

**58th CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGIONS**

*Dhaka, Bangladesh
15 to 19 October 2023*

AGENDA ITEM 4: AIR NAVIGATION

**UPDATES ON THE CNS-ATM UP-GRADATION SYSTEM
WITHIN DHAKA FIR**

(Presented by Bangladesh)

INFORMATION PAPER

SUMMARY

Bangladesh continues to make efforts to upgrade its air navigation services in terms of Communication, Navigation and Surveillance capability. This paper contained the recent information regarding the Modernization of Communication, Navigation and Surveillance System and introduction of ATM Automation for ATS units at Hazrat Shahjalal International Airport, Dhaka which will enhance the Safety and Capacity of Dhaka FIR.

UPDATES ON THE CNS-ATM UP-GRADATION SYSTEM WITHIN DHAKA FIR

1. INTRODUCTION

1.1 To cope with the future growth of air traffic and to establish seamless ATM service with the neighbouring States, Civil Aviation Authority of Bangladesh (CAAB) has taken a G to G project with Thales, France. The initiatives taken by CAAB for the modernization of ATM-CNS system of Dhaka FIR was intimated to ICAO through different meetings arranged by regional office, Bangkok. Bangladesh wishes to inform about the latest updates of the CNS-ATM upgradation.

1.2 The new ATM-CNS systems will mainly be installed at Dhaka Area Control Centre (ACC) and Aerodrome Control Tower at Hazrat Shahjalal International Airport (HSIA) with the new buildings, which is already under construction and expected to be completed by Q4 2024. This system will improve Surveillance and Voice coverage for the entire airspace within Bangladesh including the airspace over Bay of Bengal with the help of multimode Radar, ADS-B, CPDLC, ADS-C and RCAG.

2. DISCUSSION

Surveillance Systems

2.1 In order to enhance Surveillance coverage within Dhaka FIR and over the Bay of Bengal air space, this project consists of several surveillance solutions, such as:

- One Primary Surveillance Radar (PSR) with 80 NM instrumented range and Dual Weather channel;
- One Monopulse/Mode-S Secondary Surveillance Radar (MSSR) integrated with existing Chattogram radar (MSSR);
- 5 ADS-B ground stations (Dhaka, Barisal, Sylhet, Cox's Bazar and Saidpur) and WAM (Wide Area Multilateration); and
- ADS-C to cover the oceanic airspace.

2.2 The new PSR and MSSR will be integrated with existing MSSR by October of this year.

2.3 In this project a new generation Topsky-TWR system will be provided integrating both A-SMGCS and Electronic Flight Strip (EFS) operations to ensure the safe surface traffic management. Advanced Surface Movement Guidance and Control Systems (A-SMGCS) through MLAT will be installed at Hazrat Shahjalal International Airport (HSIA) including VTS (Vehicle tracker system) which will cover all aprons, taxiways and the runway. It will improve ground safety and provide runway incursion prevention warnings.

Automation Segment

2.4 At present Dhaka FIR is running without automation. The new ATM automation system will process the flight plan data and weather data and distribute them to all sectors of Dhaka ACC (5 sectors), Dhaka APP (3 Sectors) and Dhaka Tower;

2.5 On a central site at Dhaka airport, a redundant set of Central Processing Servers (CPS) will be installed to process target data and to perform control and monitoring of the system;

2.6 The Automation system shall interface with all the Surveillance systems described above;

2.7 This system shall be capable of ADS-C/CPDLC and AIDC messaging for effective harmonization with adjacent FIRs;

2.8 Under this project a new Aeronautical Information Management (AIM) System will be installed, which will have composed of dynamic aeronautical data management module for managing legacy NOTAM, FPL, MET & Pre-Flight Briefing. The Internet Briefing is an advanced Internet interface allowing private pilots or airlines to submit their FPL and get the briefing directly on the Internet.

Voice Communications Segment

2.9 To get the uninterrupted VHF communications with all flights from lower altitude to higher level of entire Dhaka FIR and the airspace over Bay of Bengal a new Voice Communication Control System (VCCS) will be installed at HSIA. To enhance the VHF coverage, 5 stations of Very Small Aperture Terminal (VSAT) and Remote Control Air Ground (RCAG) will also be installed at Barisal, Saidpur, Sylhet and Cox's Bazar.

2.10 New HF system will be installed at HSIA which will act as a redundancy of the VHF system to ensure the voice communication towards the airspace over Bay of Bengal.

2.11 The Modernization Project of CNS-ATM System of Bangladesh will be in line with ICAO standards and with a view to meet the APAC seamless ANS plan.

2.12 Target time of completion of this project is the end of 2024. Progress of this project is going on as per schedule, which is about 35%. Radar (PSR & MSSR) installation has already been completed, rest of equipment under shipment stage. The integration of Mode-S Radar with the old one is likely to be established by October 2023 for 24 hours surveillance which will be integrated to the new ATM-CNS systems after the completion. CAAB expects that ATM capability of Bangladesh will roll-out into a new dimension for providing seamless services with the neighbouring States.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to note the information contained in this Paper.

— END —