C.P.U. No. 922

TWENTY NINTH REPORT

COMMITTEE ON PUBLIC UNDERTAKINGS

(2007-2008)

(FOURTEENTH LOK SABHA)

AIRPORTS AUTHORITY OF INDIA – SAFETY AND SECURITY ASPECTS

MINISTRY OF CIVIL AVIATION

Presented to Lok Sabha on 29.04.2008

Laid in Rajya Sabha on 29.04.2008

LOK SABHA SECRETARIAT

NEW DELHI

April 2008 / Vaisakha 1930 (S)

CONTENTS

PART A

REPORT

Chapter I   AIRPORTS AUTHORITY OF INDIA AND AVIATION SAFETY AND SECURITY – AN OVERVIEW

        (i)   Background
        (ii)   AAI - Role and Functions
        (iii) Regulatory Bodies
        (iv)   Other Concerned Organizations
        (v)   Ministry of Civil Aviation

Chapter II   SAFETY FUNCTIONS OF AAI

        (i)   Overview
        (ii)   Safety on the ground
        (iii) Emergency/Disaster Management
        (iv)   Flight Safety
        (v)   Corporation of ATS
        (vi)   Safety Audit
        (vii) Safety Regulation

Chapter III   SECURITY FUNCTIONS OF AAI

        (i)   Overview
        (ii)   Role of Airport Director
        (iii) Systems & Equipments
        (iv)   Threat Response Mechanism
        (v)   Security Regulation

Chapter IV   AAI AND MINISTRY OF CIVIL AVIATION

        (i)   Overview

PART B

OBSERVATIONS / RECOMMENDATIONS OF THE COMMITTEE

ANNEXURE

i   Ground Incidents / Accidents

ii   Airprox Incident in Civil Airspace under the Jurisdiction of AAI during the Year 2004-2006.

iii   Minutes of Sittings of Committee

COMPOSITION OF THE COMMITTEE ON PUBLIC UNDERTAKINGS (2007-2008)

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Members, Lok Sabha

2.   Shri Ramdas Bandu Athawale
3.   Shri Ramesh Bais
4.   Shri Gurudas Dasgupta
5.   Smt. Sangeeta Kumari Singh Deo
6.   Shri Francis K. George
7.   Dr. Vallabhbhai Kathiria
8.   Ch. Lal Singh
9.   *Dr. Rameshwar Oraon
10. Shri Shriniwas Patil
11. *Kunwar Jitin Prasada,
12. Shri Kashiram Rana
13. Shri Mohan Rawale
14. Shri Ramjilal Suman
15. Shri Ram Kripal Yadav

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2.   Shri J.P. Sharma   -   Joint Secretary
3.   Smt. Anita Jain   -   Director
4.   Shri N.C. Gupta   -   Deputy Secretary
5.   Shri Paolienlal Haokip -   Executive Officer

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* Elected w.e.f. 17.5.2004 Dr. Rameshwar Oraon and Kunwar Jitin Prasad ceased to be Members of the Committee consequent on their appointment as Ministers of States w.e.f. 6.04.2008.
** ceased to be Members of the Committee consequent on their retirement from Rajya Sabha w.e.f. 02.04.2008 and 09.04.2008.

INTRODUCTION

I, the Chairman, Committee on Public Undertakings having been authorized by the Committee to present the Report on their behalf, present this Twenty Ninth Report on Airports Authority of India – Safety and Security Aspects.

2.　　The subject was selected for examination by the Committee on Public Undertakings (2007-2008).

3.　　The Committee took a briefing on the subject from representatives of Ministry of Home Affairs, the Directorate General of Civil Aviation, the Bureau of Civil Aviation and the Central Industrial Security Force on 3rd August 2007. The Committee also took oral evidence of representatives of the Airports Authority of India on 20th December 2007. They further took oral evidence of representatives of the Ministry of Civil Aviation on 27th February 2008.

4.　　The Committee on Public Undertakings (2007-08) considered and adopted the Report at their sitting held on 24th April 2008. The Committee feel obliged to the Members of the Committee on Public Undertakings (2007-08). They would also like to place on record their deep sense of appreciation for the valuable assistance rendered to them by officials of Lok Sabha Secretariat attached to the Committee.

5.　　The Committee wish to express their thanks to the Ministry of Civil Aviation and Airports Authority of India for placing before them the material and information they wanted in connection with examination of the subject. They also wish to thank in particular the representatives of the Ministry of Civil Aviation, Airports Authority of India, Ministry of Home Affairs, the Directorate General of Civil Aviation, the Bureau of Civil Aviation and the Central Industrial Security Force who gave evidence and placed their considered views before the Committee.

6.　　For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in Part-II of the Report.

New Delhi　　　　　　　　　　　　　　　　　　**RUPCHAND PAL**
28 April 2008　　　　　　　　　　　　　　　　　　　**CHAIRMAN**
8 Vaisakha, 1928　　　　　**COMMITTEE ON PUBLIC UNDERTAKINGS**

CHAPTER - I

AAI AND AVIATION SAFETY & SECURITY – AN OVERVIEW

1.1   BACKGROUND

The unprecedented growth in air traffic in the Indian skies during the last five years and the looming threat of international terrorism have raised numerous challenges for concerned agencies and authorities in the Civil Aviation sector, including issues concerning safety and security. The Airports Authority of India, as the primary airport operator in the country, has responsibilities that are critical to aviation safety and security. Some of such safety and security related responsibilities of the Authority are ingrained in its role of airport infrastructure provider-cum-operator and CNS/ATM service provider, while some of its other responsibilities, especially those relating to security are in the nature of obligations to fit into the larger framework of national security, its own security of assets.

1.2   AAI – ROLE AND FUNCTIONS:

The safety and security related activities of Airports Authority of India as furnished to the Committee are as follows:

"Provision of safety in the field of Air Traffic Services and Airport Operations is managed by Airports Authority of India in accordance with the National /ICAO Regulations whereas security is managed under the Bureau of Civil Aviation Security.

AAI have established a Directorate of Aviation Safety in 1998 with the objective of carrying out the mission of Aviation Safety by process of auditing, monitoring and safety promotion. These objectives are achieved by carrying out the Aviation Safety objective at the field stations and subsequently doing the coordination with the Heads of different wings for further improvement in the system. One of the prime objectives of Directorate of Aviation Safety is to assess compliance with the ICAO standards and recommended practices and ensure adherence to the prescribed standards and procedures, circulars and recommendations etc. to determine the effectiveness of safety standards and to verify the efficacy of safety management against safety hazards. In order to achieve the goal, safety audit is being conducted in accordance with ICAO's

requirement of surveillance obligations of safety management system and universal safety oversight audit programme.

Security

As the airport operator, AAI has been entrusted with the following security related activities:

a) Anti-hijacking measures
b) Measures against terrorist attacks
c) Access Control
d) Perimeter Security
e) Anti-sabotage measures
f) Surveillance arrangements
g) Contingency arrangements
h) Installation / provision / maintenance of security equipments"

Outlining the scope and functions of AAI, the representative of the Ministry of Civil Aviation stated before the Committee as under:

".......the Airports Authority of India is the prime airport operator in the country. It manages 125 airports out of which 90 are operational. These include 28 civil enclaves in Defence Airfileds, 14 international airports and 8 customs airports. AAI also provides CNS/ATM facilities at other airports including Delhi, Mumbai and Cochin which they do not operate and manage. The year 2006-07 saw 510 lakh passengers moving through AAI airports with 6.58 lakh aircraft movements. This represented an increase of 39 per cent and 33 per cent respectively over the previous year. During the current financial year as well there has been a significant growth in the air traffic. Domestic passenger traffic has been increasing at the rate of about 35 percent in 2007-08."

1.3   REGULATORY BODIES

Referring to the regulatory authorities that look after the safety and security aspects of the Civil Aviation Industry, the representative of the Ministry of Civil Aviation stated thus:

"The Directorate General of Civil Aviation, which is an attached office of the Ministry of Civil Aviation, is the safety regulator for the entire civil aviation sector including airports. Similarly, the Bureau of Civil Aviation Security, another attached office of the Ministry, is the regulator for civil aviation security. Both these organisations have been taking measures to address the challenges posed by the recent growth in the sector. They have endeavoured to update the safety/security manuals, instructions as well as upgrade the skills."

1.4 OTHER CONCERNED ORGANIZATIONS

The Central Industrial Security Force or CISF, through its Airport group performs security functions at most of the functional airports in the country. Airport unit of State Police Forces perform security functions at airports where CISF is not deployed.

Respective airline operators are responsible for maintenance of aircraft airworthiness and other flight safety and security requirements under regulations by the DGCA and BCAS. Besides, there are caterers and cargo operators who have responsibilities with regard to safety and security under regulations issued by DGCA and BCAS.

1.5 Ministry of Civil Aviation

The Airports Authority of India (AAI) Section in the Ministry is the administrative Section for the Airports Authority of India. The Section works through an Under Secretary, Director and Joint Secretary under the overall supervision and guidance of the Secretary.

CHAPTER - II

SAFETY FUNCTIONS OF AAI

2.1   OVERVIEW

As an airport operator and the ANS provider in the country, AAI have safety related functions and responsibilities which span several critical functional spheres in the aviation safety management. Asked to furnish a note on their safety functions, AAI stated as under:

> "Provision of safety in the field of Air Traffic Services and Airport Operations is managed by Airports Authority of India in accordance with the National /ICAO Regulations whereas security is managed under the Bureau of Civil Aviation Security.
>
> AAI had established a Directorate of Aviation Safety in 1998 with the objective of carrying out the mission of Aviation Safety by process of auditing, monitoring and safety promotion. These objectives are achieved by carrying out the Aviation Safety objective at the field stations and subsequently doing the coordination with the Heads of different wings for further improvement in the system. One of the prime objectives of Directorate of Aviation Safety is to assess compliance with the ICAO standards and recommended practices and ensure adherence to the prescribed standards and procedures, circulars and recommendations etc. to determine the effectiveness of safety standards and to verify the efficacy of safety management against safety hazards. In order to achieve the goal, safety audit is being conducted in accordance with ICAO's requirement of surveillance obligations of safety management system and universal safety oversight audit programme."

