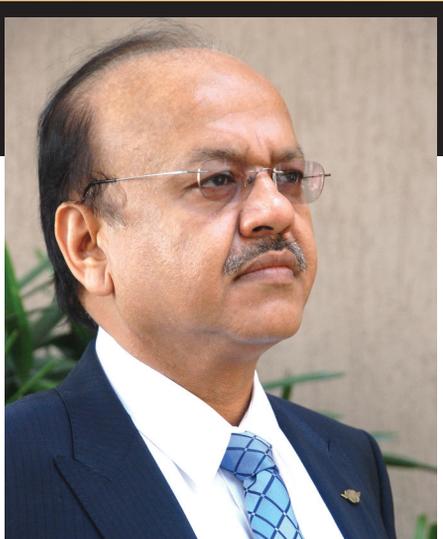


AAI PROMISES SAFER AND GREENER SKIES

With its new navigation systems in place, AAI will catapult India into an elite league in air navigation **LL BUREAU**



VP Agrawal, Chairman, AAI

Under the dynamic leadership of its Chairman, V.P. Agrawal, Airports Authority of India (AAI), which is the Indian Air Navigation Service Provider (ANSP), has a strong commitment to safety, its single mission being Service with Safety. "Safety first, safety foremost, safety forever", is the driving principle of the Indian ANSP.

Currently the ninth largest aviation market in the world and stipulated to becoming the third largest by 2020, AAI has drawn out an ambitious master plan to effectively meet the challenges for creating, upgrading, maintaining, and managing aviation infrastructure in more than 125 operational airports in India. Its aim is to contribute towards India's economic growth and prosperity by providing state-of-the-art aviation infrastructure that

meets the highest standards for safety and quality of air traffic services and airport management and ensures customer satisfaction.

Consistent with ICAO's (International Civil Aviation Organization) global plan initiatives and the Indian Future Air Navigation Services Plan, AAI has embarked upon a number of initiatives for improving ANS and airport infrastructure with the object of enhancing the safety, efficiency and capacity of airspace and airports in India. One such initiative is aimed at establishing a single continuum of upper airspace that will facilitate the uniform application of rules and procedures.

AAI has a detailed plan to restructure the entire Indian airspace to amalgamate 11 area control centres (ACCs) into four ACCs initially, and finally, into two. Delhi, Mumbai, Kolkata and Chennai will be the four main en-route centres for the provision of en-route control services. The airspace within the jurisdiction of these centres will be reorganised to establish multiple en-route sectors of appropriate lateral jurisdiction based on the flow of traffic and complexities. All four centres will be equipped with similar levels of ATM automation and communication,

navigation and surveillance (CNS) infrastructure. One centre will serve as a back-up to another in the event of disaster or complete breakdown; and the entire controlled airspace will have overlapping surveillance cover through radar/ADS-B/multi-lateration combined with matching seamless air-ground communication to facilitate efficient ATM.

CHENNAI ATC CENTRE

AAI took up the restructuring of the Chennai FIR as the pilot project. The restructuring is complete and became operational on September 22, 2011. It now has one upper ACC centre with five sectors to be operated from Chennai. Highlights of the project include operating multiple sectors of ATC from a single sector covering the en-route phase of the flights; integration of various radars; complete ATS automation with various controller tools; and remote operation of VHF from Chennai. A similar project of the harmonisation of upper airspace is underway at Kolkata and implementation of the advanced ATM automation system is nearing completion.

INTEGRATION OF RADARS

Sensor Data from 11 radars and 4 ADS-B



AAI: A FRONTRUNNER IN AIR TRAFFIC MANAGEMENT

Air Traffic Management in India is another area where AAI has brought about a sea change, solely due to the visionary leadership of its Chairman, V.P. Agrawal. And, the transformation has been recognised, globally. The public sector enterprise has won significant awards in Air Traffic Management and these include 'Jane's Award 2012' for achieving the best operational efficiency through upper airspace harmonisation programme, and the twin ATC Global Awards 2013 at Amsterdam for Excellence in ANSP Management and Strategic Advancement in Air Transport.

systems have been integrated into the automation system at Chennai, ensuring enhanced and overlapping surveillance with redundancy. This facilitates direct routing of flights, thereby reducing flight distance/time and saving fuel for the airlines. The minimum distance between aircraft is reduced through the application of radar separation minima even in the en-route airspace, which helps the controller accommodate a greater number of flights in the given airspace.

INTEGRATED ATS AUTOMATION SYSTEM

The safety of aircraft is ensured by the adoption of safety nets, such as conflict alerts, minimum safe altitude warning, etc, at Chennai. The system also permits automatic exchange of ATS messages among ATS units through the application of ATS Inter-facility Data Communication

(AIDC), thereby reducing manual coordination.

ATSS AND OPERATIONAL BACK-UP SYSTEM

The Automation Training Simulator System (ATSS) supports separate or simultaneous ACC and approach control training for eight trainees at a time. The training scenario is identical to the current operational system and it supports both system test and operator training, and can be used as an operational back-up system in case of contingencies.

GBAS AT CHENNAI

With the implementation of GPS-aided GEO augmented navigation (GAGAN), India has emerged as the fourth nation in the world to provide satellite-based navigation. Once commissioned, GAGAN will provide APV-1 service to the selected

runway ends. The GBAS system is able to reduce the need to delay landings, thus reducing by 50% the impact of weather delays at the target airport. In addition to overall fuel savings, the system also promotes a green airline because less fuel emissions are produced by the aircraft. GBAS can also reduce the amount of time during taxiing by eliminating the ILS (Instrument Landing System) hold-short zones.

INTEGRATED ATC TRAINING SIMULATOR

These simulators, to be installed in Delhi, Mumbai, Chennai and Kolkata airports, will improve training, the quality of rated controllers, provide training in unusual circumstances, and provide hands-on experience to working controllers whenever a major change in ATM systems, procedures, airspace or ground infrastructures are planned.