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FOURTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 26 August to 6 September 2024

Agenda Item 2: Timely and safe use of new technologies

2.3: 2026-2028 Edition of the Global Aviation Safety Plan

**MEASURES TAKEN FOLLOWING THE ACCIDENT ON THE RUNWAY AT HANEDA
AIRPORT INVOLVING A JAPAN COAST GUARD AIRCRAFT AND A CIVILIAN AIRCRAFT
IN JANUARY 2024**

(Presented by Japan)

EXECUTIVE SUMMARY

In Japan, a collision between two planes occurred at Haneda Airport in January 2024. In response to the accident, a review committee including experts was established and runway safety measures were compiled and published in June.

Action: The Conference is invited to agree to the recommendation set out in paragraph 3.

1. INTRODUCTION

1.1 In Japan, on 2 January 2024, a Japan Airlines flight collided with a Japan Coast Guard aircraft on runway C, at Haneda Airport. An investigation by Japan Transport Safety Board and an investigation by Police began on the day of the accident, and investigations into the cause of the accident and details of the facts are still ongoing.

1.2 In response to the accident at Haneda Airport, on 9 January 2024, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) announced "Emergency Measures to Ensure Aviation Safety and Security" as safety and security measures that can be implemented immediately, and has taken the following measures:

- a) thorough instructions on basic operations to air traffic control (ATC) agencies and airline operators;
- b) strengthening of monitoring system by air traffic controllers (ATCO);
- c) thorough external monitoring and visual support by pilots;
- d) thorough implementation of rules regarding runway approaches (temporarily suspending provision of information indicating the take-off order of aircraft (No. 1, No. 2, etc.)); and

- e) strengthening of communication between related parties.

1.3 In addition, on 12 January 2024, MLIT established the Haneda Airport Aircraft Collision Prevention Measures Review Committee (hereinafter referred to as the "Review Committee"), consisting of experts and related organizations, to consider further safety measures to prevent aircraft collisions on the runway, both from a hardware and software perspective.

2. DISCUSSION

2.1 The Review Committee shared expert knowledge from members, heard opinions from ATCO and pilots, investigated overseas cases, and conducted an on-site inspection of Haneda Airport. After extensive and vigorous discussion, the Review Committee summarized the following as the basic idea of measures to prevent runway incursions:

- a) air traffic system is a complex and dynamic system consisting of human, operations, and technology, and these elements should be considered in a combined and integrated manner;
- b) in order to reduce the risk of collisions on the runway, measures should be taken in three stages:
 - i. "Do not enter/Do not let them enter"
 - ii. "Notice early/Let them notice early."
 - iii. "Leave promptly/Let them leave promptly".

In doing so, measures should be taken not only for aircraft but also for vehicles moving on runways, etc;

- c) most runway incursions are caused by human errors, such as assumptions, forgetting, misstatements, and mishearing;
- d) in order to reduce risks such as human error, it is important to foster a common recognition between ATCO and pilots/vehicle operators and to facilitate communication among crew members and cooperation between all parties involved;
- e) in order to prevent human errors from leading to accidents, it is necessary to strengthen the systems that support people with digital technology and to promote further technological innovation;
- f) care should be taken to ensure that new initiatives to mitigate risks do not cause other risks; and
- g) with an eye on future increases in aviation demand, further safety improvements should be made while taking into account the characteristics of airports and the actual conditions of ATC operations. It should be noted that airport operations are complex, especially at Haneda Airport.

2.2 The Review Committee has held multiple discussions since January, compiled an interim report and announced further safety measures in both from a hardware and software perspective in June. In the future, if new facts come to light through the final report of the Japan Transport Safety Board, etc., further safety measures will be considered as necessary.

2.3 The main measures in the interim report are comprised of five pillars: "Prevent human errors in ATC communications," "Strengthen the alerting and warning system for runway incursions," "Strengthen the organization improvement for ATC operations," "Strengthen the collaboration and promotion system for runway safety," and "Promote research and investigation of new technologies." Specific measures in line with the pillars are as follows:

2.3.1 **Prevent human errors in ATC communications**

- a) to prevent human errors in ATC communications, initial and regular training on pilot-to-pilot communication (crew resource management (CRM)) is mandatory for all pilots, including private pilots;
- b) reiterating Pilots to do basic behaviours such as external monitoring and read back of ATC instructions;
- c) the suspension of providing information on the order of take-off (No.1, No.2, etc.) was lifted after making ATCO and pilots aware of the precautions to be taken when providing information; and
- d) exchange of opinions between ATCO and pilots regarding ATC communications, and training and skill development using educational materials are conducted.

2.3.2 **Strengthen the warning system for runway incursions**

- a) strengthen the alert function of the runway incursion monitoring support function of the system for ATC;
- b) expand installation of runway status lights (RWSLs) that function independently of ATC instructions to all runways where take-offs and landings are operated on the same runway at major airports; and
- c) it is mandatory to equip vehicles moving on runways with transmitters to enable us to monitor the position of vehicles.

2.3.3 **Strengthen the implementation system for ATC operations**

- a) increase the number of ATCO and expand the recruitment quota;
- b) introduce an operation to grasp and manage ATCO fatigue according to the difficulty and complexity of the work; and
- c) improve the working environment for ATCO and expand the stress care system.

2.3.4 **Strengthen the collaboration and promotion system for runway safety**

- a) formulate a comprehensive runway safety action plan by JCAB headquarter;

- b) establish runway safety teams at major airports;
- c) strengthen the supervision system for runway safety, including ground handling operators; and
- d) strengthen international cooperation (with ICAO, etc.).

2.3.5 **Promote research and development of new technologies**

2.3.5.1 Consider and introduce to put the runway incursion detection system (SURF-A etc.) which is currently conducted research and establish SARPs to make equipment mandatory.

2.4 ICAO is also promoting runway safety measures. ICAO held the Global Runway Safety Symposium in 2011. In 2017, the Runway Safety Programme (RSP) established the Runway Safety Action Plan Working Group (RSAP-WG) and is taking the following measures:

Review runway related accident and serious incident data;

- a) conduct a safety risk assessment of runway safety accident occurrence categories;
- b) identify the runway safety risk priorities and high risk accident categories;
- c) identify appropriate global mitigation actions; and
- d) develop a Global Runway Safety Action Plan (GRSAP).

2.5 GRSAP provides recommendation actions for all stakeholders. A revised version will be published in February 2024.

3. **CONCLUSION**

3.1 In light of the above, the Conference is invited to agree to the following recommendation:

That the Conference:

- a) requests States to take note of the efforts of Japan and ICAO regarding runway safety measures; and
- b) requests ICAO to promote future runway safety measures.

— END —