2.2   SAFETY ON THE GROUND:

Safe operation of airports consisting of several functional areas like (a) fire safety, (b) runway safety, (c) apron control, etc. at airports operated by AAI is their responsibility, in their capacity as airport operator. On its responsibilities related to ground safety, AAI stated:

"The responsibilities enumerated are as under:

(i)   Surface Movement and Guidance Control
(ii)   Preparation of plans for Airport Emergency Services.
(iii)   Bird eradication programme.
(iv)   Co-ordination and clearance of repair works/ new projects with Departments of Planning, Electrical, Civil &ATM.

(v)   Monitoring and follow up action on proceedings of the Operational Inspection Committee, Airport Security Committee and Airfield Environment Management Committee.

(vi)   Co-ordination for licensing of airports.

(vii) Projection, coordination and implementation in respect of aircrafts operations for updation of Aeronautical Information Publication and Jeppsen Charts, Correspondence related to ICAO and Co-ordination with DGCA and IATA.

Apart from above, at other airports Aerodrome Control Tower officers exercised surveillance on the apron and the associated areas. The fire crew in the fire station also keeps surveillance on the overall control and supervision of Airport Incharge."

A.   Fire Safety

Asked about fire safety infrastructure, and trained firemen, AAI stated as under:

"Fire safety infrastructure at AAI operated airports are maintained as per ICAO guidelines….AAI is operating two training centers to meet the requirement of trained and qualified fire safety personnel of AAI….Level of Fire protection for the safety of the passengers are maintained by Airport Fire Services, round the clock as per ICAO guidelines, under the overall administrative/Operational control of Airport Director of the respective airports"

On the existence of an inspectorate over its fire safety system, the AAI stated:

"…..Internal AAI's Aviation Safety Directorate carries out inspection to check the infrastructure, preparedness and technical competence of fire safety. External agencies like DGCA/ICAO carry out such inspections."

B.   Runway Safety

Runway safety has various facets like prevention of runway intrusions, friction co-efficiency, surface movement and guidance control, coordination of repair works/new projects with Air Traffic Management, signages, lighting, etc.

Runway Intrusions

Asked to furnish the organizational structure in place for handling ground safety in the light of media reports on several instances of runway intrusions the AAI stated:

"Department of Ground and Flight Safety at… the airports is headed by Jt. GM/DGM who is assisted by GM/Sr. Manager. In this Department, there is an apron control unit functioning round the clock manned by Manager/ Assistant Manager and Sr. Assistant…. Apart from above, at other airports Aerodrome Control Tower Officers exercised surveillance on the apron and the associated areas…."

Asked to furnish instances of accidents/fatalities and runway intrusions during the past three years, AAI are able to furnish details related to airports at Kolkata, Chennai and Trivandrum only.

Drawing reference to Audit's comments in their Report No. 17 of 2007 about friction tester machines being under utilized due to non-availability of spares and absence of trained personnel, AAI were asked to comment on action taken thereof. They replied thus:

"AAI has inducted total 09 Nos. friction testers and positioned at 05 Nos. Regional E&M Workshops -New Delhi, Chennai, Mumabi, Kolkata, Guwahati and 04 Nos. Sub-Regional Workshops-Ahmedabad, Hyderabad, Lucknow and Imphal (presently positioned at New Delhi). These machines are being utilized for friction testing of various airports within Region as per DARA Circular Guidelines(DARA Circular No. 6/2006).

- Central E&M Workshop, New Delhi of AAI is nodal agency for monitoring of serviceability and   maintenance of adequate essential spares parts of all 09 Nos. friction testers. Periodical procurement of essential maintenance spares are being procured based on feed-back from Regional & Sub-Regional Workshops.

- Regional Workshops are headed by Deputy General Manager and Sub-Regional Workshops are headed by Sr. Manager level officers who have been trained by Original Equipment Manufacturer for operation & maintenance of these friction testers. In addition to these officers necessary training on operation & maintenance of friction testers were also imparted to lower level executives & staff also by Engineers of Original Equipment Manufacturer in India during the commissioning of these friction testers."

Asked about the organizational structure in place within AAI for ensuring adequate friction co-efficiency of runways and its responsibilities, AAI replied:

"The Regional Workshops/Sub-Regional Workshops are under respective Regional Executive Director.

- The officials (of the regional workshops) carry out the friction measurement of various airports within the region in co-ordination with G.M.(ATM)-Region of respective Region.

- These measurement with reports provides to Airport In-charges for necessary corrective action, if requires with the help of Engineering wing of AAI."

On whether they have training facility to train the technical staff for friction tests, AAI stated:

"AAI do not have training center for technical staff. AAI officers and staff are being trained by Original Equipment Manufacturer for operation & maintenance of these friction testers."

To a query as to whether any inspectorate to monitor these friction test operators exists within or outside AAI, AAI also replied in the negative.

Surface Movement and Guidance

In the light of reports about pilots being given maps of runways that are not updated and the weak airstrip signages in airports, the Committee desired to know the structure of units looking after these aspects. in their reply AAI stated as under:

"Before pilots undertake flying, they take briefing from ATS Reporting officer where latest operational information and airport details are provided to them. Airlines generally procure Jeppesen charts for their flight crew.

Organizational structure responsible for providing updated maps of runways undergoing modernization for airports owned by AAI is as follows: -

ED [ATM] supported by GM [ATM], GM [Ops.], GM [AIS], GM [IAL], GM [AGA], GM [Carto.] and the Airport In-charges.

Map-making process is accomplished by compilation of information and their vetting by AIS, Operations, IAL, AGA, S&P, Communication and Engg. Sections and finally it is put up for approval of ED [ATM].

Maps for runways at Delhi, Mumbai, Cochin International airports are provided by their respective operators.

At Delhi, Mumbai and Cochin International airports, the respective aerodrome operator is responsible for airstrip signages.

At AAI airports, the concerned Airport Director / Airport-Incharge is responsible to look after Airstrip signages."

On the system of monitoring/inspection over the functioning of such units and the frequency of inspection, AAI in their reply stated:

"Internal checking and verification process within Cartography and vetting of maps by IAL, AIS, Ops., AGA, S&P and concerned airport is followed. Then, ED (ATM) approves map. Final regulatory authority is DGCA."

C.   Apron Control / Ground Traffic:

As per information furnished by AAI regarding the details of accidents/incidents at airports under AAI, it was noted that the majority of such mishaps occurred in the apron and taxiways of airports. Vehicular movement in these areas appeared to be highly unregulated as evident from the details of incidents furnished of three sample airports. See (Annex-I)

Asked as to whether any inspectorate to monitor the functioning of such ground traffic safety set-up was in place, AAI in reply stated,

"Within AAI, Directorate of Aviation Safety has been established which carried out audits of the airports"

From the figures furnished by AAI, it is noted that fines ranging upto Rs. 500 and cancellation of permits/licenses was resorted to as a penalty on the personnel responsible for accidents. (refer to Annex-I)

2.3.   EMERGENCY/DISASTER MANAGEMENT

To the Committee's query as to whether AAI has an organizational structure to handle disasters at airports, AAI stated as follows:

"No. However, majority of the officers have undergone training on Disaster management conducted by National Civil Defense College Nagpur."

Upon further probing by the Committee as to why no disaster management system is in place, the AAI in their post evidence note stated:

"Roles to be played by AAI and its different units at airports have been indicated in Local Emergency Procedure and Contingency Plan. While dealing with the following: -
i)   Aircraft emergencies
ii)   Airport Terminal Building Evacuation Plan
iii)   Other incidents at airport

As such AAI has its own Airport Fire service being upgraded for other disaster as well in terms of training of officers from fire department on disaster management being conducted by National Defence College, Nagpur and also procurement of equipment vehicles like Mobile Command post vehicle, temporary shelter [collapsible type]."

Replying to a query on whether any training centre for Disaster Management exists during evidence, AAI stated:

"National Civil Defense College, Nagpur is the training center for training in the disaster management. This institute comes under Ministry of Home Affairs, Govt. of India."

On whether adequate medical infrastructure and personnel are at hand in the airports to meet exigencies that may arise out of disasters/emergencies, AAI replied as under:

"AAI is providing Medical Inspection facilities/ first aid facilities at airports under its control.

Medical inspection rooms have been established at Chennai, Kolkata and Trivandrum airports and are being manned by medical officials of Airports Authority of India (AAI). At Ahmedabad, Bangalore, Hyderabad, Calicut and Goa airports, medical inspection rooms are being maintained by reputed nursing homes/ hospitals. At other AAI airports, the facility of first aid is available.

In addition, in order to meet different type of emergencies, Airport emergency Plans have been established for each airport, which provide a framework for coordinated efforts by all Organizations and agencies, functioning at airports, as well as, off airport Organizations/ agencies such as Municipal Authorities, City Fire Brigade, City Hospitals, Doctors in the city on the panel of Airports Authority of India."

Asked to furnish details of equipments made available at airports to manage disaster situations, AAI in their reply stated:

"Disarming and rescue tools are maintained in all rescue and fire fighting vehicles."

On the issue of harnessing technology during emergencies, AAI in their reply stated:

"The Mobile Command Posts…are being used during the aircraft emergencies. These…carry necessary communication equipments and supporting material, which may be required during aircraft emergencies. This helps in establishing communication from the point of accident/ incident with the base stations within no time."

When asked to furnish the technical capability of Mobile Command Posts, drawing reference to media reports on AAI's plans to establish MCPs at 66 of its airports, AAI stated in reply:

"A technical specification of Mobile Command Posts is under review and finalization."

2.4 FLIGHT SAFETY

Safe navigation of aircraft is another function of AAI in their capacity as the Air Traffic Service (ATS) provider in the country. ATS is in itself a composite function of Communication, Navigation & Surveillance and Air Traffic Management (CNS & ATM).

