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RULEMAKINGS AND
ADJUDICATIONS STAFF

AFR 110-14 USAF AIRCRAFT ACCIDENT INVESTIGATION BOARD

19 DECEMBER 91
HOWARD AFB, PANAMA

NUCLEAR REGULATORY COMMISSION

F-16B
SN82 - 1040

Docket No _____ Official Exh No. 210

In the matter of PFS

Staff _____ IDENTIFIED

Applicant _____ RECEIVED

Intervenor _____ REJECTED _____

Cont'g Off'r _____ DATE 7/1/02

Contractor _____ Witness _____

Other _____

Reporter atl

DULUTH ANGB, MINNESOTA
148 FIG
179 FIS

INVESTIGATION OFFICER
LT COL RICHARD S. GRINNELL
SEADS/CDE
TYNDALL AFB, FLORIDA

VOL 1

PFS Exh. 210

COPY NUMBER 2 OF 9

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2. Summary of Facts

NOTE: All times are central standard time (local for Panama), five hours less than Greenwich Mean Time (Z).

a. History of Flight Activity

(1) WOLF 01 was planned as a local area orientation and incentive flight for the RSP. The flight was to terminate at Howard AFB.

(2) WOLF 01 was observed to make a normal take off and to initially proceed on its planned course to the east of Howard AFB. An F-16B was observed by 148 FIG personnel approximately 30 minutes after take-off on the north coast of Panama. Local news broadcasts during the 3-4 day period following the disappearance of the aircraft resulted in several Panamanian locals coming forward to provide information on sightings of aircraft believed to be F-16s.

(3) The aircraft never returned to Howard AFB. A Search and Rescue (SAR) effort was initiated the same afternoon; to date, nothing has been found.

(4) During the course of the search, numerous articles appeared in Duluth newspapers. As of 20 February, 1992, no requests for official information have been received through Air Force channels (TABS V-13/46 and a conversation between the IO and SMSgt David G. Spears, 148FIG Public Affairs).

b. Briefing and Preflight

(1) The MP was within crew rest (TABS O-29 and V-6/41). He flew three times the previous day, 18 December, taking off first at 0143, second at 0515, and third at 1322; final landing was at 1522 (TAB O-20). He was relieved after the third sortie IAW National Guard Bureau (NGB) policy (TAB O-30) and then left the alert facility. (NOTE: This conflicts with testimony at TAB V-6 and V-20, which states that the MP was relieved at approximately 1400; nevertheless, the MP still would have been within crew rest on 19 December.) On 19 December, the MP arrived at the chow hall for breakfast at 0530 and reported for duty at 0600 (TAB V-6/42). He appeared normal and fit to fly (TABS V-7/29/43). He administered an uneventful instrument checkride to the Detachment Commander (DETCO) from 0835 to 1010 (TAB V-6).

(2) The mishap mission briefing began shortly after the previous mission's debriefing was over and was observed to be conducted only between the MP and RSP (TAB V-6/39). An F-16B passenger briefing guide (TAB O-19) was available for use during the flight briefing. After the mishap briefing was concluded,

the RSP left with life support personnel, and the MP spent approximately 15 minutes discussing the route, weather, and bird activity with the supervisor of flying (SOF), who had designed the route of flight (TABS V-5/19/38).

(3) The mission was filed as a Visual Flight Rules (VFR) flight plan at 420 knots and 6000 feet; planned flight time was one hour and 15 minutes (TAB K-3).

(4) The MP and RSP departed for A/C SN 82-1040 with the SOF, life support personnel, and 148FIG motorpool drivers. The SOF observed the MP review the aircraft maintenance forms and preflight the aircraft, while the life support technicians helped the RSP strap into the cockpit (TAB V-31). The SOF also observed the MP climb up the aft ladder and brief the RSP. The SOF left the aircraft as the canopy was being lowered. (TAB V-44)

c. Flight Acitivity

(1) Engine start occurred at 1203 (TAB N-2). The only abnormality occurred during the after engine start checks: the self-test of the flight control system failed the same step, twice. The MP was heard to advise the RSP to ensure he was not touching any flight controls, and the self test passed normally without any maintenance action required (TAB V-30).

