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*International Civil Aviation Organization***THE FIFTEENTH MEETING OF THE COMMON
AERONAUTICAL VIRTUAL PRIVATE
NETWORK OPERATIONS GROUP (CRV OG/15)***Mumbai, India, 15-19 June 2026***Agenda Item 9: States/Administrations CRV Implementation****IMPLEMENTATION STATUS OF PAN-INDIA AMHS**

(Presented by Airports Authority of India (AAI))

SUMMARY

This paper presents an update by the Airports Authority of India (AAI) on the implementation status of the new Pan-India Aeronautical Message Handling System (AMHS) at Mumbai (VABB) and New Delhi (VIDP), and the current international AMHS connectivity of India with BBIS and BIS States. The meeting is invited to note the information provided.

1. INTRODUCTION

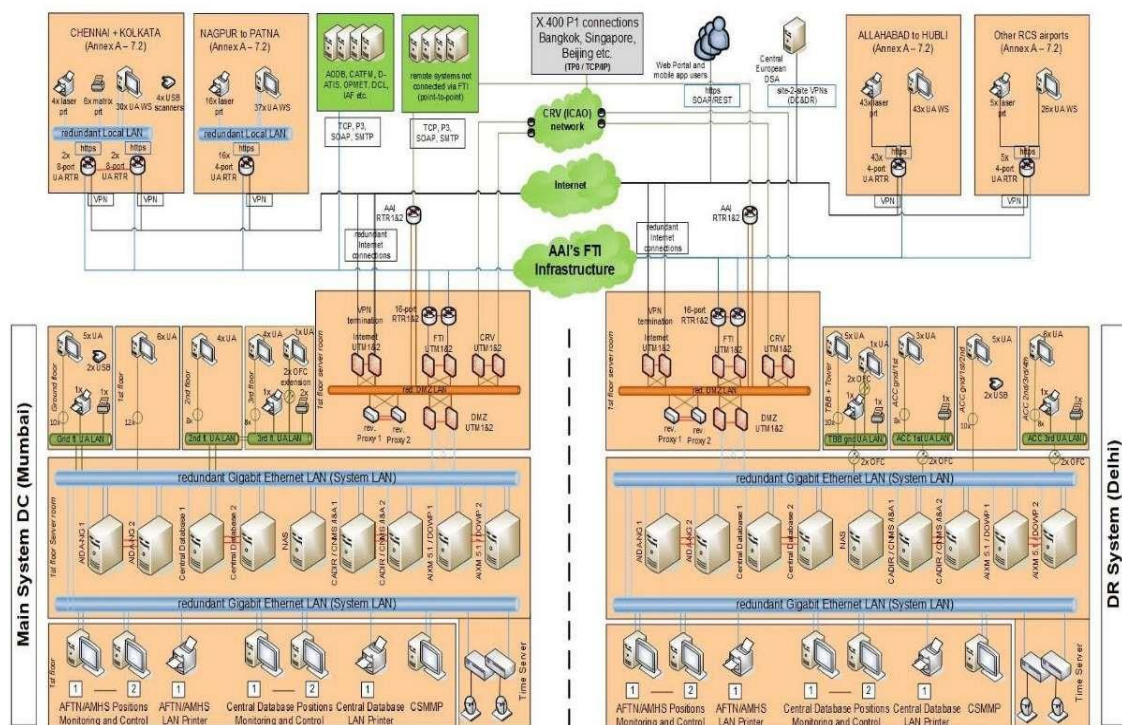
1.1 Mumbai (VABB) is the designated International AMHS/AFTN BBIS (Backbone Boundary Intermediate station) station for India and serves as the nodal point for international aeronautical message exchange with BBIS and BIS (Boundary Intermediate station) States in the APAC, MID and AFI regions. Mumbai maintains operational AMHS connections with ten (10) correspondent States.

1.2 India currently operates a legacy AMHS, commissioned in 2011, at Mumbai, together with in-house IP-AMSS and legacy AMSS systems at 16 airports, supplemented by Remote AMSS Workstations (RWS) and Remote Briefing Terminals (RBT) at other airports across India.

1.3 The Airports Authority of India (AAI) has undertaken a comprehensive Programme to replace all existing legacy systems with a new Pan-India AMHS covering 80+ airports under a single centralized platform. The system has its Data Centre (DC) in Mumbai and a fully identical Disaster Recovery (DR) site in New Delhi.

2. DISCUSSION**2.1 System Architecture**

2.1.1 The Pan-India AMHS is built on a fully redundant dual-site architecture: Data Centre (DC) at Mumbai as primary site and Disaster Recovery (DR) site at New Delhi, both with identical hardware and software configurations, together with two non-redundant Test and Training systems. System architecture is represented in the following image.



