International Civil Aviation Organization

ELEVENTH MEETING OF THE SURVEILLANCE IMPLEMENTATION COORDINATION GROUP (SURICG/11)

Bangkok, Thailand, 25 – 27 March 2026

Agenda Item 8: Update on surveillance activities and explore potential cooperation opportunity

IMPLEMENTATION OF ADS-B TIER 1 OPERATIONS BELOW FL290 WITHIN SURVEILLANCE AIRSPACE IN COLOMBO FIR

(Presented by Sri Lanka)

SUMMARY

This paper provides the current status of the implementation of ADS-B Tier 1 operations below FL290 with in surveillance airspace of Colombo FIR.

1. INTRODUCTION

1.1 AIP Supplement 02/2020 promulgated the provision of ADS-B technology for Tier 1 operations, for the purpose of surveillance separation between FL290 and FL460 in surveillance air space within Colombo FIR.

1.2 In line with ICAO's "Best Equipped, Best Served" approach and Sri Lanka's ADS-B roadmap, it is prudent to advance to the next phase of ADS-B implementation. This phase involves extending ADS-B Tier 1 operations to lower altitudes (below FL290) within surveillance airspace in Colombo FIR.

2. DISCUSSION

2.1 **Regulatory guidance:** The following ICAO guidance was considered for the implementation of ADS-B Tier 1 operations to lower altitudes (below FL290)

- ICAO Circular 326 Appendix C provides guidelines for the provision of 3 NM and 5 NM separation standards provided the NUC/NIC values and the other ADS-B system parameters are within the Appendix C requirements.
- PANS-ATM Doc 4444, Chapter 8.1.7, 8.1.10 & 8.1.11 provides guidelines for the provision of Air Traffic Control Service using ADS-B alone in any airspace for the purpose of surveillance separation. The use of ADS-B in an airspace does not restrict the Air Traffic Control Service for aircraft not equipped with ADS-B by any means.

2.2 **Background:** The following observations established a firm foundation for the progressive extension of ADS-B services:

- Since the commencement of ADS-B Tier 1 operations above FL290 in 2020, ADS-B system has maintained a serviceability levels well above 99%, mainly due to the fully redundant system

architecture, confirming the adequate reliability of the system as required for ATC separation purposes. Post-implementation safety observation reports have been positive.

- ADS-B Aircraft Equipage: All international scheduled operators to VCBI are currently ADS-B equipped. Majority of local operators are already ADS-B equipped and the feasibility exists for almost all the local operators to be equipped in the near future. The response and the support by the Military with respect to their aircraft equipage aspect has been excellent.

- ADS-B Accuracy & Integrity: The ATM systems depict the data quality of the ADS-B reception depending on the NIC/NUC values and the observations confirm the availability of ADS-B data with high accuracy and integrity to perform the desired surveillance separation. On most occasions the NIC/NUC values of the aircraft are steady or improving when they descend from higher levels to lower levels but never deteriorating.

- ADS-B Coverage: The simulation model indicates continuous ADS-B coverage over the intended control areas. The observations through opportunity traffic have also supplemented the coverage verification, in addition to the flight validation exercises conducted.

2.3 **ATMAS Environment:** The present ATMAS systems at AASL (the State ANSP) is fully capable of processing and presenting all available ADS-B aircraft data, within multi-sensor tracking environment, using different symbols to depict different surveillance sources as well as the level of data quality in case of ADS-B.

2.4 **Trial Operations:** The trial operations are being conducted under the guidance of CAASL, and will be completed within March 2026. So far, the trial operations have been successful.

2.5 **Safety Assessment:** A safety assessment is being carried out and shall be finalized upon the completion of the trial operations.

2.6 **Training:** Standard Operating Procedures (SOPs) have been prepared for each operational center affected by this change and will be finalized with the completion of the Safety Assessment. Trainings will be conducted accordingly for ATCOs and CNS Technical personnel.

2.7 Considering all of the above-mentioned supportive factors, Sri Lanka is currently finalizing the process for the provision of Tier 1 operations below FL290 using ADS-B technology, in keeping with ICAO's "Best Equipped, Best Served" approach and ADS-B roadmap included in the Sri Lanka Air Navigation Plan.

2.8 Accordingly, ADS-B is now intended to be used, not simply as supplementary data, but rather as a cost-effective full redundancy for the Radar and as a primary means of surveillance for Tier 1 operations below FL290, by extending its current use above FL290.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) discuss any relevant matter as appropriate

– – – – – – – – – – – – –