Communication, Navigation and Surveillance (CNS)

CNS functions as detailed in the Safety Management Manual (SMM) furnished before the Committee consists of the following:

- ➢ Maintenance of all Communications Navigation and Surveillance facilities such as Very High Frequency Omni Range (VOR), Non Directional Beacon (NDB), Instrument Landing System (ILS), Airport Surveillance Radar (ASR) Air route Surveillance Radar (ARSR);
- ➢ Monitoring the Flight Calibration of Sensitive equipment so that they work with optimum efficiency and accuracy;
- ➢ Management of man power including their training for smooth operation of Communications navigational Aids and Radar facilities;
- ➢ Monitoring of new projects related to installation of NAV-AIDS, and radars at different airports in India; and
- ➢ Purchase and testing of Spare Parts for effective maintenance of equipment.

The organization structure of CNS Directorate in AAI as furnished by them, is headed by ED(CNS-O&M), who report to Member(Ops). The ED(CNS-O&M) is supported by GMs, DGM and Managers.

Asked to give a note on the technical qualification required of CNS personnel, AAI in reply stated:

"Presently, induction level of executive for maintenance of CNS facilities in AAI is Jr. Executive (Electronics). The requirement of basic qualification is 1st class Engineering graduate in Electronics and Communication engineering. On appointment, they are imparted ab-initio training at CATC, Bamrauli, Allahabad for a period of 20 weeks including 2 weeks of familiarization at an international /major airports. On successful completion of training they are posted to airports for maintenance and operational duties. The same executive grows in their carrier by promotion to the post of Asstt.Mgr, Manager, Sr.Manager, DGM, GM etc. The Incharge for maintenance of radars is of the level of DGM who is assisted by SMs, Manager and other supporting staff. These executives are trained on radar system at factory premises of manufacturer or CATC, Allahabad or at Regional Training Centre located at Delhi, Mumbai, Kolkata & Chennai. On completion of training, they are examined in theoretical papers followed by practical and viva-voce examination. Successful executives are graded as proficient in maintenance of radar system.

An executive of the level of Manager, Assistant Manager and JET (Electronics) are entrusted with the responsibilities of maintenance of communication system. These executives are also trained and examined before declaring them proficient for maintenance of the facilities."

Replying to a query regarding the induction of latest technology and equipment for Communication, Navigation and Surveillance which are critical to the safe management of Air Traffic, the representative of AAI stated before the Committee:

"…….I would like to mention that there is a plan and it is almost implemented. It is about the VHF coverage in the entire Indian air space. That is mostly the continental airspace for which we are doing remote control Air Ground Communication System using satellite. Two transponders have been hired from the Indian satellite. That project is through. We are putting nearly 80 V-SAT systems at the airports so that the entire airspace is covered. When the pilot is flying, he does not have any gap in the VHF cover. As I said, the entire air space is covered. That is almost done at more than 60 Airports. Probably, in a month or so, we

will complete the 80 V-SAT systems that will enhance the VHF cover in the entire airspace."

The representative further stated:

"……we are also in the process of having a number of frequencies. We have studied about approach frequency, tower frequency and the air control frequency. Wherever there is workload and more congestion, we have bifurcated. Recently, in Chennai, last week, we bifurcated the air control centre, East and West. Like that, we have been doing sectorisation so that the workload, the frequency and more occupancy of the channel by the pilot is reduced. We have already initiated action on this. We will be initiating action wherever the workload is more. We are definitely doing it."

In reply to queries raised during evidence on Pilot-ATCO communication problems arising out of deficient equipments, AAI in their written reply stated:

"For Pilot-ATCO communication, a number of VHF frequencies have been provided at all airports. More number of frequencies are provided if need arises. Since communication on VHF is limited to line of sight, for enhanced range Remote Control Air to Ground (RCAG) VHF Stations have been set up at a number of locations. It is expected that whole of the continental airspace will be brought under RCAG VHF coverage for en-route traffic by 3rd quarter of 2008. It is also proposed to convert the pre-departure clearance at Delhi and Mumbai to the data mode instead of voice for more efficiency and unambiguous clearances."

On whether any inspectorate organization to monitor the working & efficiency of CNS personnel exists, AAI in their reply stated:

"There is no separate inspectorate organization to monitor the working and efficiency of personnel as well as technology in management of CNS facilities. The work is presently being carried by CNS operation & maintenance directorate of Corporate headquarter assisted by Regional General Manager (Com) posted at each Regional headquarter Delhi, Mumbai, Kolkata, Chennai & Guwahati.

It is further intimated that Airports Authority of India vide their letter No. A60011/45/2004-PP dated 30th January 2006 has issued proficiency policies in respect of CNS discipline. Among others, the policy envisages refresher training of the CNS personnel followed by examination. Successful completion of these refresher courses validates the proficiency on the CNS facilities.

Air Traffic Management

The safety role of Air Traffic Management Directorate in Airports Authority of India as listed in the Safety Management Manual furnished before the Committee comprises:

➢ Provision of Air Traffic Services to all arriving, departing and enroute aircraft over flying 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 Military Authorities;
➢ Providing search and rescue coordination for aircraft in distress;
➢ Providing Aeronautical Information Services (AIS) as prescribed by ICAO to all domestic and international airlines and AIS of other countries;
➢ Survey of airports, publication of aeronautical maps and charts;
➢ Development of Instrument Approach to land (IAL) procedures & IAL charts;
➢ Monitoring and control of obstructions/constructions around airport to ensure compliance with the SARPs of ICAO;
➢ Coordination with International Civil Aviation Organization, Regional office Bangkok and Headquarters Montreal, Canada on matters relating to airspace management and aviation rules and regulation;
➢ Manpower planning, training and award of ratings to Air Traffic Controllers in conformity with ICAO rules and regulations as stated in Annex I (Personnel Licensing);
➢ Monitoring of standards and procedures in the provision of ATS;
➢ Investigation of Air Traffic incidents in coordination with DGCA and corrective actions thereupon;
➢ Matters related to aviation security;
➢ Monitoring of environmental hazards at airports;
➢ Management of courses to be conducted for training and development of ATCOs at CATC;
➢ Preparing and maintaining a roster of training programmes to be conducted at CATC from ATM prospective; and
➢ Carrying out investigation of ATC incidents to detect system/human errors to take immediate steps for prevention of such occurrences.

Normally, aircraft accident investigation will be conducted by DGCA, however as the organization has a responsibility to quickly

identify any AAI contributory factors behind an incident or accident, AAI may conduct an internal investigation, separate from DGCA.

This internal investigation team may comprise personnel from Aviation Safety Directorate, ATM, CNS and Airports Directorates."

The ATM Directorate in AAI is headed by ED(ATM) who reports to Member (Ops) and who in turn reports to Chairman, AAI. The ED is supported by GM(ATM), GM(Ops), GM(AIS), GM(IAL), GM(AGA) and GM(Carto), etc. as furnished by AAI.

On the structure of organization and responsibilities for management of Indian Airspace for commercial traffic, the AAI furnished the following reply:

Airspace Structure

Indian Airspace is divided into Four Flight Information Regions [FIRs]
1.   Delhi FIR
2.   Mumbai FIR
3.   Chennai FIR
4.   Kolkata FIR with Guwahati Sub FIR.

Each FIR is managed by Flight Information Centre [FIC] working at Delhi, Mumbai, Chennai, Kolkata and Guwahati.

Each FIR has Area Control Centre/s, Approach Control Unit/s and Aerodrome Control Towers to provide Air Traffic Services.

Responsibilities

1.   Flight information service provided by flight information centre

Provides advice and information useful for the safe and efficient conduct of flights.
2.   Area control service provided by area control centres

The provision of air traffic control service for controlled flights, except for those parts of such flights which are under the jurisdiction of Approach Control or Aerodrome Control to accomplish following objectives: -

a)   prevent collisions between aircraft;
b)   expedite and maintain an orderly flow of air traffic;

3.   Approach control service provided by approach control units

        The provision of air traffic control service for those parts of controlled flights associated with arrival of departure, in order to accomplish following objectives:-

a)   prevent collisions between aircraft;
b)   expedite and maintain an orderly flow of air traffic;

4.   Aerodrome control service provided by aerodrome control towers

        The provision of air traffic control service for aerodrome traffic, except for those parts of flights which are under the jurisdiction of Approach Control to accomplish following objectives: -

a)   prevent collisions between aircraft;
b)   prevent collisions between aircraft on the maneuvering area and obstructions on that area;
c)   expedite and maintain an orderly flow of air traffic.

Asked if AAI has a training centre for Air Traffic Controllers, and if so, the content of such training, they replied stating:

AAI has a training center for training the Air Traffic Controllers. The training centre is know as Civil Aviation Training College and is situated in Allahabad.

        Fresh recruits of the Air Traffic Management discipline, called Junior Executive Trainees (ATC) undergo a 24 week training programme in which they are trained in procedural control in the following areas:

- Aerodrome Surface Movement Control
- Aerodrome control
- Approach Control

        In addition to the Air Traffic Control, during the various phases of training, the trainees are taught about air navigation systems, aviation meteorology, procedures and actions to be taken by the controllers in case of aircraft in emergency, coordination of search and rescue of aircraft and passengers in case of aircraft and passengers in case of aircraft accidents, and Aerodrome Ground Aids. All these enhance the understanding of the job and efficiency of the controllers.

        At the end of the training, the trainees will undergo an examination and those who qualify in the examinations in this training are posted as

Junior Executives (ATC) at airports, where they have to undergo on-the-job training and pass the station level examination to become rated controllers to handle traffic independently.

2. After acquiring ratings and experience in ATC work at the airports, these executives will return to CATC, Allahabad for an advanced course of 8 weeks in Area Control service. This course is intended for training the controllers for upper air space management. Like before, on successful completion of training in CATC, Allahabad, they have to undergo on-the-job training in Area Control service units in the airports and pass the station level examination to become rated Area Controllers.

3. Procedural air traffic control systems have the inherent factor of certain minimum separation standards. In the present day rapid growth of aviation, more efficient tools like radars are needed to expedite traffic while keeping the safety aspect in tact. All our metro airports and busy airports have been provided with radars. Those who have acquired ratings in all the procedural control jobs will be trained at CATC, Allahabad in air traffic control through radar, in the rar simulator for 10 weeks. After the trainee controllers qualify the examination on the radar simulator, they have to undergo on-the-job training at radar stations and pass the station level examination to become rated radar controllers."

