International Civil Aviation Organization

Ninth Meeting of the Surveillance Implementation Coordination Group (SURICG/9)

Bangkok, Thailand, 07 - 10 May 2024

Agenda Item 7: Update on surveillance activities and explore potential cooperation opportunity

UPDATE ON SURVEILLANCE ACTIVITIES IN INDONESIA

(Presented by Indonesia)

SUMMARY

This paper provides information on surveillance facilities in Indonesia. The paper is an update of the reports previously provided.

1. INTRODUCTION

1.1. This paper provides information on Air Traffic Management surveillance activities in Indonesia.

2. DISCUSSION

2.1. RADAR

Currently, there are 28 radar systems in operation, consisting of 27 Monopulse Secondary Surveillance Radars (MSSRs) and 1 Combined Radar (Primary Surveillance Radar/MSSR). All active MSSRs are equipped with Mode S and Enhanced Surveillance (EHS) capabilities, including Downlink Aircraft Parameters (DAPs) functionality, and have transitioned away from MSSR Mode A/C. These Radars have been integrated into 12 Air Traffic Management (ATM) Systems nationwide, tailored to the specific coverage requirements of each area. Indonesia has re-allocated Interrogator Identification (II) codes to address potential compatibility issues with neighboring countries. This initiative includes the replacement of II Codes 14 and 15 with new II Codes in accordance with ICAO standards.

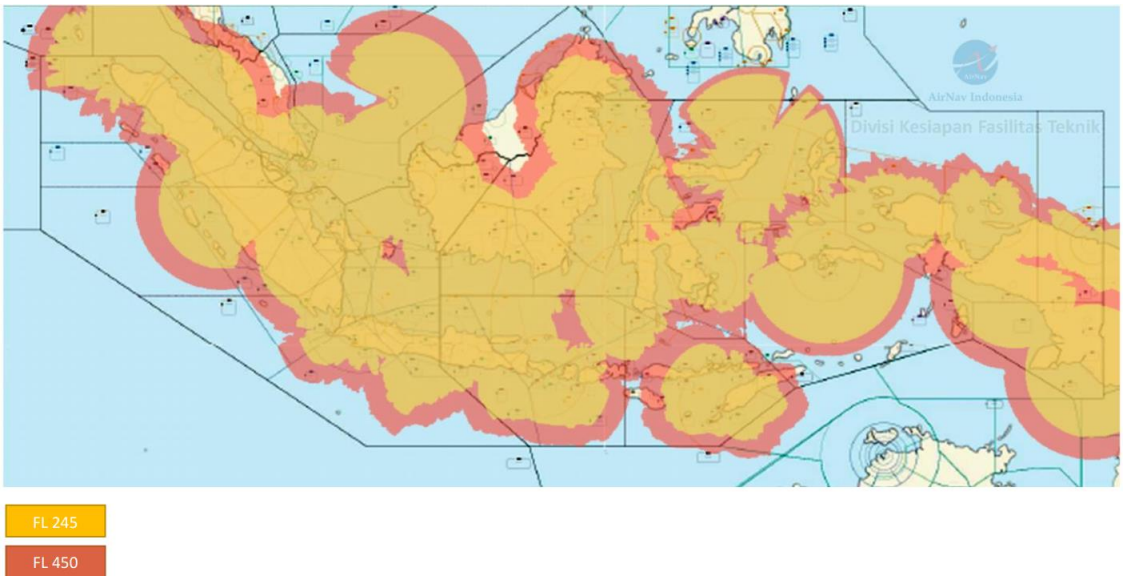

Figure 1 : Radar Coverage at FL245 and FL450

2.2. ADS-B

There are 49 operational ADS-B Ground Stations across Indonesia, including 11 new locations spread across Sumatra (Indian Oceanic area), Papua, and the northern part of Ujung Pandang FIR (Melonguane Island), installed to enhance surveillance coverage. These ADS-B equipment have been integrated into 12 ATM Systems nationwide, adapting to the surveillance coverage needed for each ATM System. From all the ADS-B systems currently in use, 48 of them have the capability to receive and process up to DO-260B transponders.

