



ICAO

**Sixth Meeting of the Surveillance Implementation
Coordination Group (SURICG/6)**

Web-conference, 24 – 27 August 2021

Agenda Item 7: Report on surveillance ground system and avionics performance monitoring and improvement in compliance

**INCONSISTENT ICAO AIRCRAFT ADDRESS AND TARGET IDENTIFICATION
BETWEEN ADS-B DATA AND FLIGHT PLAN**

(Presented by Hong Kong, China)

SUMMARY

This paper presents the observation in discrepancies of ICAO Aircraft Address and Target Identification between ADS-B data and flight plan for some aircraft flying within Hong Kong Flight Information Region. Although Hong Kong, China has established mechanism to follow up the discrepancies with concerned air operators, the problems still recur after our repeated efforts. This has not only caused safety implications to ATC operation but also induced additional workload to both frontline air traffic controllers and supporting staff.

1. INTRODUCTION

1.1 Since November 2016, Hong Kong, China has adopted a phased implementation approach to gradually extend integration of ADS-B data into the Air Traffic Management System (ATMS) and achieved full implementation for the entire Hong Kong Flight Information Region (HKFIR) in November 2018. Since then, ADS-B data has been used by air traffic controllers to handle aircraft separation within the HKFIR. With increasing reliance on use of ADS-B for ATC operation, the quality and integrity of ADS-B data received from aircraft is of high importance.

1.2 Hong Kong, China has implemented mechanism and procedures in safeguarding ATC operations from problematic ADS-B avionics to ensure safe and reliable provision of ADS-B surveillance to air traffic controllers in accordance with the guidelines from the ADS-B Implementation and Operation Guidance Document (AIGD). However, discrepancies of ICAO Aircraft and Target Identification between ADS-B data and flight plan still recur despite our repeated efforts in following up the problems with concerned airlines.

2 DISCUSSION

2.1 Our ATMS has the capability of comparing ICAO Aircraft Address and Target Identification received from ADS-B with those from the flight plan and provide warnings to air traffic controllers when a mismatch is identified. This checking mechanism can alert controllers of potential incorrect flight plan association with the surveillance data.

