

CIVIL AVIATION AUTHORITY PAKISTAN **FLIGHT STANDARDS DIRECTORATE**



This Information Bulletin, adopted by Flight Standards Directorate aims to keep members of Pakistani Civil Aviation community updated on latest items of common interest and developments within the aviation industry. It is anticipated that, the bulk of material would be of relevance to AOC, Training, Standards and helpful to the Safety Managers who implement their policies.

The Bulletin is designed to serve the objective of Flight Standards Directorate that is “To improve upon Safety Standards”.

INFORMATION BULLETIN

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EMERGENCY EVACUATION

Definition

Emergency Evacuation is the urgent abandonment of an aircraft using all useable exits.

Threats

Failure to evacuate the aircraft in a timely manner may lead to the death or injury of crew and passengers. Failure to evacuate an aircraft in an orderly and safe manner may also lead to injuries to passengers.

Defences

An inflight fire, smoke or fume emergency will be dealt with as aggressively as possible by the crew and, if appropriate, an immediate diversion to landing will be initiated. If the emergency is not secured, once on the ground, the most appropriate course of action is to remove the passengers and crew from the risk as a precautionary measure. Likewise, in the event of an uncontrolled engine or airframe fire during ground operations, an aircraft crash on a takeoff or landing or any other situation that results in fire or structural failure, the best defence available is an immediate evacuation of the aircraft.

Typical Scenarios

- During the takeoff roll, the number two engine fire warning system is activated. The takeoff is rejected and the aircraft is stopped on the runway. Checklist items are carried out but the warnings persist and the tower reports smoke and flames on the right wing of the aircraft. The remaining engine is shut down and an evacuation is initiated. Rescue and Fire Fighting Services (RFFS) arrive on scene within 3 minutes and extinguish the fire. Minor injuries are reported by some passengers as a result of the evacuation
- An inflight fire in a rear toilet fills the aircraft with smoke. An emergency is declared and, after some initial evaluation during which time the situation worsens, the aircraft diverts to land at a nearby airport. RFFS are on scene and evacuation is initiated immediately after the aircraft comes to a stop on landing. Flashover occurs before the evacuation is complete resulting in the deaths of many of those on board.

Certification

As part of the certification process, aircraft manufacturers are required to demonstrate that an aircraft, in maximum density configuration, can be completely evacuated within 90 seconds using only half of the total number of emergency exits. Use of only half of the exits simulates the potential for failed evacuation devices or exits blocked due to fire or structural damage. 90 seconds has been established as the maximum evacuation time because tests have shown that, in a post crash fire, conditions conducive to flashover are unlikely to occur within that time span.

- Video showing the certification trial for the Airbus A380

Emergency Briefings

As part of their pre-departure duties, the Cabin Crew will brief the passengers on the emergency evacuation of the aircraft. This briefing will include exit types, locations and escape devices (such as slides) and floor path lighting. Passengers seated in emergency exit rows at overwing exits will normally be individually briefed on their duties in the event of an emergency. Further information is printed on the Emergency Briefing Card located at each passenger seat. In the event of an airborne emergency in which an evacuation on landing is anticipated, the Cabin Crew will provide more detailed instructions on a time permitting basis.

Emergency Exits

Depending upon the aircraft, emergency exits can include normal boarding and service doors, overwing exits, and tailcone exits within the passenger cabin, and cockpit windows or hatches on the flight deck and in freight bays. These may be equipped with boarding stairs, evacuation slides or emergency egress ropes.

Evacuation Slides

An evacuation slide is an inflatable device which allows the rapid evacuation of an aircraft. Slides are required on all passenger carrying aircraft where the door sill height is such that, in the event of an evacuation, passengers would be unable to "step down" from the door uninjured. This has been interpreted in regulations to require slides on all aircraft doors where the floor is 1.8 m (6 feet) or more above the ground. Slides are also required on overwing exits when the height of the wing above the ground, with the flaps fully extended, exceeds the maximum certified distance. Some slides also serve as raft, detachable from the aircraft, in the event of a water landing

Cabin Crew Duties

Evacuation is normally initiated by the Captain. However, in the event of a ditching, visible fire or aircraft breakup, the Cabin Crew (purser or supervisor) can initiate the evacuation process. They are charged with responsibility for assessing immediate danger, such as a fire, before opening a door. They must also secure the exit until the slide (if equipped) inflates or block the exit in the event of a slide failure. They will also motivate the passengers through shouted commands and, if necessary, physical action to leave everything behind, move towards an exit and vacate the aircraft. Theoretically, the Cabin Crew will be the last to leave the aircraft; however, in practice they are taught to stay on board only to the point that they believe that by staying any longer they are putting their own life at risk. Once out of the aircraft, they will assist in marshalling the passengers away from the danger area.

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