On the issue of enhancing the skills and competence of ATCOs through international exposure, the AAI submitted:

"In the year 2006, AAI had sent 34 ATCOs to the international airports of UK, USA and Amsterdam and in the year 2007, AAI has sent 33 ATCOs to USA and Italy for different type of training useful to ATCOs.

CATC has plans to develop advanced Air Traffic Management courses under the guidance of reputed ATS providers like National Air Traffic Services (NATS), U.K., and Air Service Australia (ASA) for enhancing skills and competence of controllers to keep pace with newer technologies.

There is a proposal to establish an advanced air traffic services training institute at Begumpet airport, Hyderabad shortly after commercial aircraft operations shift to the new Greenfield airport at Shamshabad, Hyderabad next year, for the purpose of enhancing skills and competence of the controllers.

Skill Appraisal

On a query whether established methods to test competence of such ATC personnel are in place, AAI in their reply stated:

"Yes there is an established procedure to check the efficiency of Air Space Controllers i.e. ATC Officers.

To enhance air safety in Indian airspace, one of the safety audit system is monitoring the efficiency and proficiency of air traffic controllers through assessments of their performances at the operating positions."

Asked about the system in place for inspection of ATC units, AAI stated:

"Proficiency assessment at Delhi, Mumbai, Kolkata and Chennai are conducted by respective GM (ATM)/DGM (S&P)/WSOs and at all other stations by the ATS in-charge at regular intervals.

1. Proficiency checks of all rated controllers are carried out by a team of officers of Standardization & Procedures Section of ATM Directorate in Corporate Office, once every year, at all the international airports, the ACC Centres and other major airports on rotational basis.

   Conducting proficiency assessment at regular intervals is primarily aimed at rectification of mistakes, wrong perceptions/ practices and the aberrations that creep in the system.

2. Random ATC tape Transcript sent by various Airports on monthly basis are analyzed and necessary recommendations, if required, are sent to the concerned stations for rectification of mistakes and improving the efficiency of ATC personnel."

Licensing

Asked as to whether ATC personnel are licensed technicians like the pilots and maintenance engineers, AAI in reply stated:

"The issue of licensing of ATCOs is being pursued by DGCA."

The Ministry of Civil Aviation in their reply to the above query stated:

"Matter of licensing of ATCOs is under active consideration."

While replying to queries during evidence, the representative of the Ministry of Civil Aviation stated as follows:

"……..Parliament has passed the Aircraft Amendment Act making it operational w.e.f. 1st January 2008 very recently whereunder the licensing of airports and the licensing of air traffic controllers will now be made."

Concerned about frequent media reports on near misses of aircraft collision in the Indian Airspace, the Committee wanted the figures for such incidents of potential mishap. The figures supplied by AAI revealed that in 2004 there were a total of ten airprox incidents, seventeen in 2005, sixteen in 2006 and 21 in 2007. (refer annex VII)

An analysis of the incidents revealed that out of the ten airprox incidents during the year 2004, eight incidents were attributed to ATC personnel error. Similarly, out of the seventeen incidents during the year 2005, twelve incidents were due to ATC personnel error. Fourteen out of sixteen incidents in 2006 were also attributed to ATC personnel error. Collision avoidance in most cases of airprox incidents in 2007 were attributed to Airborne Collision Avoidance System (ACAS) in the aircrafts. When these facts were pointed out during evidence, the representative of AAI stated:

"Sometimes, the fault is of pilot also."

Elaborating on the steps taken to remedy the high percentage of airprox incidents being attributed to ATC personnel, a representative of the AAI stated:

"In such cases, the officer is withdrawn from duty and he is made to go for a rigorous training. Then, he is again tested by the instructor and, when found fit, is being deployed for the duty."

Explaining the increase in the number of incidents from 10 in 2004 to 16 in 2006, the representative of AAI stated:

"In 2006, the number is 16 and that is with 40 percent increase in air traffic."

The Committee observed during evidence that sending erring officials for more rigorous training cannot be the only remedy for increasing incidents of error, even with the increase in traffic. This, the Committee felt, reflected a lag in the expansion of capacities in tandem with the growing traffic, and a systemic fault which needed to be identified and redressed.

In their post evidence reply, the AAI listed the steps taken by them to check airprox incidents.

"Apart from giving corrective training to the controllers other actions as detailed below are taken:-

(i)   New high-speed exit taxi-bays at Delhi and   Mumbai airports have been constructed and also few are being constructed. A parallel taxi-track has been constructed at Delhi airport by which runway occupancy time has been reduced considerably.
(ii)   Improved ATC procedures have been framed.
(iii)   Clearance Delivery Position has been established at Mumbai and Delhi airports.
(iv)   Ban on general aviation aircraft during peak period at Delhi and Mumbai Airport has been imposed.
(v)   ATC Automation System at Delhi and Mumbai are being upgraded.
(vi)   Surface Movement Radar has been installed and in operation at Delhi Airport.
(vii)   Advanced Surface Movement Guidance and Control System [ASMGCS] is being installed at Delhi and being planned for Mumbai, Kolkata & Chennai Airports.
(viii) Air Traffic Flow Management System is being worked out.
(ix)   Kolkata ILS is being upgraded to CAT II ILS.
(x)   Provision of short-term conflict warning and minimum safe altitude warning in the radar systems to avoid airborne collisions.
(xi)   Varanasi TMA extended to have increased radar coverage.
(xii)   Mangalore TMA, which was available for limited period, is made available for 24 hours.
(xiii) Sectorization of Nagpur and Chennai airspace is planned for better surveillance and to reduce the stress of the controllers.
(xiv)   Safety management system, which is a pro-active measure for removing system deficiencies, is under implementation.
(xv)   Automatic dependant surveillance and CPDLC have been installed at many Indian airports.
(xvi)   Refresher courses for controllers are conducted every year and the deficiencies observed in the previous incidents are being analyzed as a case study, so that they do not recur in future.
(xvii) Proficiency checks of controller are carried out regularly to ensure/maintain the skill levels of ATCOs. at optimum level.
(xviii) Up-gradation of ATC automation system at Delhi, Mumbai, Chennai, Kolkata and other major ATC centre is underway to reduce controller work load and enhance safety."

Manpower Shortage

Asked to furnish details regarding shortage of Air Traffic Controllers, including the figures of actual strength, annual intake and attrition for the past five years, AAI submitted as follows:

Year	S/S	A/S	Intake	Retirement	Resignation	Termination
2002	1012	983	-	21	02	-
2003			-	29	02	-
2004			-	35	-	-
2005			78	33	03	-
2006			144	35	02	-
2007			184	31	32	01

The reply also stated 'manpower shortage at present is approximately 20%."

In a subsequent note, the AAI stated that the above figures of intake showed only direct recruitments and did not take into account the promotion of non-executive to executive cadre. The revised information furnished by them in this regard is as follows:

Year	S/S	A/S	Intake	Retirement	Resignation	Termination
2002	1012	983	--	21	02	-
2003			28	29	02	-
2004			75	35	-	-
2005			205	33	03	-
2006			195	35	02	-
2007	2030	1504	204	31	32	01
Total			**747**	**184**	**41**	**01**

Note:
Actual strength of executive in ATC Discipline in the year 2002 = 983
Intake between 2002 and 2007 = 747
Total = 1730
Retirement/Resignation/Termination between 2002-07 = 226
Actual strength in 2007 = 1504 (1730-226)

Replying to queries on the shortage of manpower (ATCOs) and steps taken to remedy the same, AAI in reply wrote:

"The traffic growth during the last five years has been phenomenal. In order to meet the sudden unprecedented traffic growth AAI had implemented additional ATC working positions at Mumbai, Delhi, Kolkata, Chennai and other major airports. Additional operational shifts hours have been implemented to cover the new flight services at many small airports

also. These new implementations have resulted in requirement of additional ATC manpower.

AAI has, therefore, started recruitment and training of new ATCOs on priority. Starting from the year 2005, 405 new ATCOs have been recruited, trained and deployed at various airports. Recruitment process for 68 vacancies of Manager [ATC] and 100 Jr. Executives [ATC] have already been commenced. These ATCOs will be available for deployment approx. by August 2008.

This will adequately cover the immediate requirement. To meet the future requirements of ATCOs, 150 Jr. Executives will be recruited every six months for the next 2 years which will wipe out the additional requirement."

Working Hours

On the login period/duty hours of ATC officers, AAI, declining to draw a comparison with best international practice, stated in their reply as follows:

"The working hours in respect of ATCOs in 42 hours per week on rotational shift pattern."

Asked whether breath analyzer test for ATCOs are in place, the AAI in their reply wrote:

"The ATCOs are performing ground based duties and are under the direct supervision and control of Sr. Officers in the shift. Shift supervisor exercise constant surveillance of the performance of ATCO. The personnel who are not in physical and mental condition are not allowed to perform ATC duties."

The mismatch between the upshot in air traffic on the one hand and the inadequate infrastructure and manpower for management of air traffic being a concern, the Committee wanted to know whether the AAI had been consulted before allowing various airlines to operate. The Ministry replied stating:

"The proposal of various companies for grant of initial NOC to operate Air Transport Services are considered by a Committee called Aircraft Acquisition Committee (ACC). Chairman, AAI, DGCA and Commissioner, BCAS are the members of this Committee and their representatives take part in the deliberations of the Committee."

