

CHAPTER 3

GENERAL

3.1 Organizational structure and functions

3.1.1 Airports Authority of India

3.1.1.1 Airports Authority of India is a Statutory Public Sector Undertaking of the Government of India formed by Act 95 /1994 of Parliament as amended by AAI Amendment Act 43 of 2003. It is governed by a Board of Directors, consisting of whole time members, as well as part-time members, appointed by the Government of India.

3.1.1.2 AAI website www.airportsindia.org.in and www.aai.aero provide details of the organizational structure of AAI

3.1.1.3 Postal and telegraphic address
Airports Authority of India,
Rajiv Gandhi Bhawan,
Safdarjung airport,
New Delhi – 110003

Telephone: 011- 24632930
Fax: 011- 24641088
AFS VIDDYXAC

3.1.2 Functions of Airports Authority of India and ATM Directorate

3.1.2.1 Various functions of Airports Authority of India are listed in Chapter III of the AAI ACT, 1994

3.1.2.2 Functions of Directorate of Air Traffic Management are as follows:

- Provision of Air Traffic Services (ATS) to all arriving, departing & over flying aircraft over Indian airspace.
- Establishment of ATS routes, realignment of existing air routes in consultation with user airlines and

international bodies such as IATA and ICAO.

- Establishment of control zones and control areas and changes to existing control zones and areas.
- Establishment of Danger / Prohibited and restricted areas and changes to mentioned areas in coordination with concerned Government Agencies.
- Providing Search & Rescue coordination for aircraft in distress
- Providing Aeronautical Information Service (AIS) as prescribed by ICAO to all domestic and international airlines and ATS of other countries.
- Survey of airports, publication of aeronautical maps and charts
- Development of Instrument Approach to Land (IAL) procedures & IAL charts.
- Monitor and control of obstructions around airports to ensure compliance with SARPS of ICAO.
- Coordination with International Civil Aviation Organization, Regional Office Bangkok and Headquarters Montreal, Canada on matters relating to airspace management, provision of Air Navigation Services and aviation rules and regulations.
- Manpower Planning, training and award of ratings to Air Traffic Controllers in conformity with ICAO rules and regulations as stated in Annex 1 (Personnel Licensing).
- Monitoring of standards and procedures in the provision of Air Traffic Services.
- Investigation of Air Traffic Incidents in coordination with DGCA and taking corrective action thereupon.
- Matters related to Aviation Security.
- Monitoring of environmental hazards at airports.

3.1.2.3 Provision of air traffic management services is one of the essential functions of AAI. This function is carried out under the direction and control of Member (Operations), who is a whole time Board Member of AAI. The Executive Director (ATM), reporting to Member (Operations), is the head of ATM Directorate. The ATS in-charges are responsible to supervise the provision of ATS at their respective stations and report to the Regional Executive Directors of the region concerned.

3.1.1.4 The function to plan, procure, install and maintain navigational and surveillance aids and communication equipments at the airports and at such locations as may be considered necessary for safe navigation of aircraft, is carried out by CNS Wing of AAI.

3.2 Roles and responsibilities of air traffic management directorate

3.2.1 ATM services include provision of air traffic control, aeronautical information, airspace management, flow management and management of ATC training.

3.2.2 The ATM directorate at AAI Corporate Headquarters oversees corporate strategy, development of processes and procedures for safety and uniformity in the provision of air traffic services, strategic supervision of the provision of air traffic services, training and rating of air traffic controllers, including refresher training, coordination with other concerned organizations in and outside India. The ATM directorate has also been assigned the responsibilities related to the provision of Airport Fire Services, Aeronautical Information Services, Cartography Services and Search & Rescue Services.

3.3 Operational supervision

The dynamic application of supervision of air traffic services rests with the ATS In-charges at their respective stations where ATC

centres are established for the provision of air traffic services. The ATS In-Charges also receive technical and administrative support and guidance from the regional units in each FIRs as published in Aeronautical Information Publications (AIP).

