



51st CONFERENCE OF DIRECTORS GENERAL OF CIVIL AVIATION ASIA AND PACIFIC REGIONS

**Enhancing Aviation Safety Through
Establishment of a Regional ADS-B
Avionics Problem Report Database (APRD)**

Presented by Hong Kong, China



Introduction

- ADS-B operation for some major traffic flows over the South China Sea became effective since December 2013
- Increasingly important for States/Administrations concerned to monitor and analyze ADS-B avionics performance for safety reasons
- Hong Kong China, in collaboration with Australia and Singapore, has been working with ICAO to establish a regional database to share the analysed results with a view to enhancing aviation safety for the region

Problem Categorization

- ADS-B avionics problems found in APAC are diversified, but possible to be categorized for subsequent investigation and follow-up action
- Based on experience gained and reported from APAC States, **17 categories** of common ADS-B avionics problems have been collected
- Only a small portion of aircraft population exhibits performance problems

Database Contents

- An “ADS-B Avionics Problem Report Database” (APRD) is being established for the Region – proposal endorsed in ADS-B SITF/13 in Apr 2014
- Contains information describing different types of known avionics problems
- Concerns raised whether the database should disclose identity of airline and airframe
- Referring to similar databases established, e.g. FANS 1/A Central Reporting Agency, it was concluded that the APRD should show known ADS-B avionics problems without disclosing identity of airlines/airframes

Access and Security Procedures

- Database hosted on a secured ICAO web-site
- States/Administrations wishing to gain access are required to nominate a single point-of-contact for registration with the ICAO
- Access Levels
 - ✓ “Read” Level to States/Administrations with login account and password
 - ✓ Administrative rights confined to ICAO and States/Administrations with capabilities in monitoring/analysis for verifying data correctness

Submission and Processing of Problem Reports

- ICAO received problem report with initial analysis and recommendation from Reporting States (i.e. **Reporting Party**)
- ICAO promulgate the problem with a status of pending verification through the database asap
- In parallel, ICAO forward the problem to States/Administrations with capabilities in monitoring/analysis of ADS-B avionics performance for their study and verification (i.e. **Verifying Party**)
- Case to be classified as either “**systematic**” or “**non-systematic**”.

Submission and Processing of Problem Reports (Cont)

- (a) *Systematic*

e.g. software/hardware problem inherited in certain model of avionics equipment

Verifying Party to take lead to identify solutions with relevant parties e.g. avionics suppliers

- (b) *Non-systematic*

e.g. those problems exhibited by specific airframes / airlines

Reporting Party to take lead to follow up with the relevant regulatory authorities of the airlines / airframes

Submission and Processing of Problem Reports (Cont)

- Discussion forum set up on web-site to facilitate States/Administrations to share views on reported problems
- Problems reported and views shared could be deliberated during ADS-B SITF meetings
- For each reported problem, all subsequent follow-up actions and results will be recorded in the database
- ICAO to work with States/Administrations to ensure contents of database is correct and up-to-date
- ICAO serves as a problem moderator and a database platform provider

Exchange of Monitoring Results

- States/Administrations are encouraged to make use of the database to report and share problems with others, and to keep abreast of the latest reported problems
- Exchange among themselves the lists of airframes exhibiting the problems for civil aviation authorities to follow-up with airline operators concerned for remedial action

Action by the Conference

- The Conference is invited to :
 - (a) note the latest progress in development of an APRD
 - (b) support development, operations and maintenance of the APRD database by the ICAO RSO in enhancing aviation safety of the Region

Thank You