2.5   CORPORATIZATION OF ATS

Drawing reference to the Naresh Chandra Committee Report's recommendation for Corporatization of ATS (CNS+ATM), the Committee sought the views of the Ministry of Civil Aviation.   The Ministry in their written reply stated:

"In terms of International Conventions, provision of air navigation services and management of airspace is a sovereign responsibility. In our country, AAI undertakes this responsibility on behalf of the Government. The increasing growth in air traffic, besides underlining physical infrastructural constraints at ground, has also highlighted the need for technological upgradation and better air space management. In this background, ANS (consisting of CNS and ATM wings of AAI) have acquired greater prominence. It is felt that there is a need to upgrade ANS services on an accelerated basis for which undivided attention is required to be paid to this crucial area. Further, internationally also, there has been an increasing trend towards corporatization of ANS services. The Naresh Chandra Committee on 'A Roadmap for Civil Aviation Sector' has also recommended for creation of a separate ANS Corporation. It would not be out of place to mention here that a number of airports are coming up with private participation. Therefore, there could be a perception of conflict of interest if ANS services remain directly under control of AAI who is also an airport operator. It is in this background that the Ministry of Civil Aviation decided to get the issue of creation of a separate corporate entity for ANS services examined through independent Consultants. The two models, which have been posed for consideration, are creation of a separate corporation under Government ownership or creation of a wholly owned subsidiary of AAI. In both these cases, the ownership and control of ANS services would remain with the Government. AAI have appointed M/s. KPMG to advise in the matter. Once the report of the Consultants is received, the same will be examined and a final decision will be taken with the approval of the competent authority."

2.6   SAFETY AUDIT

The Committee wanted to be informed about the system in place for safety audit, both within the AAI and the civil aviation sector in general.

On whether AAI has a safety manual, they replied:

"A Corporate Safety Management Manual has been developed and submitted to DGCA."

In reply to the question on the system of safety audit and details related to it, the AAI in their reply stated:

"The Directorate of Aviation Safety carries out the annual safety audit of all functional AAI Airports, civil enclaves and other facilities. The safety audit of non-functional airports is carried out once in two years.
    The number of safety audits conducted by Aviation Safety Directorate is as follows:

    2005: 26
    2006: 13
    2007: 33

    At the conclusion of each safety audit the verbal report of deficiencies observed is given in the debriefing meeting with the Airport Director or Controller of Aerodromes and subsequently a detailed audit report is sent to the concerned Airport for taking suitable remedial or corrective measures."

Asked if any international agency had ever been engaged to conduct a safety Audit of the AAI's operations, their reply stated:

"The International Civil Aviation Organisation (ICAO) the apex world body in the field of aviation under United Nations had conducted audit of India from 10-20 October 2006 under Universal Safety Oversight Audit Programme (USOAP). They visited Delhi and Mumbai Airport as a part of this audit."

The Ministry of Civil Aviation, in reply to a similar query, stated:

"Safety audit of the DGCA, India was conducted by ICAO from 10th to 20th October, 2006 under their Universal Safety Oversight Audit Programme wherein all safety related provisos in the 18 ICAO Annexures were included except facilitation and security. In preparation for the audit, India had to submit information on a format to respond to questionnaire pertaining to the State's aviation activities and compliance checklist in respect of the ICAO Annexures. On receipt of the above information supported by documentation like regulations, civil aviation requirements, procedures/guidelines, ICAO in their evaluation had observed that India complies with 98.37% of the Standards in the ICAO Annexes.

    In their subsequent on-sight audit, ICAO had made a total of 70 recommendations, which are as follows:

- Legislation   7
- Organisation   5

- Personnel licensing   6
- Operation of Aircraft   7
- Airworthiness of aircraft   5
- Aircraft accident and incident investigation   20
- Air navigation services   11
- Aerodromes   9

In their report, the areas of concern were on lack of legislation for air navigation services in the Aircraft Act, lack of regulatory functions pertaining to air navigation services including total independent accident investigation authority, lack of availability of technical manpower including training and lack of punitive measures like fines in the enforcement of aviation regulations.

The Aircraft (Amendment) Act of 2007 notified in December 6, 2007 has introduced powers to the Central Government for issuing licences to the personnel engaged in air traffic control, certifications, inspection and regulation of CNS/ATM facilities. The amended Act has also enhanced the quantum of penalties for violations of the provisions of the Act wherein the fine in Sections 11 and 11A would now be Rs.10 lakhs with imprisonment to two years for Section 11 and for Section 11A from six months to two years respectively. Similar enhancement of fines have also made in Section 11 B.

As regards manpower enhancement in the DGCA, the Government is taking action for implementing the Kaw Committee recommendations in the matter. The Government is also considering separating the investigating branch presently within the DGCA as a separate entity.

In addition to the above ICAO Safety Audit, in October, 1999 with the follow up in 2001, India was audited by ICAO on areas of personnel licensing, operation of aircraft and airworthiness aspects *vis-à-vis* the standards and recommended practices contained in the corresponding ICAO Annexes (1, 6 and 8). The report indicated the Aircraft Act and the Rules constituted a comprehensive regulatory framework for governing DGCA's responsibilities and duties with relation to surveillance of aircraft operations, airworthiness of aircraft and personnel licensing. The report further indicated that the system established in the DGCA for certification and surveillance of aircraft operations was satisfactory and enabled the State to comply with its obligations.

Prior to the above, in 1997 FAA, USA also carried out an audit of DGCA, India and had been rated it in Category 1 (highest category) with respect to regulations, certification and surveillance functions."

The Committee took note of the good rating obtained by DGCA from international Audit agencies as far as organization structures and regulations in place are concerned. However, concerns remained regarding the actual functioning of these structures and the implementation of regulations. The Committee therefore wanted to know if any plan to set up an independent inspectorate is in the pipeline. The Ministry in their reply wrote:

> "DGCA is the safety regulator for the entire civil aviation sector including airlines and airports. Keeping in view the changing aviation scenario and the rapid growth in this sector, Government had constituted a Committee under the chairmanship of Shri M.K. Kaw, former Secretary, Ministry of Civil Aviation, to review the functioning of DGCA. Recommendations of the Kaw Committee are under implementation. Thus, the Government have been taking all necessary steps to strengthen the organization of DGCA so as to upgrade its capabilities to international standards."

While replying to queries related to findings of the ICAO Audit during evidence, the representative of the Ministry of Civil Aviation stated:

> "There are issues which remain the areas of concern. One is separating the accident and investigating agency from the regulatory authority that is, the DGCA. We hope and pray that we do not have to face accidents, but the process to carry this forward us under the consideration of the Government."

Further elaborating on the issue, the representative added:

> "The international practice is that the regulator is different and if and when an accident does happen, then the investigating agency is different, we are proceeding in that direction."

2.7 SAFETY REGULATION

The safety related activities of AAI are under regulation. Their performance is also rated with reference to compliance to these regulations from the Directorate General of Civil Aviation. The committee, therefore, sought to briefed about the organization and functions of the DGCA.

Outlining the functions of the DGCA during evidence, the representative of the Ministry of Civil Aviation stated:

"The Directorate General of Civil Aviation, which is an attached office of the Ministry of Civil Aviation, in the safety regulator for the entire civil aviation sector including airports."

While replying to queries, the representative of the Ministry further elaborated:

"If it is the safety issue, the DGCA has all the Legislative Competence to lay down the rules. It lays down the norms which are required to be followed by all these to whom those requirements apply. They draw their strength from the recommended practices enunciated by the International Civil Aviation Organization (ICAO) and make those applicable to domestic as well as international airlines."

When asked about the findings of the ICAO audit regarding lack of legislation for air navigation services, lack of regulation over air navigation services, etc., the representative of the Ministry stated:

"The certification and regulation of the communication and navigation services which are very important dimensions will be subject to legislative supervision."

The Committee wanted to know whether the regulatory body has been able to cope with the unprecedented growth in their civil aviation sector in terms of its manpower. The DGCA in their reply wrote:

"As regards the DGCA, there is a serious shortage of manpower due to increase, growth of civil aviation activities. Government appointed a Committee headed by Shri M.K. Kaw, former Civil Aviation Secretary to look into role, functions and infrastructure of DGCA. Committee has made several recommendations including manpower which have been accepted by the Government for implementation."

In order to gauge the extent of shortage, the Committee wanted the numbers of Civil Commercial Aircrafts in India against the number of flight inspectors in the DGCA. The Ministry in their written reply stated:

"The number of Civil Commercial Airplanes, as on date, is 573 and the number of sanctioned strength of Flight Operations Inspector is 15 including 01 Chief Flight Operations Inspector since the year 2001. Number of civil commercial airplanes and pilots has increased sizably since then. The process for induction '8' eligible candidates is being followed up through UPSC as per recruitment rules. At present the available strength is one Chief Flight Operations Inspector with two Flight Inspectors on fixed wing aircraft and one Flight Inspector for helicopters."

Admitting the huge shortage of manpower in the DGCA, the representative of the Ministry stated during evidence:

"Regarding technical manpower, in so far as the DGCA's manpower is concerned, the DGCA has seen an exodus of trained manpower in the recent past and the position today is that the DGCA's total sanctioned strength is 683 out of which the officer level strength is 257, the rest are support staff etc. The actual availability for deployment is 534 and strength of officers available is 167. Therefore, there are 90 vacancies at the level of officers and the total number of vacancies is 149. We are actively working towards redressing this issue because all said and done adequate trained manpower is very important for the regulator."

CHAPTER - III

SECURITY FUNCTIONS OF AAI

3.1 OVERVIEW

While Aviation Security in India is under regulation and overall monitoring of the Bureau of Civil Aviation Security (BCAS), AAI in its capacity as an Airport operator has certain responsibilities. Placing the role of various agencies in the aviation security administration, including the airport operators like AAI, into perspective, the BCAS in a concise para of the brief furnished to the Committee wrote:

> "While security is a 'sovereign' function, with the Government designating a Security Regulator ('Appropriate Authority') for laying down security policy, standards, quality control and oversight, the execution of security functions and controls at the ground level is a joint endeavour involving governmental and private agencies operating under an overarching NCASP approved by the Ministry of Civil Aviation. This has been the practice over the past several years. In most developed countries, aviation security regimes are similarly designed."