3.4 ATM staffing

3.4.1 The ATM Directorate is responsible to determine the operational (ATM) staffing requirements for the country as a whole for staff planning purposes. The staff requirements are worked out taking into account:

- a) ATS requirements based on assessment of traffic levels and airspace complexities;
- b) Number of operational shifts to be operated;
- c) Fatigue management;
- d) Training including refresher training needs;
- e) Leave requirements.

3.5 Provision of air traffic services

3.5.1 With the exception of certain military areas, state, military and private aerodromes, the Air Traffic Services are provided for the entire airspace over Indian Territory including territorial waters as well as high seas encompassed by Calcutta, Chennai and Mumbai Flight Information Regions. This airspace covers approximately 2.8 million sq. NM.

3.5.2 The need for the provision of air traffic services has been determined by consideration of the following:

- a) the types of air traffic involved;
- b) the density of air traffic;
- c) the meteorological conditions.

3.5.3 Flight Information Centres have been established at Delhi, Mumbai, Kolkata, Chennai and Guwahati as per specifications given in para 2.9 of Annex 11 to provide flight information service and alerting service.

Airspace jurisdiction of these have been designated as Delhi FIR, Mumbai FIR, Kolkata FIR, Chennai FIR, and Guwahati FIR respectively.

3.5.4 Those portions of the airspace where it has been determined that air traffic control service will be provided to IFR flights have been designated as control areas or control zones as detailed in AIP India.

3.5.5 Those portions of the airspace where it has been determined that air traffic control service will be provided to VFR flights also have been designated as Class D airspace.

3.5.6 The control areas and control zones within a Flight Information Region form part of that Flight Information Region. These control areas and control zones have been designed as per specifications given in para 2.9 of Annex 11.

3.5.7 Following air traffic control units have been established to provide air traffic control service, flight information service and alerting service within control areas, control zones and at controlled aerodromes.

a) Area Control Centres:

Area Control Centres have been established at Delhi, Mumbai, Kolkata, Chennai, Thiruvananthpuram, Ahmedabad, Nagpur, Hyderabad, Guwahati, Mangalore and Varanasi. While the area control centers at Guwahati and Mangalore operate for restricted hours as published in AIP India, all other area control centres provide air traffic control services on 24 hour basis.

b) Approach control units and Aerodrome Control Towers:

(i) Separate Approach control units and aerodrome control towers have been established at Delhi, Mumbai, Kolkata, Chennai, Guwahati, Thiruvananthpuram, Ahmedabad, Hyderabad and Mangalore

airports to provide Approach control and Aerodrome Control service separately. These units at Guwahati and Mangalore airports operate for restricted hours as published in AIP India / NOTAMS. At all other airports mentioned above, these services are provided on 24 hour basis.

(i) Aerodrome control towers have been established at following airports to provide both aerodrome control service as well as approach control service:

Agartala, Amritsar, Aurangabad, Bhopal, Bhavnagar, Bhubaneshwar Cochin International, Coimbatore, Dibrugarh, Dimapur, Gaya, Imphal, Calicut Indore, Jaipur, Keshod, Khajuraho, Lucknow, Madurai, Mangalore, Nagpur, Porbandar, Patna, Raipur, Rajkot, Ranchi, Trichy, Tirupati, Udaipur, Vadodara, Varanasi and Vijaywada.

Details on hours of operation of these aerodrome control towers are published in Aeronautical Information Publications, India.

(ii) Aerodrome control towers where only aerodrome control service is provided to aerodrome traffic:

Bhuntar, Dehradun, Gaggal, Kanpur(civil), Kota, Lengpui, Leelabari, Hubli, Pondicherry, Rajamundry, Selem, Belgaum, Jabalpur, Juhu, Kandla, Diu, Bara Pani, Tuticorin Ludhiana, Pant Nagar, Shimla, Safdarjung Surat

3.5.8 Air traffic control service is provided to aerodrome traffic at the aerodromes listed in 3.5.7 (b) above and accordingly these are designated as controlled aerodromes.

3.5.9 The hours of operations of air traffic services or ATC units are published in the AIP India. Any changes or amendments are notified by NOTAM and subsequently, through AIP amendment

3.5.10 The aerodrome control service provided by AAI at the controlled aerodromes is limited to airspace in the vicinity of the aerodrome & the maneuvering area of the aerodrome, which consist of all operational runways and taxiways but does not include apron.

