aircraft wash. (TAB H-1 and H-3)

4. Pre-accident oil analysis records and laboratory analysis revealed they were within standards. (TAB-O)

5. All Time Change Requirements were completed.

6. No equipment reviews or component inspections were due.

7. A review of the aircraft maintenance history since the last scheduled inspection revealed that all applicable maintenance practices and procedures were followed.

K. Maintenance Personnel and Supervision: A review of the maintenance personnel qualifications and supervision of the maintenance personnel revealed no discrepancies.

L. Engine, Fuel, Hydraulic and Oil Inspection Analysis: All engine inspection and fluid test data (TABS O-10 thru O-17) appears to be normal.

M. Airframe and Aircraft Systems: Technical and engineering analysis indicate that the airframe and aircraft systems evaluated were functioning normally prior to impact. (TAB-J)

N. Operations Personnel and Supervision:

1. Proper authorization of RETRO 31 flight was shown on TAC Form 50. (TAB K-1)

2. [REDACTED] RETRO 31 flight lead, briefed the initial deployment flight brief as well as the final flight brief. [REDACTED] is the [REDACTED]. Briefings were presented in accordance with applicable directives.

O. Crew Qualifications: Records of the mishap pilot were reviewed for training, performance, experience level, and overall qualifications. Captain Leckrone was properly trained and current for this flight in accordance with current Air Force and Air National Guard directives. Captain Leckrone had a total of 1472.0 hours of Air Force flying time of which 488.6 hours was in the F-16. (TAB E-1)

P. Medical: Mishap pilot was medically qualified for flight at time of accident. (TAB E-3)

Q. NAVAIDS and Facilities: There were no Local Area Notices to Airmen (NOTAMS) concerning NAVAIDS or facilities that were factors in this mishap.

R. Weather: At the time of the accident, weather was officially reported as is shown at TAB W, and interview of deploying pilots supports the weather conditions as shown in TAB W.

S. Directives and Publications:

T.O. 1F-16A-1CL-1	Flight Crew Checklist
T.O. 1F-16A-1-1	Flight Manual
T.O. 14D3-10-1	Ejection Seat Aircrew Recovery Parachute
T.O. 13A5-56-11	Escape System Assembly/Operation
D/R Plan 100	COMTAC Deployment/Redeployment Plan 100

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