



ICAO

International Civil Aviation Organization

Seventh Meeting of the Aerodromes Operations and
Planning Sub-Group (AOP/SG/7)

Bangkok, Thailand, 3 to 6 July 2023

Agenda Item 4: Provision of AOP in the Asia/Pacific Region
– **Planning and Design of Aerodromes**

STRATEGIES FOR IMPLEMENTING ANNEX 14 AMENDMENT PROPOSALS

(Presented by the Republic of Korea)

SUMMARY

The purpose of this paper is to share plans to implement obstacle restrictions and ground handling included in the recent Annex 14, Volume I amendment proposals, and to find out aeronautical study experiences and best practices to strengthen the safety of ground handling.

1. INTRODUCTION

1.1 The adoption process of Annex 14, Volume I amendment proposals has begun through State Letter consultation in June 2023 pertaining to obstacle restrictions and ground handling.

1.2 Obstacle restrictions are common concerns for airports located near the city around the world. ICAO Obstacle Limitation Surfaces Task Force (OLSTF) has been developing standards and recommended practices (SARPs) in Annex 14, procedures in PANS-aerodromes, and Guidance Materials in Doc 9137 Part 6 to protect the property rights of land users while ensuring aviation safety since 2015 in line with the recommendations from 12th Air Navigation Conference and 38th Assembly.

1.3 In the Republic of Korea, there are a lot of demands to request an aeronautical study from National Assembly, local governments, and land users/residents due to the urbanization in the vicinity of airports. In response to this, Republic of Korea established a legal basis for implementing aeronautical study in compliance with ICAO SARPs in 2015, organized an aeronautical study commission in 2016, and designated an aeronautical study specialized institution in 2018.

1.4 But aeronautical study has not been conducted substantially due to the lack of sufficient guidance from ICAO. Currently the role of the commission and institution is not significant.

1.5 The demands for aeronautical study are expected to surge, but the current organizations have limitations in responding. There is a need to redesign current organizations systematically.

1.6 Ground handling plays an essential role in the aviation industry, but safety risks and deterioration of ground handling service quality are increasing due to staffing issues, insufficient quality management, and the lack of international standards and recommended practices. ICAO Ground Handling Task Force (GHTF) has been developing SARPs in Annex 14, PANS-aerodromes, and Doc 10121 since 2014.

1.7 Republic of Korea established the criteria and procedures to evaluate the performance capability of ground handling service providers, service agreements for mutual cooperation between airport operators and ground handling service providers, and quality assessment system to conduct continuous performance evaluation of the organizational operational adequacy, efficiency, safety management and environmental protection efforts of ground handling service providers and induce voluntary improvement of ground handling service quality in cooperation with airport operators, ground handling service providers, and other relevant organizations, which was presented by Republic of Korea through DP/3/17 at DGCA 57 in 2022.

1.8 At the same time, Republic of Korea has been taking various measures to ensure the safety of ground handling workers and improve the working environment such as improvement of congestion in ground handling workplaces, establishment/expansion of break rooms and smoking rooms on the movement area, installation of safety signs and warning lamps in congested areas, installation of workers' toilets in remote stands, and establishment of a lightning information notification system.

1.9 According to statistics, among the types of accidents and incidents, personal injury, and economic loss related to ground handling, elevated vehicle collisions such as step cars into the boarding bridge area account for the highest proportion. There is a need to take proactive actions for not only the safety but also the efficiency and regularity of airport operations.

2. DISCUSSION

Obstacle restrictions

2.1 Republic of Korea is clearly establishing the roles of a commission (central or local aeronautical study commission), specialized institution (private, public, or government), and administration body (headquarter or regional aviation offices) for fairness & trial and error minimization.

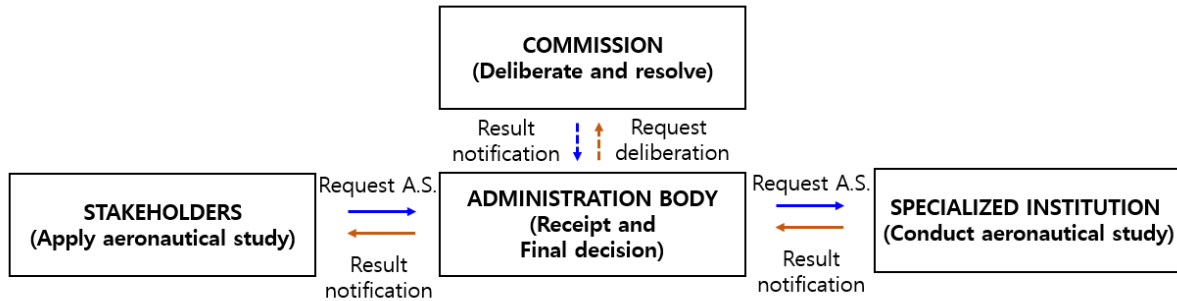
- a) (Step 1) To ensure fairness and reliability, Republic of Korea is planning to operate single or multiple public specialized institutions and one aeronautical study commission led by headquarter (Office of Civil Aviation, Ministry of Land, Information and Transport (MOLIT)).
- b) (Step 2) Depending on the number of aeronautical study and the stable operations, we are considering a phased division of work. For instance, the headquarter could delegate some tasks to regional aviation offices, operate the multiple specialized institutions including the private, or separate aeronautical study commission (central and local) in stages.

2.2 Republic of Korea is planning to designate additional aeronautical study specialized institution by evaluating the proposal of public institutions with the competence for aviation safety assessment through holding a public contest.

2.3 In October 2022, Republic of Korea reorganized the aeronautical study commission by adding urban development and conflict management experts to the existing commission consisting of experts in airport operation, air traffic control, flight procedures, aircraft operation, aviation law, and noise.

2.4 The commission will consult on research for introduction plans before implementing the new obstacle restriction, and deliberate and resolve the results of the aeronautical study after implementation.

< **Process of aeronautical study** >



Ground handling

2.5 A lot of ground handling service providers drive various Ground Services Equipment (GSE) every day forgetting sometimes which equipment they are driving and unintentionally drive step cars into the boarding bridge area that has a height limit causing ground accidents or incidents.

2.6 To tackle this issue, the Office of Civil Aviation, MOLIT developed Airside Vehicle Control System (AVCS) that provides safety nets including alert and auto stop functions to the vehicles before vehicles enter the boarding bridge area using advanced technology such as GPS, Internet of Things (IoT) sensors, and BIM (Building Information Modelling) in cooperation with airport operators.

2.7 Currently, Republic of Korea is conducting a pilot operation at Gimpo International Airport, and in the future this technology could be used for reducing vehicle-to-aircraft or vehicle-to-vehicle collisions.

< **Safety nets on vehicles with AVCS** >



3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) share aeronautical study experiences related to OLS (regulations, procedures and practices) by other APAC States;
- c) share best practices to strengthen the safety of ground handling by other APAC States;
- d) establish cooperation in Asia-Pacific Region for implementing the recent Annex 14 amendment proposals; and
- e) discuss any relevant matters as appropriate.

—END—