(2) The A/C taxied at 1209, arrived at the end of the runway for a normal "end of runway" (EOR) inspection (TAB V-25), and called ready for takeoff at 1225 (TAB N-8). WOLF 01 requested a right turn to the East and took off from runway 36 at 1228 (TABS N-8 thru N-10). The EOR and flightline crews observed the aircraft make a normal takeoff and right hand turn (TAB V-25/26/33). The SOF monitored the aircraft on the radio and received a radio call from the MP about 15 miles to the east of Howard (TAB V-44).

(3) Ground and airborne communications were normal (TAB V-10). WOLF 01 requested a frequency change from tower control (TAB N-10) and contacted departure control (121.2) for VFR traffic advisories at 1229 (TAB N-13).

(4) Two 148FIG members who were scuba diving at Portobello (TAB O-11) observed an F-16 at "pattern" altitude (approximately 1500 feet) at 1250-1255. The aircraft made a left turn to follow the northern Panama coast, but nothing observed was abnormal. One of these individuals also observed two F-16 aircraft at the same altitude and flight path approximately three hours later. (TABS V-50 and V-76)

d. Ejection Seats. Unknown; ejection seats have not been found. There were no inspections overdue (TAB U-311).

e. Personal and Survival Equipment.

(1) All personal and survival equipment inspections were current (TAB V-60).

(2) Proper use of equipment is not known. There were no emergency radio transmissions heard (TAB N-15). An emergency locator beacon was heard by the DETCO, but could not be traced (TAB V-9). There was an emergency flare seen by a SAR aircraft, but investigation was negative (TAB O-11).

f. Search and Rescue (SAR)

NOTE: According to testimony, A/C 1040 would have been the only F-16 flying in Panama on 19 December until the two F-16 SAR A/C took off at 1535 (TABS O-20 and V-2/37).

(1) The aircraft was expected back at Howard AFB at approximately 1400 and was declared missing by the DETCO at approximately 1445 (TAB V-11).

(2) Initial response consisted of emergency radio calls to the MP; there was no response.

(3) United States Southern Command was initially notified for the SAR effort at 1500 on 19 December. A summary of flights is at TABS O-2 and O-10; testimony concerning the SAR effort is at TABS V-12 and V-46. The SAR effort was temporarily halted on 30 December, 1991, due to clouds over the western part of Panama, and was officially suspended, pending any subsequent information, on 18 February, 1992, having searched that area (TAB O-72).

(4) Initial search and rescue (SAR) response was provided by two 148 FIG F-16 aircraft, which took off at 1535 on 19 December (TAB O-20). No evidence of a crash was observed during these flights (TAB V-40).

(5) An F-16 type aircraft was observed at several locations the morning and afternoon of 19 December; investigations into these reports were all negative (TABS O-11 thru O-13).

g. Maintenance Documentation

(1) There were no current, open discrepancies prior to the mishap flight; there were two delayed discrepancies: (TAB H-1)

(a) A left flaperon bearing was worn, but was within limits for flight.

(b) The centerline tank quick-disconnect fitting was leaking; however, a centerline tank was not installed (TAB O-47).

(2) There were no Time Compliance Technical Orders (TCTOs) overdue; there were ten, non-grounding TCTOs-not-complied-with (TAB H-1).

(3) There were no scheduled inspections overdue (TAB H-1).

(4) There were no overdue inspections or TCTOs-not-complied-with for engine #PW0E703854, installed in A/C 1040 (TAB U-222). Engine oil analysis records indicate no significant abnormalities or trends prior to the mishap flight (TAB U-214).

(5) The last major inspection of the aircraft (Phase IV) occurred from 30 September to 11 October, 1991 (TAB U-2). Maintenance performed on the aircraft since that inspection was timely and appropriate (TAB U-65).

(6) The aircraft had an Inertial Navigation System (INS) problem on the first sortie on 19 December which required taxi back to the ramp for a realignment of the INS. The INS performed normally during that flight and did not require a maintenance write-up (TAB V-8)

h. Maintenance Personnel and Supervision

(1) The 148 FIG Chief of Maintenance was deployed to Panama, but was not required to be on the flightline on 19 December (TAB V-63). Maintenance support at Panama was deemed adequate, and there were no perceived concerns about maintenance support (TAB V-63).

(2) The crew chief for A/C SN 82-1040 is highly experienced with over 24 years as a crew chief; he had been the crew chief on A/C 1040 since the aircraft was assigned to the 148 FIG on 30 May, 1990 (TABS A-1 and V-70).