3.2 ROLE OF AIRPORT DIRECTOR

Asked to furnish a detailed note on the role of AAI in aviation security, AAI in their written reply stated:

> "The AVSEC responsibilities of airport operators (AAI) as mentioned in National Civil Aviation Security Programme (NCASP) are as under:
>
> i) Establishing and maintenance of a written Airport Security Programme for each airport.
> ii) To comply with the provisions of approved security programme.
> iii) No commencement of operations at any airport without obtaining security clearance from COS (CA).
> iv) To provide administration, maintenance, communication, fire fighting, air traffic services and other operational services.
> v) To provide the security equipments and carry out proper maintenance of such equipments.
> vi) To provide physical infrastructure required for the implementation of security measures.
> vii) Display signboards for educating the passengers / airport employees.

viii) To coordinate in the event of any contingency at the airport like bomb threat / unlawful seizure / hijacking of aircraft etc.

ix) To establish Airport Security Committee (APSC) in conformity with National Civil Aviation Security Programme (NCASP) issued by BCAS.

x) To convene Aerodrome Committee Meeting twice a year or in the event of any contingency.

xi) Integrating the needs of civil aviation security into the design and construction of new facility and alterations to existing facilities.

xii) Reimbursement of expenditure on account of deployment of CISF / state / UT police, for airport security duties.

xiii) Preparation of contingency plan / bomb threat contingency plan and circulate to the concerned members after approval by COS (CA).

xiv) Issuance of vehicle permits for operational vehicles of the agencies working at airports.

xv) To develop, implement and maintain the Airport Aviation Security Quality Control Programme duly approved by COS (CA).

xvi) Airport Director / In-charge shall be responsible for coordinating the implementation of security control at the airports and

xvii) Any other AVSEC responsibilities allocated by the COS (CA)."

The security functions of AAI are allotted under the National Civil Aviation Security Programme (NCASP) developed by the Bureau of Civil Aviation Security. A note furnished by the BCAS to the Committee on Security Control describes the security functions allotted to Airport operators as follows:

"Airport Operators (AAI/JVs/State Government airports/private airports): The Airport Director has a key/nodal role in security at an airport in view of the following functions assigned to him: Chairman/Convener/Member of various airport committees including the Airport Security Committee and Airport Committee on dealing with a hijack situation; Chairman/Member of Airport Entry Permit (AEP) Committee; preparation of Airport Security Programme, Contingency Programmes, etc.; multifarious responsibilities in preparing for and handing a hijack situation; and provision of security equipment and security infrastructure at the airport."

Taking note of the multiple agencies involved in implementing aviation security, the Committee wanted to know the mechanism of coordination between these agencies. AAI in their written reply stated:

"Directorate of Security has been established at CHQ, as per the directions of the Ministry of Civil aviation, to ensure smooth and efficient security at airports. To achieve this, a full time Director (Security)

responsible for airport security has been inducted in AAI since March 2001.

As per S.O.P approved by MCA "the Director (Security) of AAI shall be the Nodal Officer to coordinate with CISF, BCAS and MCA for effective deployment, efficient performance, administrative arrangements, operational supervision of CISF personnel and for implementation of aviation security standards laid down by the BCAS. He will be the person to deal and communicate with all agencies for airport security".

Asked to furnish the role & responsibility of the Airport Director in the security set-up of Airports, AAI in their reply stated that the role of Airport operator is to ensure that all security responsibilities of the Airport operator under the NCASP are complied with.

3.3   EQUIPMENTS AND SYSTEMS

In the light of C&AG observations in their report No. 17 of 2007 about X-ray machines installed by AAI lacking in bomb detection capability, the Committee sought to be enlightened on the issue. In their written reply, the AAI stated:

"X-ray machines, installed at Airports in stand-alone mode are capable of identifying the organic, non-organic, and high-density materials. Explosive materials fall under the category of organic materials, which is displayed in pseudo orange colour. X-ray machines have facility of marking the organic materials with red circle indicating that there could be some explosive material. However, merely this capability does not make X-ray machine capable of bomb detection.

Display of organic objects along with triggering mechanism like battery, leads/wires, detonators etc., indicate presence of suspected Explosive System. Under such conditions, relevant bag is to be examined physically.

Small quantity of explosives or other organic materials do not generate red circles on X-ray image display even though these materials are displayed in pseudo orange colour.

Thus, X-ray machines cannot detect explosive materials with 100% certainty.

In order to detect Explosives with certainty, Explosive Trace Detectors are deployed now at the Airports."

Asked to give details about the actual installation of Explosive Trace Detectors (ETDs) in the various airports under them, the AAI in their post-evidence note to the Committee submitted:

"A total of 200 Explosive Trace Detectors (ETDs) have been procured by the AAI. 195 ETDs have been delivered to various airports. A distribution list of ETDs at different airports is enclosed as Annexure III."

Asked to furnish the organizational structure maintaining and operating security equipments, AAI in their reply wrote:

"The maintenance of Security Equipments including X-Ray Baggage Inspection System, Hand Held Metal Detectors, Door Frame Metal Detectors, Explosive Trace Detectors etc. is carried out by CNS personnel at all airports except for Kolkata, Chennai and Trivandrum, where it is being done by executives of electronics."

The Committee wanted to be apprised of the international developments in terms of system and technologies for management of aviation security and the steps taken to adapt these in the domestic set-up. The representative of the Ministry of Civil Aviation stated during evidence:

"The hon. Chairman had enquired on what are the futuristic things which the world is doing in terms of security, and whether we are moving in that direction or not. I would like to mention that this is something, which is constantly being addressed by the regulator, that is the Bureau of Civil Aviation Security. They have been looking at various things. For instance, presently you talked of the baggage having to be screened and then given at the counter etc. In the world, there are in-line baggage screening systems where you just go to the counter; you give your bag. After it is taken, it goes through a process of screening and it goes to the aircraft. If there is something, which is found in screening, and they need the passenger, then the passenger is asked to come or his bag is opened. These systems are being put in place in the country. Very shortly, we will have those in-line baggage screening systems. There will be no need to have the bags screened and then given at the counter. That also leads to various queues and congestion at the busy airports. Then I come to the biometric based electronic access control systems.

This is what is fairly common in the airports of the developed world. This is also being taken up. Of course, perimeter intrusion detection systems, bomb disposal system, dog squads, and various equipment and gadgets, which upgrade the technological aspects of security management, are being constantly considered by the Bureau of Civil Aviation Security. What they finalize becomes the prescription. The

BCAS is like a doctor who prescribes the medicine. Every airport operator and every airline is then obliged in terms of security aspect. Just as they are obliged to listen to the DGCA for safety, they are obliged to have all those equipments either in the airports or in relation to the aircrafts.

You had enquired about the National Aviation Safety Team. The Team had its first meeting a week or ten days' ago. The DGCA informed me that they considered very generally the modalities to identify the major safety concerns, for instance the runway incursions which cause accidents to aircraft operations by vehicles and personal movement and so on. They are basically trying to identify the areas that they need to focus on, they system and procedures they need to put in place. As the name indicates, this is more an operational committee which will try and coordinate the efforts of the various stakeholders."

3.4 THREAT RESPONSE MECHANISM

In reply to an unstarred question No. 436 to be answered on 28 February 2008 regarding threats of terrorist attacks at airports and plane hijackings and the steps taken thereupon, the Minister replied:

"Information regarding likelihood of attempts at hijacking from civil Indian airports and terrorists attacks are received from time to time both from Government agencies as well as unverified sources. However, every information received is assessed, categorized and necessary action taken.

Bureau of Civil Aviation Security (BCAS) by way of formulating procedures and measures on aviation security in compliance with the National Aviation Security Programme approved by the Government, has taken adequate and effective steps to regulate aviation security.

The following plans have been formulated to provide adequate security at airports to meet the threat perceptions: -

(i)   Contingency Plan to deal with unlawful interference with the civil aviation operations has been circulated to all airports in the country for keeping up their preparedness against any unlawful interference at all time;

(ii)   Counter Terrorist Plan has also been prepared to effectively deal with any contingencies;

(iii)   BCAS also prepares National Aviation Security Quality Control Plan every year for aviation security Audit, Inspections, tests etc. to ensure compliance of aviation security standards and procedures by all agencies."

The Committee also wanted to be informed of the structural mechanism in place to handle hijack situations. The Ministry of Civil Aviation in their written reply stated:

"Following structural mechanism is put into place to handle situation of hijacking of civil aircraft:

1(a). A three-tier mechanism is in place to handle such situations:
    (i)   Committee of Secretaries on Aircraft Hijack (COSAH): - The COSAH headed by Cabinet Secretary (supported by necessary staff/ specialists) is the apex body to handle such situations.
    (ii)   Central Committee (CC), chaired by Director General Civil Aviation (DGCA), is responsible for implementing COSAH orders and handling Hijack situation at operational level.
    (iii)   Aerodrome Committee is constituted for each airport to handle hijack situation at ground level.

1 (b). Joint Control and Analysis Centre (JCAC) for:-
    (i)   Joint control and analysis of the situation;
    (ii)   Categorization of threat level;
    (iv)   Operational Direction Centre (ODC) to resolve the threat.

1(c). Quick Reaction Teams (QRT) are deployed at the airports to handle any emergency situation.

1(d). Various measures as per Contingency Plan and Counter Terrorist Plan (CTP) approved by the Cabinet have been put into place to prevent and handle any emergency situation.

II. Preventive Technology and Equipments: -
    (i)   Airport Access Control- Airport Access Control is an important aspect of Airport Security which is ensured by issue of Airport Entry Permit (AEP) and entry Permits after due security verification.
    (ii)   Perimeter Security- BCAS has set the minimum standards for Civil Aviation security equipment including the "Perimeter Intruder Detection System". Technical specification committee has drawn technical specification in this regard and circulated to all concerned for mandatory compliance.
    (iii)   X-ray screening of baggage and checking / frisking of passengers.

Various security equipments like Door Framed Metal Detectors (DFMD), Hand Held Metal Detectors (HHMD), Explosive Trace/Detection Devises (ETDs), Inline X-ray Screening Baggage Screening Systems,

Integrated CCTV Surveillance and Control Rooms are put into place to prevent any sabotage and unlawful interference in civil aircraft operations."

3.5   SAFETY REGULATION

Taking note of the fact that AAI's role in security management is limited to providing the infrastructure and equipments and implementing BCAS guidelines on aviation security, and apprised of the important role played by the BCAS in the management of aviation security, the Committee desired to be informed about the organizational and functional details of the BCAS.