3.5.11 The movement of persons or vehicles including towed aircraft on the manoeuvring area of an aerodrome is controlled by the aerodrome control tower as necessary to avoid hazard to them or to aircraft landing, taxiing or taking off.

3.5.12 Apron management service at Delhi, Mumbai, Kolkata, Chennai, Kochi and Thiruvananthapuram aerodromes is provided by a separate Apron Control unit.

3.5.13 Flight information centers and area control centres have been identified by the names of nearby towns / cities. Aerodrome control towers and approach control units have also been identified by the names of the nearby towns / cities except that where more than one aerodromes are located near a city, the aerodrome control tower at the smaller aerodrome in the city, has been identified by the name of its location..

3.5.14 The control zones, control areas and flight information regions have been identified by the names of the units having jurisdiction over such airspaces.

3.5.15 ATS routes have been published in AIP. These routes have been identified, established and designated as per provisions under para 2.11 of Annex 11.

3.5.16 RNP 10 has been prescribed for some of the designated ATS routes published in AIP ENR 3. These routes have been prescribed on the basis of regional air navigation agreements and are appropriate to level of communications, navigation, surveillance and air traffic services provided in the concerned airspace.

3.5.17 The summary of the Air Traffic Services provided by each ATC unit, including airspace classification, airspace designation, airspace jurisdiction, hours of operation and the type of service, is published in the AIP India. The relevant maps and charts are published in the AIP..

3.5.18 Determination and reporting of air traffic services-related aeronautical data is undertaken by Cartography section of ATM Dte. The determination and reporting of these data is undertaken manually. No electronic aeronautical data system is available.

3.5.19 The Cartography Section of ATM Directorate is responsible for the provision of raw aeronautical information/data to the aeronautical information services. It does so while taking into account specified accuracy & integrity requirements for aeronautical data in appendix 5 to Annex 11.

3.6 Search and rescue (SAR)

3.6.1 Responsible Authority

The Search and Rescue Service in India is coordinated by the Airports Authority of India in collaboration with the Ministry of Defence which has the responsibility for making the necessary facilities available.

3.6.2 Area of Responsibility

The Search and Rescue Service is responsible for entire Indian territory including territorial waters as well as airspace over high seas encompassed by Kolkata, Mumbai and Chennai FIRs.

3.6.3 Details of the Rescue coordination centers and related search and rescue units are given on page GEN 3.6-2 to GEN 3.6-7. In addition, various other departments of the central and state governments viz, Railways, P&T, All India Radio, Police and District Collectors/Magistrates etc, Municipal and Local Bodies, Airlines Operators, Flying

Clubs, Professional Pilots, Mercantile Marine, Port Trusts and Armed Forces are available for search and rescue missions when required..

3.6.4 Satellite aided Search and Rescue

3.6.4.1 India has evolved a Satellite Aided Search and Rescue Programme participation in the COSPAS/SARSAT system. It operates on 121.5, 243.0 MHz and 406 MHz. Location accuracy is normally within 20 Kms on 121.5 and 243 MHz and 5 Km on 406 MHz. The system will detect transmission on these three frequencies through out the Indian SRR and also SRR of Bangladesh, Myanmar, Bhutan, Indonesia, Kenya, Malaysia, Maldives, Mauritius, Nepal, Seychelles, Singapore, Somalia, Sri Lanka and Thailand.

3.6.4.2 Under this programme two local user terminals (LUT) have been established, one at Bangalore and the other at Lucknow, with the Indian Mission Control Centre (MCC) at Bangalore, which would be responsible for coordination with Rescue Coordination Centres and other International Mission Control Centres.

3.6.4.3 The MCC at Bangalore is connected with the RCCs at Mumbai, Delhi, Kolkata and Chennai through AFS network and any distress alert received from the areas covered is automatically transmitted to the RCC.

3.6.5 SAR Agreements

3.6.5.1 At present India has no SAR agreement with other countries.

3.6.5.2 Requests for the entry of aircraft, equipment and personnel from other states to engage in search for aircraft in Distress and for rescue of survivors of crashed aircraft should be transmitted to the Director General of Civil Aviation. The postal and telegraphic address of Director General of

Civil Aviation is given on page GEN 1.1 of AIP India.

