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National Transportation Safety Board
Washington, D.C. 20594

Safety Recommendation

Date: February 18, 1997

In reply refer to: A-97-11

Honorable Barry L. Valentine
Acting Administrator
Federal Aviation Administration
Washington, D.C. 20591

On July 17, 1996, about 2031 eastern daylight time, a Boeing 747-131, N93119, operating as Trans World Airlines, Inc., (TWA) Flight 800, crashed into the Atlantic Ocean about 8 miles south of East Moriches, Long Island, New York. TWA Flight 800 was a regularly scheduled international passenger and cargo flight en route from John F. Kennedy International Airport, Jamaica, New York, to Charles De Gaulle International Airport, Paris, France. On board were 212 passengers and 18 crewmembers; no one survived. The aircraft was destroyed.¹

During the recovery of wreckage from TWA Flight 800, trace amounts of explosive residues were found on the interior surfaces of the cabin and cargo area. In its ongoing investigation of the crash, the Safety Board found that on June 10, 1996, a dog handler had spilled trace amounts of explosives while placing training aids² on board the aircraft during a proficiency training exercise. The dog handler, who was working under the auspices of the Federal Aviation Administration's (FAA's) K-9 Explosives Detection Program,³ told investigators that he was aware that he had spilled trace amounts of explosives.

¹ The Safety Board's investigation is continuing.

² The term includes explosives provided by the FAA to train its K-9 explosives detection teams. The dog handler stated that on June 10, 1996, he had placed on N93119 five different proficiency training aids comprising various explosive chemicals, most of which the FAA had provided to local airport security in 1994. The chemicals had been in continuous use for 2 years.

³ In accordance with 14 CFR Part 191, "Protection of Sensitive Security Information," certain information has been deleted to avoid revealing system deficiencies or vulnerabilities.

Based on interviews with the dog handler, the Safety Board determined that he had conducted the training exercise without taking adequate time and precautions when handling the explosive training aids. Absent were effective FAA oversight controls and procedures for proficiency training exercises that involve explosive training aids. As a result, the dog handler:

- Worked alone rather than with the K-9 team trainer, who normally places the training aids on the aircraft and oversees the exercise. If a handler comes into contact with explosive training aids, he or she can become contaminated, thereby compromising the controlled test environment and undermining the validity of the test for evaluating the dog's ability to detect explosive materials.
- Conducted the training exercise on the wide-body aircraft under conditions that did not allow sufficient time to carry out all phases of the proficiency exercise.
- Used deteriorated explosive training aids whose primary containers were not intact. Over a 2-year period, cracks in one aging proficiency training aid had become so numerous that 50 percent or more of explosive ingredients were lost. The handler stated that during the June 10, 1996, proficiency exercise, he may also have spilled explosive material from another training aid after placing the open container inside the cabin. The loss of explosive materials from training aids would not only have contaminated the aircraft but also would have introduced unknown variables into a supposedly controlled test environment, further undermining the reliability of the exercise as an indicator of the dog's ability to detect explosives.
- Did not notify anyone about the trace amounts of explosives released inside the aircraft cabin. Failure to report these spills led to confusion concerning the forensic evidence of explosives during examination of N93119's debris. Also, it deprived the FAA of information indicating that the agency needs to improve oversight controls and training requirements to ensure adequate proficiency testing procedures.
- Did not log the removal of the explosive training aids from the storage bunker and their return to the storage containers at the completion of the proficiency exercise or document the tail number of the aircraft used during the proficiency training exercise. Routine documentation procedures are critical in determining whether training aids have been misplaced and in ensuring strict accountability for potentially dangerous explosive materials.

The Safety Board is concerned about such inadequate oversight controls and procedures in a safety-sensitive program that has been in place for almost 25 years. The FAA set up the K-9 Explosives Detection Team Program, managed by its Office of Civil Aviation Security Operations, in 1972 as an innovative means to train and certify explosives detection teams for response to threats against civil aviation. Under the program, Air Force personnel train the

FAA's K-9 teams.⁴ Participation in the program has grown from 20 locations and 40 teams at its inception to more than 30 locations and 100 teams today. Participants include law enforcement agencies and airport authorities nationwide, who enter into an agreement with the FAA to provide this service.⁵

The FAA-procured K-9s remain FAA property and are used exclusively under its authority. Dogs are assigned to cities based on program needs as determined by the FAA National Program Manager. Under recent congressional appropriations,⁶ the number of K-9 teams is expected to increase significantly within the next several years.

In June 1996, the FAA issued draft procedures that are intended to address contamination problems associated with the handling of explosive training aids.⁷ The FAA also recently identified additional procedures requiring changes; they include daily updating of explosives records at storage bunkers to reflect actual inventory and revising the proposed proficiency training exercise form to include the tail number and type of aircraft being used in the training exercise.

These new procedures and standards are encouraging but do not effectively address all problems identified during this investigation. For example, dog handlers and trainers need a checklist that specifies safety-related items in the absence of which they should not conduct a training exercise on board an aircraft. Such a checklist could provide guidelines on working in teams whenever handling and placing explosive training aids, avoiding use of deteriorated explosive training aids and contamination of such aids, allowing adequate time for conducting a proficiency exercise, explosives recordkeeping and accountability protocols for documenting removal of aids from the aircraft, and notification and remediation procedures in the case of explosive material spills.

The Safety Board is concerned that the FAA's new procedures and standards may not be sufficient to ensure the reliability and integrity of the K-9 explosives detection program and to eliminate all opportunities for inadvertent placement of explosive materials into the system and ultimately on a scheduled flight. The Safety Board supports measures such as a checklist of safety-related items because they are important to adequate oversight controls for the training program. Moreover, considering the operational experience of local airport authorities, the Safety Board encourages the FAA to coordinate with those authorities in developing procedures for the handling, transportation, and placement of explosive training aids by K-9 explosives detection teams.

⁴ The 341st Military Working Dog Training Squadron trains the FAA's dog handlers during a 12-week course at Lackland Air Force Base, Texas.

⁵ A Letter of Agreement establishes the responsibilities of each local law enforcement entity or airport authority for participation in the K-9 Explosives Detection Team Program.

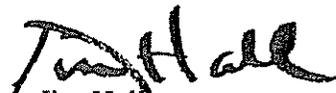
⁶ Omnibus Consolidated Appropriations Act of 1997, Public Law 104-208.

⁷ "Standard Practice and Procedure to Minimize Cross-Contamination of Explosive Materials--June, 1996."

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Develop and implement procedures, including a checklist of safety-related items, for the handling and placement of explosive training aids by K-9 explosives detection teams to prevent contamination of aircraft and airport facilities and to ensure an effective K-9 explosives detection program. (A-97-11)

Chairman HALL, Vice Chairman FRANCIS, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in this recommendation.


By: Jim Hall
Chairman