Outlining the functional responsibilities of the BCAS as featured in the comprehensive aviation security regime established in the country as required under annex 17 to the Chicago convention, 1944, the BCAS furnished information as give below:

"The following are some of the salient features of the comprehensive aviation security regime established in the country as required under Annex 17:

(i)   The Commissioner of Security (CA), BCAS has been designated and specified to the ICAO as the 'Appropriate Authority' (nodal authority) within the Indian administration responsible for the development and implementation of the National Civil Aviation Security Programme (NCASP). The Commissioner, BCAS is responsible for defining and allocating tasks between all agencies (governmental and non-governmental) involved in implementation of the NCASP;

(ii)   The BCAS has been designated as the authority for developing and implementing regulations, practices and procedures to safeguard civil aviation against acts of unlawful interference keeping in view of the safety, regularity and efficiency of flights;

(iii)   The BCAS has formulated a written National Civil Aviation Security Programme, approved by the MCA, to safeguard civil aviation operations against acts of unlawful interference;

(iv)   The BCAS has also formulated the National Civil Aviation Security Training Programme (NCASTP) and the National Civil Aviation Quality Control Programme (NCAQCP) to supplement the NCASP;

(v)   The following additional programmes, to implement the NCASP, have been formulated by various operators and approved by the BCAS to safeguard civil aviation, i.e., Airport Security Programmes for each airport in the country, Airline Operators Security

Programmes for each airline operating to and from India and Contingency Plans to handle hijack and bomb threats at each airport."

Asked whether the BCAS is under-staffed and the extent of shortage, if any, the BCAS in a note furnished to the Committee stated:

"Till May 2007, there were 04 Assistant Commissioners of Security as against 18 sanctioned posts; and five DCOS rank officers as against 10 sanctioned posts. (This sanction of staff was given at the five time of formation of BCAS in 1987)"

When such huge manpower shortage was pointed out to the Ministry and asked to comment, the Ministry came up with a different set of figures. They stated:

"In May 2007, sanctioned and actual strength of ACOS and DCOS was as under:

Posts	Sanctioned	Actual
DCOS	7	5
ACOS	13	4

Asked to furnish the present strength in these posts, the Ministry wrote in reply:

"Present strength of the above mentioned ranks of the BCAS is as under:

Posts	Sanctioned	Actual
DCOS	7	5
ACOS	13	9

On the steps taken to fill such vacancies, the Ministry replied:

"As per existing Recruitment Rules, the vacancies are filled up through calling applications from central police organizations, IB, etc. and recruitments are being effected through UPSC.

As regards ACOS vacancies, BCAS have been asked to expedite the necessary action.

Out of two vacant posts of DCOS, proposal for filling up one post is presently under consideration of the UPSC. The other vacancy, which has arisen in January, 2008 has already been notified in Employment News in February 2008. A formal proposal for UPSC shall be prepared on the basis of nominations received against the same."

On whether any plans are in place to restructure/strengthen the BCAS in view of the booming aviation sector and the emergent AVSEC scenario, the Ministry replied:

"Taking into account Aviation Security scenario in the country a comprehensive proposal for strengthening and restructuring of BCAS is under active consideration in the Ministry."

CHAPTER - IV

AAI AND THE MINISTRY OF CIVIL AVIATION

4.1   OVERVIEW

Ministry of Civil Aviation is the nodal Ministry responsible for the formulation of national policies and programmes for development and regulation of Civil Aviation and for devising and implementing schemes for the orderly growth and expansion of civil air transport. Its functions also extend to overseeing airport facilities, air traffic services and carriage of passengers and goods by air. The Ministry also administers implementation of the Aircraft Act, 1934 and is administratively responsible for the Commission of Railways Safety, a statutory body set up under The Indian Railways Act. It has under its purview the following organisations:

1.   **Attached / Autonomous Organisations**

- Directorate General of Civil Aviation
- Bureau of Civil Aviation Security
- Commission of Railway Safety
- Indira Gandhi Rashtriya Uran Akademi

2.   **Air Carriers**

- Air India Ltd.
- Indian Airlines Ltd.
- Pawan Hans Helicopters Ltd.

3.   **Airports**

- Airports Authority of India

Composition of the Ministry

The Secretary is the head of the Ministry and is assisted by one Additional Secretary & Financial Adviser, three Joint Secretaries, seven officers of the level of Director / Deputy Secretary / Financial Controller and ten officers of the level of Under Secretary. Functions of the Ministry are distributed under sixteen Sections

and one Pay & Account Office. In addition to framing policies, the Ministry provides guidance to the organisations listed above in the implementation of policy guidelines and also monitors and evaluates their interface with Parliament and other statutory bodies. It also supervises implementation by the organisations of special programmes of Government, particularly those intended for weaker sections.

Asked about the structure in the Ministry that oversees the Airports Authority of India, The Ministry wrote in reply;

"The Airports Authority of India (AAI) Section in the Ministry is the administrative Section for the Airports Authority of India. The Section works through an Under Secretary, Director and Joint Secretary under the overall supervision and guidance of the Secretary."

On whether any assessment/consultation with the Directorate General of Civil Aviation (DGCA) and Bureau of Civil Aviation Security (BCAS) was done to ascertain the adequacy of the safety and security infrastructure and capacity before allowing the astronomical growth in the sector by allowing a host of private Air Transport Operators, the ministry in their reply submitted;

"The proposal of various companies for grant of initial NOC to operate Air Transport Services are considered by a Committee called Aircraft Acquisition Committee (AAC). Chairman, AAI, DGCA and Commissioner, BCAS are the members of this Committee and their representatives take part in the deliberations of the Committee.

Further, the adequacy of infrastructure in terms of maintenance and operation of aircraft by the proposed airlines/intended operator is assessed in the DGCA by conducting preparedness meetings with the operators/ airlines.

AAC is an Empowered Committee to consider and decide all cases referred to/placed before it, at its own level. However, all cases pertaining to entry of a new scheduled airline are put up to Secretary (Civil Aviation) before orders are issued. Approval of Security Manual by BCAS before grant of Operating Permit has also been made mandatory by the provisions of Civil Aviation Requirement."

Asked as to how the Ministry assesses the performance of the regulatory authorities on Safety and Security in the aviation sector namely the DGCA and the BCAS, the Ministry stated:

"Apart from day to day interaction with DGCA & BCAS officials, their performance is reviewed at the level of Minister – in charge, Secretary and Joint Secretary, at regular intervals, against the performance indicators. The last review meeting was taken by Secretary on 18th May 2007. Minister of Civil Aviation has taken a review meeting on 18th July 2007, and Joint Secretary on 26th October 2007. They reviewed all aspects of Aviation Security vis-à-vis the responsibilities and performance parameters of all agencies including BCAS. The status was again reviewed on 6th February 2008 by the Joint Secretary.

A fortnightly meeting is taken at Joint Secretary level with DGCA wherein all-important issues relating to DGCA are discussed and their progress monitored. The last such meeting was held on 04-01-2008 wherein DGCA was inter-alia impressed upon to expedite proposals for strengthening its Air Safety Directorate, keeping in view the increase in workload as a result of expanding civil aviation sector. Implementation of ICAO safety audit recommendations are also reviewed."

The Committee are aware of the formation of the National Aviation Safety Team (NAST) and wanted to know about its objectives. The Ministry in their reply wrote:

"NAST was formed on 7th November, 2007 and after completing the preliminary functions of informing the members etc., the first meeting of NAST has been called on 11th February, 2008.

NAST will review the safety issues unique to our country and will develop interventions, where necessary. It will also review and implement safety intervention developed by other international bodies SARAST, CAST, IHST which are working on various safety issues worldwide. NAST will also closely interact with airlines, aircraft manufacturers, Associations of Technical Personnel etc., for effective implementations of safety measures."

On the role played by the Ministry in facilitating International Cooperation and exchange of expertise in the promotion of aviation safety and security, the Ministry in their reply furnished the following details.

"Ministry has been endeavouring to facilitate and increase international cooperation in the field of aviation safety and aeronautical engineering. Some of the important programmes are as under:

An Aviation Cooperation Programme (ACP) has been signed with USA during the visit of the Minister (Civil Aviation) on 21-22 June 2007, which is to be funded through USTDA. The proposed ACP is a public/private partnership between the USTDA, the FAA and US Aviation companies. This Programme is designed to provide a Forum for communication between the Government of India and US public and private sector entities in India. The initial funding of the Programme is proposed through the public institutions of USA and private companies having stakes in aviation.

The ACP's specific objectives are: -

(i)   To promote increased safety, operational efficiency and system capacity in the Indian aviation sector;

(ii)   Facilitate and coordinate aviation industry training and technical ties between the U.S. and India; and

(iii)   Strengthen overall US- India aviation cooperation.

The Government of India in the Department of Economic Affairs and USTDA have also signed a Co-operation Framework Agreement on 9th November, 2005 to outline the general procedures whereby USTDA would consider prospective opportunities for technical assistance for Indian Government entities for activities such as project preparation, trade capacity building, investment analysis and sector development. It has also been decided that activities to be funded by USTDA will be identified and selected by Indian entities and communicated to USTDA by the Department of Economic Affairs. This proposed ACP would be one step forward on civil aviation sector under the above umbrella MOU."

I.   Joint Action Plan with EU:

The following commitments relating to civil aviation have been made in the Joint Action Plan finalized between India and European Union, which reads as under:

(i)   Launch broad based dialogue in the sectors of civil aviation including closer cooperation in air transport technology, regulation and infrastructure and assess the scope for mutual benefits that could derive from such dialogue.

(ii)   Explore the possibility of continuing and expanding the scope of the existing civil aviation project and continue discussions, as a matter of priority, on a horizontal agreement between India and EU resolving legal issues in bilateral air services agreement.

The first EU-India civil aviation project, which was one of the largest economic cooperation project between India and EU completed in November 2006.

