



FOURTEENTH AIR NAVIGATION CONFERENCE

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- Agenda Item 2: Timely and safe use of new technologies**
2.2: Addressing safety risks related to evolving aviation technologies

ENSURING RAPID AND SAFE EVACUATION; REVIEW OF AN EMERGENCY EVACUATION FOLLOWING A RUNWAY INCURSION ACCIDENT IN JAPAN

(Presented by Japan and co-sponsored by Philippines, Thailand, and Airports Council International (ACI))

EXECUTIVE SUMMARY

This paper presents a review of an emergency evacuation after a runway incursion accident in Japan, and also seeks to analyze current ICAO manuals, so that additional safety measures are implemented.

Action: The Conference is invited to:

- a) note the contents of this working paper; and
- b) request ICAO to consider adding contents to ICAO manuals mentioned in paragraph 3 to further enhance safety of emergency evacuation.

1. INTRODUCTION

1.1 On 2 Jan 2024 (around 17:47 hrs), a passenger jet (Airbus A350-900) collided with a coastguard plane (Bombardier DHC-8-300) in Tokyo International Airport. Five of the six people on the coastguard plane died, but all 379 people on the passenger jet survived. The investigation of the accident is currently underway. Although the investigation is underway, some safety actions have been implemented soon after the accident. Additional actions are to be implemented after discussion in a consultation body with experts.

1.2 After the plane stopped, smoke entered into the cabin. The interphone system to communicate among the crew did not work. Following the command of the captain to evacuate, the front doors (L1, R1) and a rear door (L4) were used to evacuate. Cabin crews near the rear doors could not communicate with the flight crews, but made decision to open the rear door (L4). Middle doors (L2, R2, L3, R3) and the R4 door were not used because of the fire outside. Cabin crews made instructions to the passengers; instructions include not to panic, not to carry baggage and bending down especially at the L4 door. (The slide at the L4 door was steep because the aircraft tilted forward.) After the evacuation of the passengers, including two passengers who used wheelchair, lastly the captain checked all the cabin to ensure there are no passengers left behind and disembarked from the rear door at around 18:05 hrs.

1.3 It is not appropriate to evaluate whether the evacuation was a success or not because the accident as a whole is still under investigation. On the other hand, as the authority, Japan Civil Aviation

Bureau (JCAB) had requested operators to ensure the procedure of securing the assistants and baggage removal in the event of an emergency evacuation and had audited them to enable rapid and safe evacuation from the aircraft. Moreover, the measures taken before the accident by the operator may have contributed to safety. The operator had taken preventive actions to improve safety of emergency evacuation after an accident in 2016. In the accident in 2016, when the plane was holding to taxi on a taxiway prior to departure, people on board were forced to evacuate the plane, because of the odd smells and smoke in the cabin, which lead to injury of three passengers. When evacuating, many passengers tried to carry their baggage. In addition, there was not much support under the slide.

2. DISCUSSION

2.1 The following preventive actions were taken by the operator after the accident in 2016:

2.1.1 Actions to prevent passengers from carrying baggage

- a) visualize and inform passengers why carrying baggage will hinder evacuation, using the safety instruction video;
- b) while demonstration training, simulate passengers carrying their baggage; and
- c) train cabin crew to shout “No Baggage” (Utilize communication system as well).

2.1.2 Actions to assist passengers under the slide

- a) visualize and inform passengers how to evacuate from the slides, including how to support under the slide, using the safety instruction video; and
- b) educate all employee (i.e. not only cabin crew) to support evacuation under the slide.

2.1.3 Actions to inform passengers how to slide safely

2.1.3.1 Visualize and inform passengers how to slide safely, using the safety instruction video. (i.e. Watch where to land, extend your hands straight and lean forward.)

2.2 Currently, *Cabin Crew Safety Training Manual* (Doc 10002) and *Manual on Information and Instructions for Passenger Safety* (Doc 10086), provide guidance for cabin crew training requirements. In these manuals, there are guidance necessary for evacuation.

2.2.1 Doc 10002, Chapter 5 — *Abnormal and emergency situations training* prescribes the following guidance:

Chapter 5 ABNORMAL AND EMERGENCY SITUATIONS TRAINING
 5.5 CABIN CREW TASKS DURING ABNORMAL OR EMERGENCY SITUATIONS
 5.5.6 Evacuation
 5.5.6.4 Task list standards
 h) control the crowd and manage the situation in the cabin. This may include, but is not limited to:
 1) giving appropriate instructions;
 2) preventing passengers (as much as possible) from going down the slide in high-heeled shoes, and/or with carry-on baggage;
 3) dealing with hesitating/panicked passengers in an assertive manner;
 4) redirecting passengers as necessary;
 5) using a flashlight in a smoke filled environment or in darkness to indicate the location of the exit(s) to passengers; and

- 6) instructing passengers to move away from the aircraft;
- j) apply procedures related to special categories of passengers and injured occupants during an evacuation;

2.2.2 Doc 10086, Chapter 2 — *Passenger safety briefings*, prescribes the following guidance.

- Chapter 2 PASSENGER SAFETY BRIEFINGS
- 2.6 SAFETY DEMONSTRATION
- 2.6.2 The safety demonstration should include information about the following items:
- k) what to do with carry-on baggage and belongings in case of an evacuation (to be left behind)
- 2.6.3 In addition to the items listed in section 2.6.2, the operator may include the following items, as part of the safety demonstration:
- a) Specific information to passengers in the event of an evacuation:
 - 1) emphasis on listening to crew commands;
 - 2) the importance of speed to evacuate;
 - 3) count seat rows to know how far to the nearest exit in case of reduced visibility;
 - 4) stay low if smoke is present in the cabin;
 - 5) evacuation methods with infants and children;
 - 6) evacuation through exits without assisting evacuation means (i.e. no slide or slide-raft); and
 - 7) removal of high-heeled shoes in an evacuation;

2.2.3 However, since both manuals focus on training of the cabin crew or items that should be informed to the passengers, it seems that concrete methodologies, to support the implementation of the airlines, may be added to further promote rapid and safe evacuation. For example, the concrete means to control crowd and manage the situation, such as utilizing safety instruction video, may be included in the manuals.

2.2.4 In addition, it seems that there are few guidance as to implement concrete procedure for special categories of passengers. Related to these passengers, inclusion of how to deal with the assistance dogs may also be an issue.

2.2.5 Adding useful information to both manuals, including practices done by airlines, could enhance safety of emergency evacuation over the world.

3. CONCLUSION

3.1 The Conference is invited to:

- a) note the contents of this working paper; and
- b) request ICAO to consider adding contents to *Cabin Crew Safety Training Manual* (Doc 10002) and, *Manual on Information and Instructions for Passenger Safety* (Doc 10086) to further enhance safety of emergency evacuation.

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