(3) All individuals who performed maintenance on the aircraft while in Panama were properly trained and qualified (TAB U-260).

i. Fuel, Hydraulic, and Oxygen Analysis. A/C 1040 was serviced with oxygen prior to the first flight on 19 December (TAB V-68) and with fuel and hydraulic fluid (B-system) prior to the mishap flight (TAB V-55). Samples of all fluids used to service the aircraft were taken and found to be normal (TAB U-213). Post-mishap analysis is not available.

j. Airframe and Aircraft Systems. Post-mishap analysis is not available; neither the impact area nor the aircraft has been found.

k. Operations Personnel and Supervision

(1) The mission was approved by the DETCO, who was also the 179 Fighter Interceptor Squadron (FIS) Commander (TAB V-4). The 179FIS Operations Officer was also deployed to Panama, but was not on duty on 19 December; he had flown with the MP twice on 18 December with no abnormalities noted (TAB V-20).

(2) The SOF took an active and positive interest in the mission (see paragraphs 2b(2), 2b(4), and 2c(2), this summary, pages 2 & 3).

l. Crew Qualifications

(1) The MP was a highly experienced pilot with 4531.6 total flying hours, 3837.1 hours fighter time in the T-33, F-89, F-101, F-102, F-4C/D, RF-4, and F-16, of which 248.7 hours were in the F-16. He was an instructor pilot (IP) and flight examiner (SEFE) in the F-16, with 159.2 hours F-16 IP time and 43.0 hours SEFE time. (TAB T-3)

(2) The MP was current and qualified to fly the mission. His last Instrument/Qualification flight check was administered on 23 April, 1991 (valid through 30 September, 1992) (TAB T-25) and his last instructor flight check was administered on 24 July, 1990 (valid through 31 December, 1991) (TAB T-27). There had been no significant discrepancies during these evaluations. He had flown orientation/incentive flights on previous occasions (TABS V-5/20/38) and had flown portions of the mishap route of flight (TAB V-5).

(3) This was the first flight in the F-16 for the RSP (TABS V-4/19).

m. Medical

(1) The MP was medically qualified to fly (TAB O-71). He was required to wear glasses while flying, but it could not be confirmed if he was wearing them during the mishap mission (TAB O-47). He was current in physiological training and had received G-awareness training (TAB T-45).

(2) The DETCO stated that the RSP had been medically reviewed prior to the mishap flight (TAB V-4); a review of his medical records substantiated that he was medically fit to fly the mission (TAB O-71).

n. Navaids.

(1) All navaids available at Howard AFB, usable by the F-16, were operational (TABS K-4, O-18, and V-7).

(2) Radar and radio coverage only covered an approximate area defined as a 40 nautical mile radius from Taboga Island, located approximately 10 nautical miles SSE of Howard AFB (TABS V-10/21/41).

o. Weather

(1) Tower-reported weather at Howard AFB at the time of takeoff was light rain at the south end of runway 36 and southerly winds at two knots, with scattered clouds at 2500 feet and 4500 feet, an estimated ceiling at 8000 feet, with another scattered deck at 12000 feet (TAB N-9/10). 1655Z and 1735Z forecasts are at TAB O-15.

(2) The pilot of an F-16B SAR mission, which took off approximately three hours after the mishap aircraft's take-off, stated clouds were down to 1000 feet north of the Panama landmass at the far west and that the higher mountains in that area were partially obscured by clouds. He also stated he had to deviate from the planned route of flight because of weather in order to cross the central mountain range; once south of the mountain range, the weather was clear with no clouds (TAB V-41). This observation for the south of Panama was confirmed by the DETCO, who had flown with the MP that morning to the south of Howard (TAB V-8).

p. Directives and Publications

(1) Guidance outlining the NGB orientation/incentive flight program is contained in NGB message 201937(Z) September 1991 (TAB O-22).

(2) Guidance outlining 148FIG flight operations at Howard AFB are at TABS O-36, O-38, O-42, and O-45.

(3) Bird awareness and training information is at TABS O-31 and O-33.

q. There is no/no additional information available for inclusion in the following TABS:

(a) TAB W - "Weather;" however, see paragraph o(2), this summary, this page, for testimony concerning actual weather encountered the morning and evening of the mishap flight.

(b) TAB X - "Statements of Injury or Death."
Authenticated medical statements are included at TAB O-71.

(c) TAB Z - "Photographs;" however, see TAB O-47 for a summary of an 8mm video tape taken by 148 FIG personnel of the engine start, taxi, and take-off of A/C 82-1040.



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