

NTSB Aviation Accident Report NTSB/AAR-88/05

Section 4. Recommendations

As a result of its investigation, the National Transportation Safety Board made the following recommendations:

— to the Federal Aviation Administration

- Conduct a directed safety investigation to determine the reliability of circuit breakers and the mechanisms by which failures internal to the circuit breakers can disable operating systems and to identify appropriate corrective actions as necessary.
(Class II, Priority Action) (A-88-64)
- Require the modification of the DC-9-80 series airplanes to illuminate the existing central aural warning system (CAWS) fail light on the overhead annunciator panel in the event of CAWS input circuit power loss so that the airplane conforms to the original certification configuration.
(Class II, Priority Action) (A-88-65)
- Develop and disseminate guidelines for the design of central aural warning systems to include a determination of the warning to be provided, the criticality of the provided warning, and the degree of system self-monitoring.
(Class II, Priority Action) (A-88-66)
- Require that all Parts 121 and 135 operators and principal operations inspectors emphasize the importance of disciplined application of standard operating procedures and, in particular, emphasize rigorous adherence to prescribed checklist procedures.
(Class II, Priority Action) (A-88-67)
- Convene a human performance research group of personnel from the National Aeronautics and Space Administration, industry, and pilot groups to determine if there is any type or method of presenting a checklist which produces better performance on the part of user personnel.
(Class II, Priority Action) (A-88-68)
- Expedite the issuance of guidance materials for use by Parts 121 and 135 operators in the implementation of team-oriented flightcrew training techniques, such as cockpit resources management, line-oriented flight training, or other techniques which emphasize crew coordination and management principles.
(Class II, Priority Action) (A-88-69)

Northwest Airlines Flight 255, McDonnell Douglas DC-9-82, N312RC

- Issue an Air Carrier Operations Bulletin-Part 121 directing all principal operations inspectors to emphasize in MD-80 initial and recurrent training programs on stall and windshear recovery the airplane's lateral control characteristics, potential loss of climb capability, simulator limitations, and flight guidance system limitations when operating near the supplemental stall recognition system activation point (stall angle of attack).
(Class II, Priority Action) (A-88-70)

— to all Part 121 Air Carriers:

- Review initial and recurrent flightcrew training programs to ensure that they include simulator or aircraft training exercises which involve cockpit resource management and active coordination of all crewmember trainees and which will permit evaluation of crew performance and adherence to those crew coordination procedures.
(Class II, Priority Action) (A-88-71)