3.7 Recruitment procedure for air traffic control officers

Air Traffic Control Officers (ATCO) and ATC Assistants are recruited as per the established recruitment procedures of AAI. The candidates must meet the minimum prescribed qualification requirements. Such candidates have to undergo the selection process, including a competitive examination, personal interview and medical examination.

3.8 ATC training

3.8.1 Selected incumbents are nominated to undergo ATC training programmes of prescribed durations, at the Civil Aviation Training College, Allahabad. (C.A.T.C. India)

3.8.2 The ATM Faculty at C.A.T.C. conducts following courses:

a) Ab-initio Level Courses

- Aerodrome Officers' Ab-initio Course
- Aerodrome Assistants' Ab-initio Course

b) Refresher - cum - Career Progression Courses

- Aerodrome Control Course
- Approach Control Course
- Area Control Course
- ATCO's Advanced Refresher Course

c) Specialist Courses

- Radar Control Approach Course
- Search and Rescue Course
- ATC (OJT) Instructional Technique Course
- RNP/RNAV Application Criteria Course
- Instrument Procedure Designing Course

3.8.3 Admission Criteria

3.8.3.1 Aerodrome Officers' Ab-initio Course

- Graduate in Telecommunication/ Electronic Engineering or Master's Degree in Physics
- Good Command of English language, both written and spoken.
- Medical fitness as per ICAO Annex-1
- Voice Test.

3.8.3.2 Aerodrome Assistants' Ab-initio Course

- A Graduate from a recognized University having Physics & Mathematics as main subjects.
- A good knowledge of English language both written and spoken.
- Medical fitness as per Annex-1

3.8.4 Course Examination at CATC

3.8.4.1 At the end of every training schedule, the trainees have to pass a written examination, as well as practical examination consisting of simulated air traffic control exercises & an oral examination.

3.9 On-the-job training and rating

3.9.1 The ATC Officers, on successful completion of the approved course(s) at CATC, are required to undergo on-the-job training (OJT) in ATC units at the stations of their posting for a minimum of specified period. The ATCOs during OJT shall have demonstrated a level of knowledge appropriate to the ATC unit in specified topics for becoming eligible to take the rating examination.

3.9.2 A rating examination shall be held after the ATCO has built up sufficient confidence and has shown ability to deal with various situations in handling Air Traffic independently. The rating examination shall consist of:

- A written examination

- On-the-job Assessment
- An oral examination

3.9.3 All ratings are issued subject to the requirements and processes notified in DARA Circulars as amended from time to time.

3.10 Checking programme

3.10.1 Regular Assessment

- a) Proficiency assessment at Delhi, Mumbai, Kolkata, Guwahati and Chennai shall be conducted by respective GM (S&P) / DGM(S&P) / WSOs and at all other stations by the ATS in- charges.
- b) Proficiency assessment shall be conducted at regular intervals and it will be ensured that every controller is assessed on all the operating positions for which ratings are held by the controller
- c) Individual records of the assessment shall be maintained at the station concerned and quarterly report sent to GM (S&P)
- d) ATS in- charge will ensure that all the rated controllers spend sufficient time at the operating positions to enable them to maintain satisfactory level of proficiency.

3.10.2 Periodic assessment

3.10.2.1 Joint proficiency checks will be carried out by a team comprising of officers from the Standardization Division of AAI and officers of the DGCA, once every year, at all the International Airports, the ACC centers and other major airports on rotational basis and with prior intimation. The team will also be responsible to identify operational and/or system deficiency, if any, and report the same to the ATS In- charge for immediate



remedial actions before submitting the final report.

3.10.2 In case it is found that the performance of an air traffic controller is unsatisfactory, his/her rating (s) may be suspended and appropriate corrective training arranged and proficiency reassessed as per laid down procedures.

3.10.3 Proficiency assessment of air traffic controllers shall be carried subject to the requirements and procedures notified in DARA Circular No. 6 of 1998.

: