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National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: May 19, 1987

In reply refer to: A-87-60

Honorable Donald D. Engen
Administrator
Federal Aviation Administration
Washington, D.C. 20591

On October 19, 1985, a Vickers Viscount VC-810, N923RC, operated by Ray Charles Enterprises, overran the end of runway 35 of the Monroe County airport at Bloomington, Indiana. All three landing gear collapsed, and the fuselage separated aft of the two forward lavatories. There was no fire. The captain was seriously injured and the first officer and 16 of the 26 passengers suffered minor injuries. Most of the occupants escaped either through the overwing emergency window exits located on each side of the fuselage or through the right rear emergency exit door. The captain had to be removed by rescue personnel. 1/

The National Transportation Safety Board's investigation of this accident revealed that the flight did not comply with the provisions of 14 CFR 91.199, Passenger Briefing, and 14 CFR 91.215, Flight Attendant Requirements. The stage manager and assistant stage manager of Ray Charles Enterprises served as flight attendants on the airplane. These attendants instructed passengers to fasten their seatbelts and place their seatbacks in an upright position before takeoffs and landings. Passengers stated that only the attendants knew how to open the cabin doors. (Three overwing emergency window exits were located on each side of the main cabin seating area.) Several passengers did not recall being briefed on the use of the overwing exits and the cabin doors. Seven passengers said they did not know how to operate the doors or overwing exits. The eighth passenger said he had never tried to open the doors. One passenger stated he might be able to figure out how to operate the overwing exits given enough time. Another passenger, who was a relatively new employee, said no one ever told him about emergency plans or escape procedures.

Before the accident, the 2 persons acting as flight attendants were seated together in the main cabin with 21 other passengers. Two passengers and the blind owner of the aircraft were seated in a lounge to the rear of the main cabin. After the plane ran off the runway and came to a stop in a cornfield, the attendants instructed everyone to remain calm, to exit the airplane, and to run from it. The attendants opened three of the overwing exits as they proceeded to the rear lounge, opened the right rear emergency exit door, and quickly assisted the owner off the airplane. The forward left aft window exit at seat 4A and the aft right window exit at seat 6D were opened by passengers seated adjacent to these exits. The left aft exit at seat 6A was not opened. Except for the two passengers seated in the rear lounge, who exited through the right rear emergency exit door, the remaining 21 passengers escaped from the airplane via the five overwing exits.

1/ For additional information see Brief of Accident, File No. 2929, October 19, 1985.

In this accident, the stage manager and assistant stage manager performed some of the functions normally undertaken by flight attendants during an evacuation. Safety Board investigators were unable to interview either the stage manager or the assistant stage manager, but information obtained from passengers revealed that the two managers opened some of the overwing exits and the right rear emergency exit door after the accident. They also told everyone to run from the airplane. However, an examination of the two rear slides showed that the floor compartments they were stored in were concealed and had not been opened for some time. This circumstance suggests that the flight attendants were not familiar with or had never deployed the hand-held slides as required by 14 CFR 91.215. Consequently, the Safety Board concludes that the Federal Aviation Administration (FAA) should review the adequacy of the training and knowledge of persons acting as flight attendants pursuant to 14 CFR 91.215.

Passengers must be briefed thoroughly regarding the operation and use of all emergency exits and escape slides. This briefing is especially important should the persons knowledgeable in exit operation and evacuation procedures become incapacitated. An important part of the passenger briefing is the availability and use of a briefing card that gives accurate information about the airplane's emergency exits and cabin door operations (see attachment). In this accident, seven of the eight passengers interviewed stated that they had never seen a briefing card on the aircraft and they were convinced there was none aboard. The eighth passenger said he had seen a few briefing cards, perhaps twice in 7 years but had never read any of them. Investigators found six briefing cards in the overhead luggage rack in the main cabin.

The information on the briefing card, although incorrect, was never consulted during the passenger briefing, nor were the cards accessible to the passengers. A review of the card revealed several shortcomings. First, while the six overwing emergency window exits were clearly indicated, a seventh emergency window exit, located forward of the right wing and adjacent to four passenger seats and a table, was not shown on the card. The exit was not used during the evacuation.