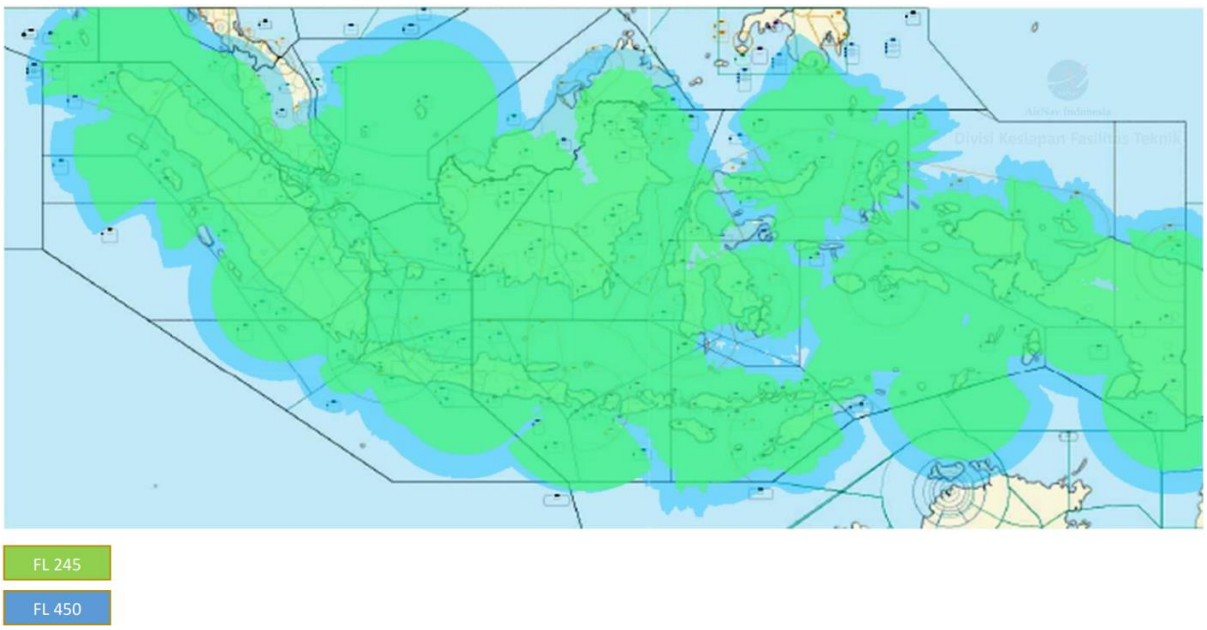

Figure 2 : ADS-B Coverage at FL245 and FL450

2.3. MLAT

Multilateration (MLAT) System remains operational at the two major airports in Indonesia, namely Jakarta and Surabaya. In Jakarta, additional MLAT Ground Stations have been installed to accommodate terminal developments, enabling MLAT to cover the entire movement and maneuvering area. The utilization of MLAT at both airports is integrated into A-SMGCS. A-SMGCS in Jakarta with the level 2 capability and in Surabaya with level 1 capability.

2.4. SMR

Currently, Indonesia operates a Surface Movement Radar (SMR) at Soekarno-Hatta Airport in Jakarta, serving as an independent sensor to detect vehicles without mobile transponders. The SMR data is integrated into the A-SMGCS, along with MLAT and ADS-B data

2.5. ADS-B Space Based

Indonesia conducted trials of Space-Based ADS-B usage in 2021-2022, specifically in the Jakarta FIR and Ujung Pandang FIR airspace. Currently, Indonesia is still in the process of evaluating the implementation of Space-Based ADS-B for potential future utilization.

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

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