

**57<sup>th</sup> CONFERENCE OF  
DIRECTORS GENERAL OF CIVIL AVIATION  
ASIA AND PACIFIC REGION**

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**AGENDA ITEM 3: AVIATION SAFETY**

**SAFETY ISSUES AND RISK MANAGEMENT MEASURES  
FOR THE SAFE RECOVERY OF FLIGHT OPERATIONS**

Presented by the Republic of Korea

**SUMMARY**

This Paper intends to introduce the risk management measures being pursued by the Republic of Korea (ROK) and airlines to ensure the safe recovery of the international air operations from the pandemic crisis. The ROK also intends to promote cooperation for information sharing and safety promotion among States in APAC region.

## **SAFETY ISSUES AND RISK MANAGEMENT MEASURES FOR THE SAFE RECOVERY OF FLIGHT OPERATIONS**

### **1. INTRODUCTION**

1.1 After the outbreak of pandemic in December 2019, the global air transportation industry entered a period of rapid stagnation. As the latest number of infected people has decreased rapidly, however, the air passenger demand is reviving, which is also leading to an increase in the number of international flights in operation. The government of the Republic of Korea (ROK), in close cooperation with the aviation and quarantine authorities, removed the limit on the number of slots as well as the night curfew (20:00 to 05:00 the next day) at Incheon International Airport from June 8, 2022. The ROK is pursuing measures to normalize and restore international flights to the same level as in 2019.

1.2 During the pandemic, safety risks increased as the global aviation industry suffered from risks, such as reduced flight experiences of workers and worsened financial conditions of airlines. New challenges facing the aviation industry are to safely restore international flights that have been suspended for a long time to normal orbit.

1.3 The ROK has implemented the recommendations of the Council Aviation Recovery Task Force (CART), issued by the ICAO in 2021. The ROK has been actively participating in the efforts of the international community for safe aviation recovery, such as joining the ACCRPG (Covid-19 Contingency and Recovery Planning Group) meetings.

1.4 In addition, the ROK has formed a task force (TF), in which a number of aviation experts from the private and the government participate and review the safety issues expected in preparation for the recovery of aircraft operations. The TF has developed preemptive safety measures and training guidelines for returning crew members. In line with the recent trend of increasing international flights, guidelines were published and distributed across the aviation industry.

1.5 This Paper introduces the safety issues and measures reviewed by the ROK and intends to share useful information for safe resumption of operations.

### **2. DISCUSSION**

#### **2.1 Safety issues expected in restoring flight operations**

The six categories of safety issues identified by the ROK in preparation for the normalization of aircraft operations are as follows:

##### **a) Increased aircraft malfunctions and weakening of tool/equipment**

Malfunctions in aircraft may increase during flight operations. Foreign object penetration or fuel/water system contamination may occur during aircraft storage. Placard wording or wires and metal parts may be damaged due to frequent disinfection during the pandemic. Tools and equipment may be degraded as they have not been used for a long time.

##### **b) Decreased human performance of aviation personnel**

Loss of employee qualifications, reduced skills, and reduced professional knowledge may occur due to reduced flight experiences and frequent leaves. Education and training during the pandemic period may be less effective (for example, online-based emergency equipment training). Safety awareness of workers returning from long-term leave may be temporarily relaxed. Teamwork or collaboration may decrease due to telecommuting culture.

**c) Worsening airline finances**

Airlines may not be able to supply spare parts or necessary materials in a timely manner or may experience a shortage of personnel due to the company's challenging financial conditions to fully recover at a time when aircraft operations are rapidly expanding.

**d) Sudden increases in flight operations**

If the flight schedule increases rapidly, the aircraft turnaround time may become insufficient or the fatigue of field workers may increase. Preparation, such as contracting with local operators or dispatching permanent personnel, may be insufficient when resuming operations to overseas airports.

**e) Lack of updated manual/procedure**

Information, such as flight operations and maintenance regulations, aircraft software, flight information, and airport operation information, may not be updated with latest data.

**f) Temporary alleviations of standards or regulations**

If temporary regulatory alleviations, such as exceptions or exemptions are applied in relation to safety regulations during the pandemic, the relaxed state may continue even after returning to normal operation is required following the recovery of operations.

**2.2 Safety measures**

2.2.1 The ROK prepared and provided training guidelines to returning airline crew so that flight and cabin crew members can smoothly adapt to the increased long-distance flight schedules. According to the guidelines, education and training courses that were converted to online and other non-face-to-face methods in order to prevent the spread of Covid-19 will be fully returned to face-to-face courses from July 2022. For crew members returning to work after taking a leave of absence, training requirements are divided into up to seven levels, according to the period of leave (less than one month to twelve months or more). Theory/practice education, flight simulator training, and on-the-job training must be completed, according to their respective stages. Flight attendants who have been on leave of absence for six months or more can fly only after passing a skill test from a flight check officer appointed in accordance with the Aviation Safety Act. In addition, in order to manage crew fatigue, airlines are recommended to have one or two more crew members per flight to improve working conditions, to refrain from operating the so-called "Quick-Turn," in which airlines continuously perform short-distance round trips, and to ensure sufficient rest time and layover in order to help crew members adapt to jet lag. In the long-run, the implementation of competency-based training (EBT/CBTA) is very important. The ROK is preparing to collect and analyze flight crew training data with the goal of implementing competency-based training for all airlines by 2023.

2.2.2 Aircraft that have not been put into flight for a long period of time have been managed based on the Storage Maintenance program. In line with the increase in the full-fledged flight schedule, storage and release operations, such as engine test operation, operation status check of major parts, and lubricant supply, are carried out. Depending on the condition or storage period, high speed taxi and test flight will also be conducted in order to ensure that the aircraft without any problems can be put into flight. In addition, the ROK plans to conduct calibration and condition check of major equipment and tools all at once.

2.2.3 Regarding overseas airports where operations are resumed, each airline is required to submit change management plans, such as dispatch of resident personnel, provision of spare parts, renewal of contracts with local maintenance and operation support companies, and update of emergency response manuals for inspection. Airports that are operated by multiple airlines or have a high reservation rate are separately selected and the government aviation safety inspectors directly conduct on-site supervision.

2.2.4 The incidence rate of major safety failures by airline will be monitored on a monthly basis, and priority will be given to airlines with good safety performance when issuing international flight permits. Airlines that cause serious safety problems or have a worsening rate of safety failures will be granted the sub-priority category.

### 2.3 **Support for the airline's participation**

2.3.1 The ROK has set the preemptive "Change Management in preparation for the restoration of international flights" as one of the national Safety Objectives in the aviation sector in 2022. Airlines are required to establish their action plans to manage safety issues. The action plan implementation rate has been selected as a leading indicator, and the government's aviation safety inspector check the implementation status of each airline on a quarterly basis.

2.3.2 Workshops for sharing best practices are held with airlines. Safety promotion activities, such as safety consulting, are conducted if requested by airlines. It is expected that the return to normal operation of the ROK's national airlines will be carried out safely and smoothly through such preemptive risk management.

## 3. **ACTION BY THE CONFERENCE**

3.1 The Conference is invited to:

- a) Note the information contained in this Paper; and
- b) Encourage ICAO to provide guidance materials for the safety issues and related risk mitigation measures about safe recovery of flight operations and build a platform and/or hosting conferences to support active information sharing among stakeholders.

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