Second, a sketch on the briefing card showing the operation of the cabin doors indicated that the handle must be rotated upward to open the door. However, to open the two rear emergency exit doors of this airplane, a catch must be released and the handle must be pulled horizontally inward from left to right. The briefing card did not show this information. Also, the main forward left passenger entry door incorporates an air stair. While the location of the door was shown on the card, neither the air stair nor its operation was indicated on the card. Thus, the card did not show the proper operation of any of the doors.

Third, even though the card showed a flotation seat cushion equipped with two straps for a passenger to use to grasp the cushion when in the water to remain afloat, it incorrectly presented the manner in which these straps should be grasped.

Fourth, the top of the card was partially cut off and obscured the diagram depicting the operation of the emergency window exits.

Fifth, the location of the evacuation slides and the method of slide deployment was not indicated on the card. Examination of the airplane revealed that a hand-held slide was located in the cabin floor at each rear emergency exit door. However, the slide compartments were covered by a metal door, to which the cabin floor carpet was attached. It took investigators approximately 5 to 10 minutes to pry open the door to the

compartment with a large screwdriver because the handle mechanism on the door had been removed to make for a smoother walking surface. It was apparent that both compartments had not been opened for some time.

The Safety Board addressed the issue of passenger education and briefings for corporate aircraft operators in Safety Recommendation A-77-59, issued to the FAA on September 13, 1977. The FAA complied with the recommendation on December 29, 1978, by issuing an Operations Bulletin to alert FAA inspectors to bring to the attention of Part 91 aircraft operators the need for compliance with the Federal Aviation Regulations concerning passenger safety. This accident demonstrates a continuing lack of surveillance by the FAA with respect to passenger education and briefings conducted by Part 91 operators.

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

> Issue an operations bulletin once again directing general aviation inspectors and accident prevention specialists to review the flight attendant requirements and passenger education practices of Part 91 operators of large and turbine-powered multiengine airplanes. The operations bulletin should stress the number of flight attendants that the operator is required to provide in accordance with 14 CFR 91.215, the completeness and adequacy of the oral passenger briefing given by the flight attendant(s), the adequacy of the training given the flight attendant(s), the correctness of the briefing cards, and the proper number and availability to passengers of briefing cards on the airplane. (Class II, Priority Action) (A-87-60)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER and NALL, Members, concurred in this recommendation.

By: Jim Burnett
Chairman

National Transportation Safety Board
Washington, D.C. 20594

Brief of Accident

File No. - 2929 10/19/85 BLOOMINGTON,IN A/C Reg. No. N923RC Time (Lcl) - 1535 EDT

----Basic Information----
Type Operating Certificate-NONE (GENERAL AVIATION)
Type of Operation -BUSINESS
Flight Conducted Under -14 CFR 91
Accident Occurred During -LANDING

Aircraft Damage
DESTROYED
Fire
NONE

	Injuries			
	Fatal	Serious	Minor	None
Crew	0	1	1	0
Pass	0	0	16	10

----Aircraft Information----
Make/Model - VICKERS VISCOUNT VC-810
Landing Gear - TRICYCLE-RETRACTABLE
Max Gross Wt - 72500
No. of Seats - 34
Eng Make/Model - ROLLS ROYCE DART 525
Number Engines - 4
Engine Type - TURBOPROP
Rated Power - UNK/NR
ELT Installed/Activated - YES/YES
Stall Warning System - YES

----Environment/Operations Information----
Weather Data
Wx Briefing - FSS
Method - TELEPHONE
Completeness - FULL
Basic Weather - IMC
Wind Dir/Speed- 230/005 KTS
Visibility - 1.500 SM
Lowest Sky/Clouds - PART OBS
Lowest Ceiling - 600 FT BROKEN
Obstructions to Vision- FOG
Precipitation - RAIN
Condition of Light - DAYLIGHT

Itinerary
Last Departure Point
LEXINGTON,KY
Destination
SAME AS ACC/INC

ATC/Airspace
Type of Flight Plan - IFR
Type of Clearance - IFR
Type Apch/Lnds - ILS-COMPLETE

Airport Proximity
ON AIRPORT

Airport Data
MONROE COUNTY
Runway Ident - 35
Runway Lth/Wid - 5200/ 150
Runway Surface - ASPHALT
Runway Status - WET

