

Adopted 4/16/90



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Log 2230^B

Date: May 4, 1990

In reply refer to: A-90-63 thru -64

Honorable Richard B. Cheney
Secretary of Defense
Department of Defense
Room 3E, 880
The Pentagon
Washington, DC 20301-1000

On February 23, 1988, a Boeing 747-122 operated by United Airlines as flight 811 departed Los Angeles, California, as a scheduled flight to Sydney, Australia, with en route stops at Honolulu, Hawaii, and Auckland, New Zealand. The flight departed Honolulu at 0155 on February 24, 1988, with 3 flight crewmembers, 15 cabin attendants, and 337 passengers. About 20 minutes into the flight, and near 23,000 feet, a rapid decompression occurred when the forward starboard cargo door separated from part of the cabin fuselage. The airplane returned to Honolulu International Airport, landing safely on runway 8L at 0234 where an emergency evacuation was conducted. Of the 355 occupants on board when the flight departed Honolulu, 9 were lost during the decompression; and 1 crewmember, 15 flight attendants, and 22 passengers were injured during the decompression and emergency evacuation.

Before the emergency landing at Honolulu, the flightcrew requested that all available rescue and medical equipment be on hand when they landed.

Honolulu International Airport is a "joint use" airport used by the State of Hawaii; the U.S. Air Force; and general aviation, commercial, air carrier, air taxi, and military aircraft. Aircraft rescue and firefighting (ARFF) services are provided by ARFF units of the airport and Hickam Air Force Base. When the crash alarm was broadcast, all civilian and military fire units responded and were in position within 1 minute at predesignated stations on runway 8L.

The Safety Board's investigation revealed two areas of concern related to the emergency response to the accident: lack of direct radio communication procedures between the airport and Hickam ARFF vehicles, and the camouflage colors of the Hickam vehicles.

Because there were no direct radio communications, the chief of the airport's ARFF units had to drive his vehicle to the vehicle of the chief of the Hickam units to coordinate positioning of the units for the landing of flight 811. The Hickam units and the airport's units operated on their own radio networks. Thus, while on scene they could not communicate directly by

radio, as this situation required. Although the two ARFF services had a common radio frequency assigned (as specified in the airport emergency plan), procedures for use of the common frequency had not been implemented. The Safety Board believes that such communication procedures should be developed expeditiously.

Although the airport's ARFF vehicles are painted lime yellow to comply with Federal requirements and an Advisory Circular from the Federal Aviation Administration (FAA), the Hickam vehicles are painted olive drab camouflage. During the response to runway 8L, the chief of the airport's ARFF vehicles observed a near-collision between a State and an Air Force vehicle. He attributed the near-collision to the camouflaged vehicle not being visually conspicuous. The response occurred on a moonless night and in light rain.

The use of camouflage paint on military vehicles may be effective to prevent their detection by hostile forces. The Safety Board believes, however, that the opposite effect is necessary for ARFF vehicles operated on a joint-use airport. Such vehicles must be seen by other responding vehicles and by persons who are involved in the accident: airport and airline personnel, crew, passengers, and off-airport firefighting and rescue vehicles.

The National Fire Protection Association Standards recommend that for primary firefighting, rapid intervention, and combined agent vehicles, the "paint finish shall be selected for maximum visibility and shall be resistant to damage from firefighting agents."¹ Furthermore, Federal Aviation Regulation 14 CFR 139.319(f)(2) requires that emergency vehicles "be painted or marked in colors to enhance contrast with the background environment and optimize daytime and nighttime visibility and identification."

Additional guidance for the high visibility color of ARFF vehicles is provided in an FAA Advisory Circular, which specifies the vehicle paint color as "lime yellow" Dupont No. 7744 UH or its equivalent.²

Therefore, as a result of its investigation, the National Transportation Safety Board recommends that the Department of Defense:

Develop, in cooperation with the State of Hawaii Department of Transportation, procedures for direct radio communication between aircraft rescue and firefighting vehicles operated by Hickam Air Force Base and the State of Hawaii that would be used when responding to airport emergencies at Honolulu International Airport. (Class II, Priority Action) (A-90-63)

¹National Fire Protection Association. 1984. Aircraft rescue and firefighting vehicles. NFPA 414. Quincy, MA.

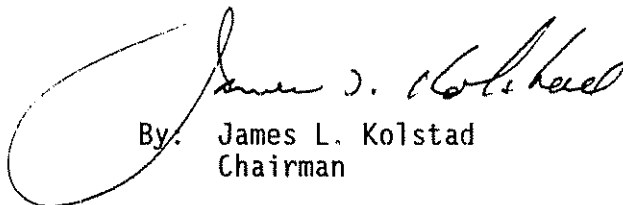
²U.S. Department of Transportation, Federal Aviation Administration. 1979. Airport fire and rescue vehicle specification guide. Advisory Circular AC 150/5220-14. Washington, D.C.

Comply with Federal Regulation 14 CFR 139.319(f)(2) and the guidance contained in Federal Aviation Administration Advisory Circular 150/5220-14 by using high visibility color for aircraft rescue and firefighting vehicles that operate at Honolulu International Airport. (Class II, Priority Action) (A-90-64)

Also as a result of its investigation, the Safety Board issued safety recommendations to the State of Hawaii, Department of Transportation, and to the Federal Aviation Administration.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "...to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations A-90-63 and -64 in your reply.

KOLSTAD, Chairman, COUGHLIN, Acting Vice Chairman, LAUBER and BURNETT, Members, concurred in these recommendations.


By. James L. Kolstad
Chairman