NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

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Attachment 13 – American Airlines Evacuation Decision and Duties

OPERATIONAL FACTORS/HUMAN PERFORMANCE

DCA17FA021

Cabin Condition

Following any incident affecting the cabin, the flight crew should check on conditions in the cabin by interphone, as soon as possible, after completion of crew duties.

Assess the situation and make any necessary PAs to assist the Flight Attendants in calming and reassuring the passengers. Advise the arrival station of any assistance needed on landing.

Incidents requiring cabin investigation by interphone may include:

- depressurization
- turbulence
- evasive maneuvers
- smoke
- fire or fumes
- structural failure
- anything else that might have caused injury or alarm in the cabin

Evacuation

Evacuation Decision

In a non-normal situation, the Captain must decide whether or not to conduct a passenger evacuation. The Captain must balance the hazard of passenger evacuation against the hazard of remaining on board. It is not feasible to establish a rigid set of rules regarding evacuation since there are many situational variables.

The Captain must evaluate a specific situation, apply good judgment, and reach the best decision given the information available. The emergency evacuation is a powerful tool. Use it cautiously.

The Captain should consider the following:

- The decision to evacuate should be deliberate after carefully weighing the risks in evacuating against the risks of remaining on board
- The most hazardous event is fire or smoke within the pressurized area of the airplane (cabin or cargo compartment)
- Smoke or flames in the engines, APU, or wheel assembly areas, will normally burn out quickly and not endanger the cabin. Request ARFF equipment, pull the Fire Switch, discharge fire suppression agent as appropriate, carefully monitor the area and communicate with crash vehicle crews and tower. Time and conditions permitting, clear the active runway. Evacuate the passengers if the fire does not extinguish in a reasonable time or appears to be spreading.

Whatever the decision, be specific and unambiguous in conveying your intent to the Flight Attendants.

Evacuation Procedure

The purpose of an evacuation is to deplane everybody on board as rapidly as possible through all usable exits after the airplane stops. Evacuations fall into two categories: planned, and unplanned. In either case, the actual evacuation is the same.

After an airplane has landed following a significant in-flight event, the potential exists for a passenger or Flight Attendant initiated evacuation. If an immediate evacuation is not required, it is important to assure the passengers and Flight Attendants that the situation is under control. Make an immediate PA commanding:

"This is the Captain. Remain Seated. Remain Seated. Remain Seated."

If an evacuation might be required after further assessment, consideration should be given to configuring the aircraft for a potential evacuation. (Steps such as shutting down the engines, should be considered to avoid the potential passenger injuries which might occur if the aircraft is not configured and the situation deteriorates or an inadvertent passenger or Flight Attendant evacuation takes place.)

Flight Attendants receive extensive training in methods, procedures, and the evaluation of usable exits in order to perform a rapid and safe evacuation. The NTSB has conducted significant and thorough studies involving actual evacuations, required testing, and evacuation guidance provided to flight crews from their respective airlines and the FAA. As a result of their studies, the NTSB determined that "limiting the number of exits during an evacuation can have a dramatic effect on evacuation times." Throughout their evaluation of actual evacuations, the NTSB discovered there "was no evidence or data to suggest that fewer injuries occur or that panic was minimized when a limited number of exits are used". Therefore, unless there is definitive and credible evidence to the pilots indicating a potential exit is unusable and a hazard, assessing the usability of an emergency exit for evacuation should be left to the Flight Attendants. Pilots should alert the Flight Attendants to any potential hazards they may expect involving an emergency exit during the T-E-S-T briefing.

The Evacuation checklist is normally read by the First Officer (F/O reads – Challenge and Response) and each checklist item is accomplished by the Captain. After confirming each checklist item has been accomplished, the Captain states appropriate checklist response.

The two signals used to initiate an evacuation are:

- Primary evacuation signal – the words, **"This is the Captain. Evacuate. Evacuate. Evacuate."** over the PA system.
- Alternate evacuation signal - in addition to PA - use the Evacuation COMMAND Switch (as installed).

Planned Evacuation

Passenger briefing for a planned emergency landing and evacuation requires about 30 minutes, but will vary depending upon number of passengers, Flight Attendants, etc. Whenever possible, allow adequate time to accomplish the complete briefing before landing.

The Captain, or his delegate, shall:

- notify the #1 FA/Purser of the type of emergency and the approximate time of landing.
- instruct the Flight Attendants to follow their checklist in preparing the passengers and cabin for landing and to call the cockpit when all preparations are complete.
- advise the #1 FA/Purser if the primary or alternate evacuation signal will be used to initiate evacuation.

Note: When anticipated that the aircraft will be fully controllable for landing and there are no structural or control issues which might prevent a normal landing, consider notifying Flight Attendants that the brace command will not be necessary for landing.

The #1 FA/Purser will brief the remaining Flight Attendants on the emergency and make the necessary PAs. Each Flight Attendant is assigned to prepare a specific cabin exit and alternate exit. If the primary exit is unusable, the Flight Attendant will proceed to the alternate exit. After the airplane comes to a stop, the Flight Attendant will expect the briefed evacuation signal or will expect to hear **"This is the Captain. Remain Seated. Remain Seated. Remain Seated."** Upon receipt of the evacuation signal, initiate the evacuation.

Unplanned Evacuation

Since most accidents occur on takeoff and landing, the Flight Attendants are instructed to be alert to clues of an emergency situation, such as unusual impact forces, noises, smoke, fire, or abnormal airplane attitudes. After the airplane stops, the Flight Attendants will assess the situation and, if the need for an evacuation is obvious, will initiate the evacuation without waiting for instructions from the cockpit. A DOOR EICAS message indicates that the evacuation has started.

If an evacuation has commenced, it is usually best not to attempt to stop the evacuation already in progress. If an evacuation has not commenced and it is determined that an evacuation is not needed, make an immediate PA commanding:

"This is the Captain. Remain Seated. Remain Seated. Remain Seated."

Evacuation Duties

Cockpit crewmembers will assist in the evacuation after completing required cockpit duties and should wear their hats to identify themselves as authorities to the passengers.

Captain – Assist in cabin

- After checklist is complete, immediately proceed to forward cabin and assess conditions.
- Assist and direct evacuation. Pay attention to utilization of slides; use megaphone, if required, to maintain orderly and rapid passenger evacuation. Instruct Flight Attendants to leave airplane when their areas are clear.
- Check entire cabin to ensure that all passengers have evacuated. Exit via any usable rear entry door.
- Assemble passengers away from airplane.
- Ensure that one or more crewmembers remain with the passengers until relieved by station personnel.

First Officer – Assist outside airplane

- After checklist is complete, immediately proceed to forward cabin and assess conditions.
- Take Halon fire extinguisher (if possible).
- Exit via first usable door and assist outside as necessary.
- Assemble passengers away from airplane.

Additional First Officer(s) – FB / FC

- Additional First Officer(s) have no specific crew duties except as directed by the Captain.

Concurrent Flight Attendant Duties

- Flight Attendants will prepare and man assigned exits and direct evacuation.
- When all passengers are out, they will make a quick check of their cabin areas and then leave the airplane.
- After leaving the airplane they will assemble passengers away from the airplane, make a count, and report to Captain.