2.1.2 The core platform comprises a fully redundant AFTN/AMHS Message Transfer Agent (MTA) with integrated AFTN/AMHS Gateway, Centralized Database, a centralized ATS Message Server with web-based User Agent (UA) terminal, an X.500 Directory Service Agent (DSA) interfacing with the European Directory Service (EDS), and a Digital NOTAM system based on the AIXM 5.1 data format. The system additionally supports AMHS/AFTN over Simple Object access protocol (SOAP) Web Services, AMHS-to-email gateway, and interface with Initial Flight Plan Processing system (IFPS), Collaborative Trajectory and Flow Management (CTFM) and ADEXP (ATS data exchange presentation).

2.1.3 Domestic connectivity: All major Indian airports are connected to the DC and DR sites via AAI's Futuristic Telecom Infrastructure (FTI) L3 VPN MPLS network, with dedicated broadband/ILL connections serving as contingency in the event of FTI unavailability.

2.1.4 The system supports the exchange of aeronautical messages with File Transfer Body Part (FTBP) attachments of up to 2 MB, and Interpersonal Message (IPM) Heading Extensions (IHE) to support the exchange of IWXXM reports of up to 4 MB, in accordance with ICAO Doc 9880.

2.1.5 The system additionally provides a web-based and mobile flight plan submission facility for non-scheduled and general aviation operators, with integrated online payment processing. Upon successful payment confirmation, the relevant ATS messages are automatically processed through the AMHS environment for subsequent ATC handling. The system also supports FIXM-based flight data exchange and AIXM 5.1-compliant Digital NOTAM services.

2.1.6 Cyber-security: Each external interface (FTI, CRV, Internet) is individually protected by dedicated UTM/next-generation firewalls with two-layered DMZ architecture and reverse proxies. A Cyber Security Monitoring and Management Position (CSMMP) is deployed at both DC and DR sites.

2.2 Testing and Commissioning Status

2.2.1 Site Acceptance Test (SAT) was completed in February 2025. During SAT, AMHS X.400/P1 connectivity was successfully tested between Mumbai (VABB) and Singapore (WSSS) and between Mumbai (VABB) and Colombo (VCCC). Exchange of IWXXM messages via FTBP was also successfully tested with Singapore.

2.2.2 System Reliability and Stability Test (SRST) was completed in March 2026.

2.2.3 DC-to-DR switchover was tested during both SAT and SRST, AMHS X.400 P1, P3 and TCP/IP connections were re-established at the DR site within approximately 8 minutes.

2.2.4 Following Final System Acceptance, the Pan-India AMHS is planned for operational commissioning in Q2 of 2026.

2.3 European Directory Services (EDS) Integration

2.3.1 AAI intends to utilize the European Directory Services (EDS) for AMHS addressing via a site- to-site VPN connection over the Internet. The X.500 Directory Service Agent (DSA) will act as an Adjacent DSA to EDS in accordance with the EUR AMHS Manual (Appendix G-A). However, the consent from Eurocontrol for establishing the connectivity and to utilize EDS for AMHS is awaited till date.

2.4 International AMHS Connections of India (VABB)

2.4.1 Table 1 below presents the current status of international AMHS connections maintained by India (Mumbai/VABB) with BBIS and BIS States. Out of the ten connections, seven operate over the PCCWG-managed CRV MPLS network, while Dhaka (VGHS) and Muscat (OOMS) are connected via Inter Regional Trunk Connection and Nairobi (HKNA) via VPN over broadband Internet.

Table 1 – International AMHS Connections of India (Mumbai/VABB)

Sl. No.	Correspondent Station / State	Protocol	Network	Link Status	Year of Implementation
1	Bangkok / Thailand (VTBB) BBIS	AMHS	CRV	Operational	2014
2	Beijing / China (ZBBB) BBIS	AMHS	CRV	Operational	2016
3	Colombo / Sri Lanka (VCCC)	AMHS	CRV	Operational	2017

Sl. No.	Correspondent Station / State	Protocol	Network	Link Status	Year of Implementation
4	Dhaka / Bangladesh (VGHS)	AMHS	Inter-Regional Trunk Connection	Operational	2015
5	Karachi / Pakistan (OPKC)	AMHS	CRV	Operational	2015
6	Kathmandu / Nepal (VNKT)	AMHS	CRV	Operational	2014
7	Muscat / Oman (OOMS)	AMHS	Inter-Regional Trunk Connection	Operational	2022
8	Nairobi / Kenya (HKNA)	AMHS	VPN (Broadband)	Operational	2024
9	Paro / Bhutan (VQPR)	AMHS	CRV	Operational	2017
10	Singapore (WSSS) BBIS	AMHS	CRV	Operational	2011

2.4.2 All existing international AMHS connections are currently maintained on the legacy AMHS at Mumbai. Migration to the new Pan-India AMHS will be coordinated bilaterally with each correspondent State and planned to cause minimal disruption to operational services.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- note the information contained in this paper regarding the implementation status of the Pan-India AMHS at Mumbai (VABB) and New Delhi (VIDP); and
- note India's plan for staged migration of international AMHS connections from the legacy AMHS to the new Pan-India AMHS system, to be coordinated bilaterally with each correspondent State.
- to Coordinate with Eurocontrol for consent for utilization of EDS for new AMHS in India,
- discuss any relevant matter as appropriate