----Personnel Information----
Pilot-In-Command
Certificate(s)/Rating(s)
ATP
SE LAND,ME LAND
Instrument Rating(s) - AIRPLANE

Age - 67
Biennial Flight Review
Current - YES
Months Since - 4
Aircraft Type - VC-810

Medical Certificate - VALID MEDICAL-WAIVERS/LIMIT

Flight Time (Hours)

Total	- 27000	Last 24 Hrs	- UNK/NR
Make/Model	- 6000	Last 30 Days	- UNK/NR
Instrument	- UNK/NR	Last 90 Days	- UNK/NR
Multi-Eng	- UNK/NR	Rotorcraft	- UNK/NR

----Narrative----
DRG AN ILS TO RWY 35, THE APCH WAS NORMAL UNTIL THE ACFT WAS APRX 100' ABV THE DECISION HEIGHT, EXCEPT THERE WAS CONDENSATION ON THE WINDSHIELD. TOUCHDOWN WAS HARD. A WITNESS SAID THE ACFT LNDD APRX 1/3 OF THE WAY DOWN THE 5200' RWY. AFTER LNDG, WITH THE PROPS IN "GROUND FINE," BRAKING ACTION WAS INEFFECTIVE ON THE WET RWY. THE ACFT WAS NOT EQUIPPED WITH AN ANTI-SKID BRAKING SYS. SUBSEQUENTLY, THE ACFT CONTD OFF THE RWY & WENT DOWN AN EMBANKMENT INTO A FIELD. SCRUB MARKS ON THE RWY & REVERTED RUBBER ON THE TIRES INDICATED THE ACFT WAS HYDROPLANING. ACCORDING TO THE FLT MANUAL, 4500' (PLUS A 10% FACTOR FOR NO ANTI-SKID) WOULD HAVE BEEN REQUIRED TO STOP ON A DRY RWY IN THE PREVAILING WX CONDS, WHICH INCLUDED A SLIGHT TAILWIND. TWO PAX, ACTING AS FLT ATTENDANTS (F/A'S), ASSISTED THE OTHER PAX IN EVACUATING. AN INVESTIGATION REVEALED THE F/A'S WERE NOT PROPERLY TRAINED; THE PAX WERE NOT COMPLETELY BRIEFED BEFORE THE FLT; & THE PAX BRIEFING CARDS WERE INADEQUATE. THE ACFT WAS ON A BUSINESS FLT TO TRANSPORT AN ENTERTAINMENT TROUPE.

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Occurrence #1 OVERRUN
Phase of Operation LANDING - ROLL

Finding(s)
1. WEATHER CONDITION - TAILWIND
2. WEATHER CONDITION - FOG
3. WEATHER CONDITION - RAIN
4. WINDOW,FLIGHT COMPARTMENT WINDOW/WINDSHIELD - DIRTY(FOGGY)
5. PROPER TOUCHDOWN POINT - EXCEEDED - PILOT IN COMMAND
6. IMPROPER USE OF EQUIPMENT/AIRCRAFT,VISUAL/AURAL PERCEPTION - PILOT IN COMMAND
7. IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
8. MISSED APPROACH - NOT PERFORMED - PILOT IN COMMAND
9. AIRPORT FACILITIES,RUNWAY/LANDING AREA CONDITION - WET
10. AIRCRAFT PERFORMANCE,HYDROPLANING CONDITION - WATER

Occurrence #2 ON GROUND COLLISION WITH TERRAIN
Phase of Operation LANDING - ROLL

Finding(s)
11. TERRAIN CONDITION - ROUGH/UNEVEN
12. TERRAIN CONDITION - DOWNHILL

Occurrence #3 MISCELLANEOUS/OTHER
Phase of Operation OTHER

Finding(s)
13. PASSENGER BRIEFING - INADEQUATE - FLIGHT ATTENDANT
14. IMPROPER USE OF PROCEDURE,INADEQUATE TRAINING(EMERGENCY PROCEDURE(S)) - FLIGHT ATTENDANT
15. IMPROPER USE OF PROCEDURE,INFORMATION UNCLEAR - COMPANY/OPERATOR MGMT

----Probable Cause----

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 5,6,7,8

Factor(s) relating to this accident is/are finding(s) 1,2,3,4,9,10,11,12,13,14,15