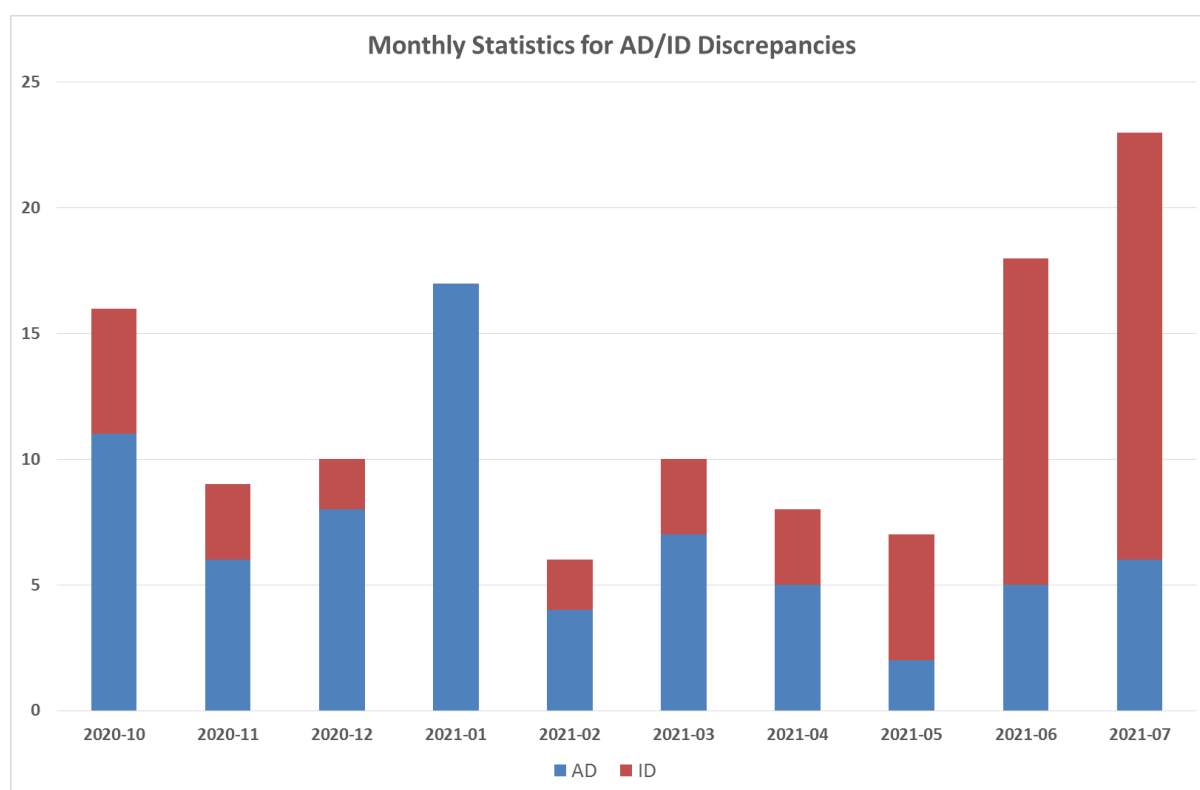
Agenda Item 7

24 – 27/08/21

2.2 Two types of warnings, namely “Aircraft Address” (AD) warning and “Target Identification” (ID) warning, would be raised in the ATMS depending on inconsistency in the ICAO Aircraft Address or Target Identification. When such warnings are raised in the system, air traffic controllers would need to take action to ascertain correctness of aircraft identity with pilots. This has induced additional workload to controllers.

2.3 For each occurrence, supporting staff would need to collect and review the relevant ADS-B and flight plan data for following up with concerned air operators to investigate and rectify the discrepancies, which has induced additional workload.

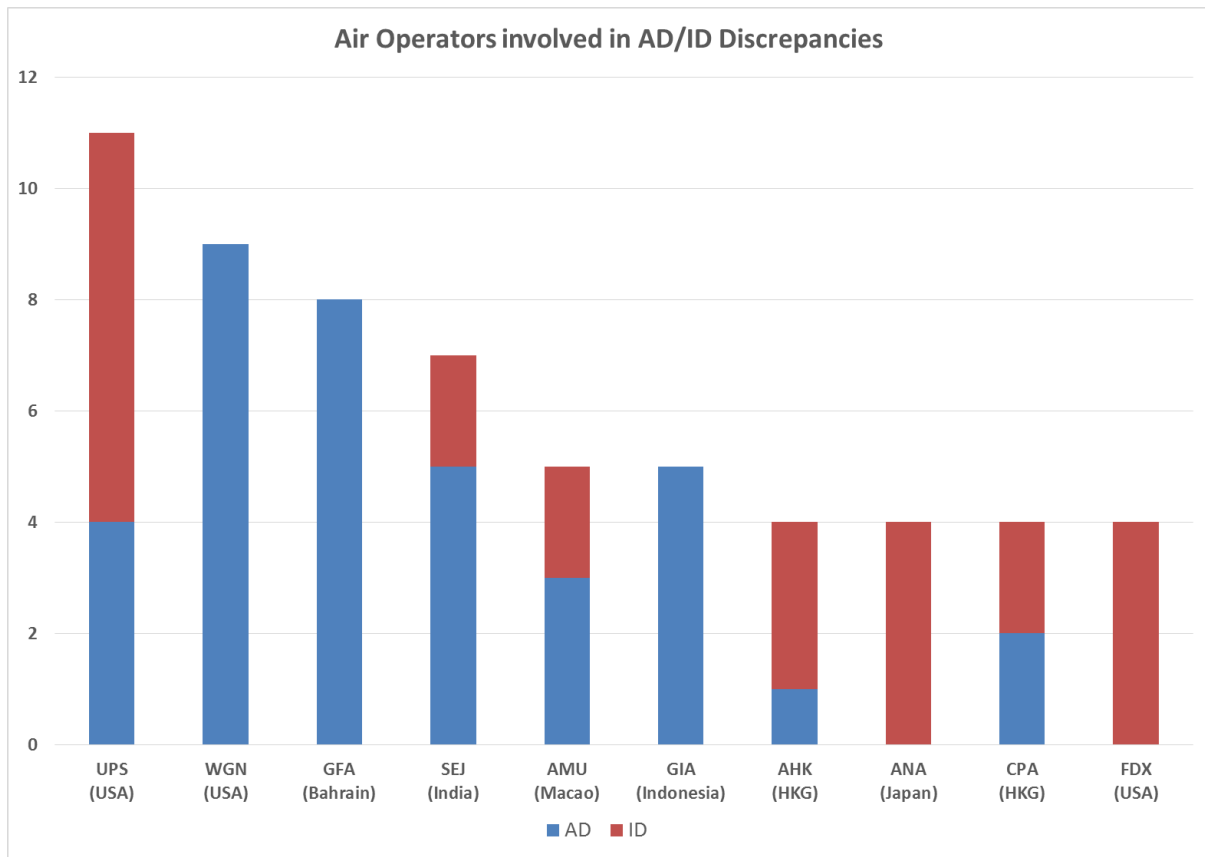
2.4 Although repeated efforts have been spent in investigating and following up each of the cases, such problems are observed to recur within HKFIR. The monthly statistics of AD/ID discrepancies in the last ten months are summarized as follows:



2.5 Air operators are in general responsive to the cases referred by us and would conduct the investigation. Based on the replies from air operators, the root causes of AD and ID cases can be categorized as follows:

- a) Input errors by pilots on the Target Identification
- b) Wrong/outdated entries in the database of flight management system
- c) Last minute change of aircraft due to maintenance

2.6 Based on our experience, the situation usually would improve for a short period of time after the air operators have taken corrective actions to address our reported cases. However, some problems were observed to recur later in flights from the same air operators. This indicates that the corrective actions taken by the air operators are not effective and sustainable. The following table summarizes statistics of top ten air operators, by the number of AD/ID discrepancies with recurrence:



2.7 NOTAM has been issued recently by Hong Kong, China to the air operators for ensuring their compliance with the requirements stipulated in our AIP on the data consistency of flight plan with on-board ADS-B system. Letters were also issued to individual air operators with frequently observed discrepancies which aims to seek their attention on criticality of the issues and request for effective corrective actions to be taken.

2.8 With the above recurring issues found in AD and ID and the potential safety implications, the following draft conclusion is proposed on urging States/Administrations to proactively follow up with air operators in ensuring the integrity of ICAO Aircraft Address and Target Identification in ADS-B data and flight plan.

Draft Conclusion SURICG/6/XX - Integrity of ICAO Aircraft Address and Target Identification in ADS-B Data and Flight Plan	
<p>What: To urge States/Administrations to proactively follow up with air operators to address discrepancies of ICAO Aircraft Address and Target Identification between ADS-B data and flight plan.</p>	<p>Expected impact:</p> <p><input type="checkbox"/> Political / Global</p> <p><input type="checkbox"/> Inter-regional</p> <p><input type="checkbox"/> Economic</p> <p><input type="checkbox"/> Environmental</p> <p><input checked="" type="checkbox"/> Ops/Technical</p>
<p>Why: Such discrepancies will cause safety implications in ATC operation and induce additional workload to controllers and supporting staff in handling the cases.</p>	<p>Follow-up: <input checked="" type="checkbox"/> Required from States</p>

Agenda Item 7

24 – 27/08/21

When: 27-Aug-21	Status: Draft to be adopted by Subgroup
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other: XXXX	

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note recurring discrepancies of ICAO Aircraft Address and Target Identification between ADS-B data and flight plan were observed within Hong Kong Flight Information Region which induced additional workload to air traffic controllers and supporting staff in handling the cases;
- b) seek assistance from States/Administrations and IATA to promulgate the importance of having correct ICAO Aircraft Address and Target Identification in flight plans and ADS-B data, and urge them to comply with the requirements in our AIP; and
- c) consider to adopt a draft conclusion for urging States/Administrations to proactively follow up with air operators in ensuring the integrity of ICAO Aircraft Address and Target Identification in ADS-B data and flight plan.
