International Civil Aviation Organization

MIDANPIRG Air Traffic Management Sub-Group

Eighth Meeting (ATM SG/8)
(Amman, Jordan, 7 – 10 November 2022)

Agenda Item 4: Planning and Implementation subject related to ATM/SAR

USE OF ADS-B FOR AIRCRAFT HEIGHT MONITORING

(Presented by IATA)

SUMMARY

with the expansion of implementation of ADS-B Out through MID Region by many authorities for surveillance purposes, additional benefits could be achieved by using this technology to monitor individual aircraft RVSM height-keeping performance quickly and efficiently whenever aircraft operate in monitored areas. This paper recommends an action by MID RMA to coordinate with States having ADS-B capabilities to use ADS-B data to monitor aircraft height-keeping performance.

Action by the meeting is at paragraph 3.

REFERENCES

- ICAO Annex 6 Part 1
- ICAO Doc 9574
- ICAO Doc 9937
- Report of MID RMA Board/18 meeting (Doha, Qatar, 19 – 20 September 2022)

1. INTRODUCTION

1.1 With the endorsement of ADS-B Height Monitoring methodology by the ICAO Separation and Airspace Safety Panel (SASP), ADS-B data can be used for calculating the Altimetry System Error (ASE) which is a measure of the height-keeping performance of an aircraft. It is an ICAO requirement that aircraft operating in RVSM airspace must undergo periodic monitoring on height-keeping performance.

1.2 The MIDRMA Board/18 meeting (Doha, Qatar, 19 – 20 September 2022) discussed the subject and provided a detailed analysis for the capabilities available within the MID Region.

2. DISCUSSION

2.1 Aircraft accessing RVSM airspace are required to verify altitude-keeping performance as called Altimetry System Error (ASE) for initial authorization, and then every two years or 1,000 hours, whichever comes first. This Standard was developed by ICAO which requires that individual aircraft and aircraft groups must meet in order to operate in RVSM airspace.

2.2 Several states have already started to use the ADS-B capability to monitor aircraft height keeping performance thus satisfying the height monitoring performance requirements. Using ADS-B for height-keeping performance monitoring requires that the aircraft use ADS-B Out and operate within the coverage area of an ADS-B ground station receiver.

2.3 States can also use ADS-B data and continually monitor height during normal aircraft operations and use the data for RVSM approvals. The same data may be forwarded to MID RMA to satisfy the requirements for aircraft or fleet monitoring purposes. This activity will substantially reduce the burden on MID RMA and achieve cost savings for airlines.

2.4 The advantage of getting aircraft height from ADS-B transmissions is passive and does not require any special arrangement with the aircraft operator.

2.5 Referring to report of the MIDRMA Board/18 meeting, where the use of ADS-B use for height monitoring was discussed and the board agreed that the MIDRMA, in coordination with IATA AME, prepare a WP for the next MIDRMA Board/19 meeting on technical requirements for the provision of ADS-B data .The board also encouraged States that are ready and willing to share their ADS-B data for height monitoring purposes to coordinate directly with the MIDRMA for further steps.

2.6 The MIDRMA conducted a statistical study of all RVSM approved aircraft registered in the ICAO Middle East region and continued to update this study to confirm the status of the ADS-B equipage of all MID RVSM approved aircraft. The results identified **77.3%** (from 13 Member States) of the aircraft can benefit from ADSB RVSM height monitoring.

2.7 As the results of the survey are encouraging reflecting a good percentage of RVSM approved aircraft are equipped with ADS-B Out capability, IATA strongly support the use of ADS-B technology by MID States to monitor individual aircraft RVSM height-keeping performance to satisfy the requirements of RVSM monitoring.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) encourage States having ADS-B capability to use RVSM height performance approval process through ADS-B monitoring; and

b) encourage States to support MID RMA to get the necessary training to enable them to perform data checks, extracting data from archive database, and uploading the required data into MIDRMA server.

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