

Log # 2654A



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Date: SEP - 9 1997

In reply refer to: A-97-78

Ms. Kelley S. Coyner
Acting Administrator
Research and Special Programs Administration
Washington, D.C. 20590

On May 11, 1996, at 1413:42 eastern daylight time, a Douglas DC-9-32 crashed into the Everglades about 10 minutes after takeoff from Miami International Airport, Miami, Florida. The airplane, N904VJ, was being operated by ValuJet Airlines, Inc., as flight 592. Both pilots, the three flight attendants, and all 105 passengers were killed. Visual meteorological conditions existed in the Miami area at the time of the takeoff. Flight 592, operating under the provisions of Title 14 Code of Federal Regulations (CFR) Part 121, was on an instrument flight rules flight plan destined for the William B. Hartsfield International Airport, Atlanta, Georgia.

The investigation revealed that shortly before flight 592's departure from Miami, five boxes of unexpended chemical oxygen generators and three tires (two of which included wheel assemblies) were loaded into the forward cargo compartment (a class D compartment). Personnel from the SabreTech Corporation, a maintenance facility with which ValuJet had an ongoing contractual relationship for line maintenance and heavy aircraft maintenance, had loaded the boxes on flight 592 before takeoff. The oxygen generators, all of which were near or past their expiration dates, had been removed from three ValuJet MD-80s at SabreTech.

The National Transportation Safety Board determined that the probable causes of the accident, which resulted from a fire in the airplane's class D cargo compartment that was initiated by the actuation of one or more oxygen generators being improperly carried as cargo, were (1) the failure of SabreTech to properly prepare, package, and identify unexpended chemical oxygen generators before presenting them to ValuJet for carriage; (2) the failure of ValuJet to properly oversee its contract maintenance program to ensure compliance with maintenance, maintenance training, and hazardous materials requirements and practices; and (3) the failure of the Federal Aviation Administration (FAA) to require smoke detection and fire suppression systems in class D cargo compartments.

Contributing to the accident was the failure of the FAA to adequately monitor ValuJet's heavy maintenance programs and responsibilities, including ValuJet's oversight of its contractors, and SabreTech's repair station certificate; the failure of the FAA to adequately

respond to prior chemical oxygen generator fires with programs to address the potential hazards; and ValuJet's failure to ensure that both ValuJet and contract maintenance facility employees were aware of the carrier's "no-carry" hazardous materials policy and had received appropriate hazardous materials training.¹

In 1980, the Research and Special Programs Administration (RSPA) assumed responsibility for issuing approvals that would allow explosives, not already approved or allowed by 49 CFR 173, to be offered for transportation; before 1980, these approvals were issued by the Bureau of Explosives.² Because chemical oxygen generators have a percussion cap that contains small quantities of explosives, the generators are forbidden from being offered for transportation by 49 CFR section 173.21(b), unless the company offering the generators for transportation has been issued an approval by RSPA or holds a previously issued Bureau of Explosives' approval.³

Although the two current domestic manufacturers of chemical oxygen generators stated that they held previously authorized approvals by the Bureau of Explosives for the transportation of the generators, only one of the manufacturers of chemical oxygen generators had proof of that approval. Because all records of approved designs, testing, or packaging requirements for the chemical oxygen generators issued by the Bureau of Explosives were lost several years ago, RSPA has no knowledge of what approvals were issued or the limitations of these approvals.

The Safety Board supports the NPRM issued by RSPA on December 30, 1996, to require a special approval to ship chemical oxygen generators given the hazards posed by shipping the oxidizer with its actuator attached.⁴ This approval would require the DOT Associate Administrator for Hazardous Materials to determine the hazard classification of chemical oxygen generators submitted for approval. The approval for the generators would require at least two safety features to prevent unintentional activation of the generator, and the generator would be required to be contained in a packing prepared and originally offered for transportation by the approval holder when transported.

The Safety Board is concerned, however, that other products approved for transportation by the Bureau of Explosives and for which RSPA has no record might pose a safety hazard in the transportation environment. Further, without RSPA having a record of what products have been approved, the Safety Board questions how RSPA can be proactive in its inspection and

¹ For more detailed information, read Aircraft Accident Report—"In-flight Fire and Impact with Terrain, ValuJet Airlines Flight 592, DC-9-32, N904VJ, Everglades, near Miami, Florida, May 11, 1996." (NTSB/AAR-97/06).

² The Bureau of Explosives is part of the Association of American Railroads. Based on information provided by the Bureau, since its inception in 1906, the Bureau's mission has been to educate and advise railroads, packing manufacturers and shippers on the safest methods of transporting hazardous materials. In the beginning, no standards existed for the safe packaging and handling of explosives and other dangerous materials carried by rail. Recognizing this, the railroads created the Bureau. Rules developed by the Bureau governing the handling, packaging, marking, and labeling of hazardous materials were later adopted as federal regulations.

³ RSPA's approvals program is responsible for issuing and oversight of more than 60,000 registrations and approvals of explosives.

⁴ The approval would be for the transportation of these generators by any mode other than passenger-carrying aircraft. The final rule issued by RSPA on the same date (December 30, 1996) prohibits the transportation of these generators on passenger-carrying aircraft.

enforcement of the transportation of these products. The Safety Board concludes that because of the lack of information regarding products approved for transportation by the Bureau of Explosives, RSPA cannot adequately ensure that these products are being packaged and shipped safely in the transportation environment. Therefore, the Safety Board believes that RSPA should develop records for all approvals previously issued by the Bureau of Explosives and transferred to RSPA and ensure all records, including designs, testing, and packaging requirements are available to inspectors to help them determine that products transported under those approvals can be done safely and in accordance with the requirements of its approval.

Therefore, as a result of its investigation, the National Transportation Safety Board recommends the following to the Research and Special Programs Administration:

Develop records for all approvals previously issued by the Bureau of Explosives and transferred to the Research and Special Programs Administration and ensure all records, including designs, testing, and packaging requirements are available to inspectors to help them determine that products transported under those approvals can be done safely and in accordance with the requirements of its approval.
(A-97-78)

Also as a result of this investigation, Safety Recommendations A-97-56 through -77 were issued to the Federal Aviation Administration; Safety Recommendations A-97-79 through -81 were issued to the U.S. Postal Service; and Safety Recommendation A-97-82 was issued to the Air Transport Association.

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

By:


Jim Hall
Chairman