In order to commence 2nd phase of India-EU civil aviation co-operation, the EU side has proposed a draft Programme of Institutional Capacity Building in the Civil Aviation sector in India (ICAA), prepared by them. The project of ICAA will be a Centralized management project with a EC contribution of Euro 12,500,000 and Government of India contribution of Euro 3,000,000 and private contribution of Euro 2,700,000. The overall objective of the project is to remove constraints to sustainable economic growth in India imposed by unbalanced development of the rapidly expanding aviation sector, particularly within the regulatory functions of the Government. Therefore, efforts will be focussed on institutional and capacity development of civil aviation regulators in India ensuring a safe and secure aviation environment through good governance and harmonization with EU standards in cooperation with European aviation agencies.

I.   Safety Audit:

Safety Audit of DGCA was conducted by ICAO under their Universal Safety Oversight Audit Programme in October 2006.   They have expressed positivism in the Certification Processes, Regulatory Provisions, Guidance Material, and Surveillances. They have also assessed that India has more than 98% compliance with Standard and Recommended Practices of ICAO Annexes. Earlier in 1997, Audit was carried out by FAA, USA who have rated India in Category I i.e. highest category with respect to regulations, certification and surveillance functions.

In October 1999 also with follow up in 2001, ICAO had carried out Audit on, Personnel Licensing, Operations of Aircraft and Airworthiness aspects vis-à-vis SARPS contained in corresponding ICAO Annexes 1, 6 and 8 and has

certified that the system established for certification and surveillance of aircraft operations was satisfactory and a sound system of control and supervision of air operators and AMOs existed supported by comprehensive regulatory frame work.

II. **South Asia Initiative.**

Under the EU - South Asia programme South Asia Regional Initiative (SARI) has   taken a lead role in adoption of International Regulations.

V. **Cooperative Development of Operational Safety and Continuing Airworthiness** – **South Asia (COSCAP – SA)**:   This programme under the aegis of Government has been approved by the Ministry of Civil Aviation. Presently in its 3rd phase of existence, a forum aided training and technical assistance to the 7 South Asian States. The 3rd phase envisages stress on implementation of regulations in standardized and harmonized manner.

VI. **Technical Arrangement with Russia:**

India and Russia have signed an (Implementation Procedure) in 2005 under the aegis of Ministry of Civil Aviation. Under this procedure India and Russia accept aeronautical products designed and manufactured by either countries after due inspection.

VII. Technical Arrangement have also been signed with Israel and Chile, under which the countries have agreed to extend cooperation to each other in design, certification and manufacture of aeronautical products.

On the status the National Civil Aviation Policy, the Ministry in their written reply stated;

> "The Draft National Civil Aviation Policy was submitted for consideration of the Union Cabinet in May, 2007. The Cabinet decided that the Draft Policy be, in the first instance, considered by a Group of Ministers (GOM). The GOM has held two meetings till date."

Asked about the major provisions related to aviation safety and security addressed in the draft National Civil Aviation Policy, the ministry in their reply wrote:

> "The draft National Civil Aviation Policy addresses major issues relating to strengthening of safety mechanism / Directorate General of Civil

Aviation. Similar provisions have also been incorporated in respect of aviation security/ BCAS."

On whether the absence of a National Civil Aviation Policy document have impacted on the performance of sectoral players and their overall coordination, the representative of the Ministry during evidence stated:

"It is true that the civil aviation policy is still under the consideration of the Government, but the lack of a specific policy document, which is more like any other policy document as and when it comes usually more in the nature of a larger picture, will be presented regarding what the situation is and how the Government expects this sector to move and in what direction. But, it does not, in any way, hinder, and has not hindered, the operating procedures followed by the different agencies which are to do their different tasks. If it is the safety issue, the DGCA has all the legislative competence to lay down the rules. It lays down the norms which are required to be followed by all those to whom those requirements apply. If it is the security issue, they draw their strength from the recommended practices enunciated by the International Civil Aviation Organisation. They draw their strength and make those applicable to domestic as well as international airlines."

Asked whether the Government is convinced that it is doing equally well in the absence of such a policy framework and there is no urgent necessity of having it in place, the representative of the Ministry of Civil Aviation replied:

"Sir, about the policy document, the Government, in the recent past, has notified the policy statements for various sectors, namely, telecom, steel, petroleum and so on and so forth. I am sure, when the Civil Aviation Policy comes, it would be no different from other policy statements. These are the broad statements telling about what are the larger views or goals, which that sector can or should move. It would be nothing more than that."

Asked how the Ministry coped with all the activities in the absence of the policy document and to draw an international comparison, the representative stated:

"I am coming to that. I am addressing it. Now, as part of Civil Aviation, there are various segments. There will be infrastructure, there will be safety; and there will be security, which you have addressed today. In those programmes and activities, there are specific goals, specific components and specific programmes, which are part of 5-Year Plans, which could be provided for from the budgetary support of the

Government, or they could be done by various agencies. So, none of the actual professional activities is, in any way, suffering or held up.

    As far as other countries are concerned, most of   the countries do not have a larger vision statement or policy document because those activities are not substantially, mainly driven by the Government. So, it works in those countries in that manner. This is more just to lay down a broad roadmap so that everybody, who looks at the sector or who looks at civil aviation in India is aware that this is likely to be the roadmap."

With reference to the privatization of major airports and the increasing reports of mishaps and near misses in these airports, the committee wanted to be apprised of the system to regulate the safety performance of these private operators. The ministry in reply wrote:

"As provided in Part XII of the Aircraft Rules, 1937, all aerodromes are under the safety oversight of the DGCA. Main provisions in this regard in this regard are as under:-

(i)   All aerodromes have to be licensed by DGCA (Rule 78 & 80).
(ii)   Aerodrome Manual has to be prepared as specified by DGCA (Rule 81).
(iii)   DGCA or any officer authorized by him has a right to inspect any aerodrome (Rule 82).
(iv)   Licence is granted or renewed, subject to such condition as DGCA considers necessary, to ensure compliance with the Convention and the safety of aircraft operations (Rule 83).

    Further, DGCA issues various Civil Aviation Requirements (CARs) from time to time to cover various aerodrome safety issues. These provisions are equally applicable to restructured airports at Delhi and Mumbai and private airports at Cochin.

    It is also submitted that during issue/renewal of licenses for the Aerodromes, all aspects of safety, security etc., are examined as per procedures laid down in the Civil Aviation Requirements.

    All the private operators are required to establish a safety management system approved by DGCA. Operators are also subjected to surveillance checks/Inspections at regular intervals to oversee the implementation of safety instructions. Operators are also required to report all incidents in their aerodromes which are investigated to establish their adherence to safety regulation/instructions issued from time to time."

On whether foreign airlines are subject to safety inspection by the DGCA when they operate in domestic airspace and landed in our airports, the ministry wrote;

> "Process of checking Foreign Air Operators while transiting through Indian Airports has commenced on 25th January, 2008. Two operators, namely Lufthansa & Virgin Atlantic were subjected to inspection. Some irregularities were found and the process of correspondence with Regulatory Authority of LBA/CAA, UK is in progress. Other inspections are planned for February and March, 2008 and this process is ongoing."

Taking note of the Aviation Safety Week organised by the ministry of civil aviation in December 2007, the committee desired to be apprised of the objectives sought to be achieved through the exercise. The ministry in their reply stated:

> "Under the auspices of Ministry of Civil Aviation, the DGCA and airports Authority of India jointly organised Aviation Safety Week in December, 2007. The objectives of the safety week are as follows: -
>
> - Reviewing proactive safety system in airline and aerodrome operators.
> - Holding of seminars by the airliners and the aerodrome operators on ramp and operational area safety.
> - Intensifying spot checks/audits by the operators and DGCA to identify safety hazards and deficiencies.
> - Adopting preventive measures to mitigate safety hazards.
> - Emphasis on CRM. Human Factors by the operators.
> - Monitoring FDTL, pre-flight medical and load & trim sheet activities.
> - Interactive meetings between pilots, engineers and ATCOs with DGCA officials.
> - Display of safety banners and posts in aviation related services to
>
>   infuse safety awareness amongst the personnel.
>
> During the safety week, which was inaugurated by the Hon'ble Minister, media briefing was also held and topics on various safety aspects were presented and discussed in the seminars."

OBSERVATIONS AND RECOMMENDATIONS

Recommendation – 1

NEED FOR PLANNED GROWTH IN AVIATION SECTOR

The Airport Authority of India is the primary airport operator and the lone Air Navigation Services (ANS) provider in the country and has responsibilities that are critical to aviation safety and security. The Committee note that there has been phenomenal growth in air traffic during the last 5 years especially at the metro airports. The air traffic has been growing at the approximate rate of over 30% per annum during the last five years. With the opening of aviation sector to private airlines, the number of scheduled air transport operators has also increased from five in 2002 to fifteen in 2007. All these have put a great strain on airport infrastructure and Air Traffic Services, which have not been augmented in proportion to the increased traffic. The Committee also note that the DGCA, which is the safety regulator, and the BCAS that regulate aviation security are severely under staffed to handle the expanding responsibilities arising from the growth in air traffic. They observe that timely action to enhance the capacity of these institutions has not been taken by the Government. The Committee have been informed that AAI has taken several steps to cope with the increasing traffic like simultaneous use of runways, new high speed exit taxi-bays, parallel taxi-tracks, ATC automations, etc. The Committee while appreciating these measures would also like to caution that safety and security of air travel should not be compromised, and emphasize that international norms of safety and security should be scrupulously adhered to while taking steps to cope up with the increase in air traffic.

The Committee recommend that permission to the new operators, as well as additional operations by existing operators, should be granted only after thorough assessment of infrastructure availability vis-à-vis safety requirements. The Committee further recommend that the Government

should take steps to synchronize all future growth in aviation sector with a corresponding enhancement of the organizational and technical capacity of the aviation safety and security regulators.

Recommendation - 2

DATABASE ON INCIDENTS / ACCIDENTS

The Committee note with regret that AAI could furnish details of accidents / incidents at only three airports, namely, Kolkata, Thiruvananthapuram and Chennai Airports, when asked to furnish the details in respect of all airports operated by them. The Committee observe that the system of reporting of accidents/incidents at airports and the maintenance of centralized data thereof is weak, as evident from AAI's inability to furnish such data for all airports operated by them. The Committee would like to stress that compilation and collation of data is of paramount importance for identifying and rectifying the shortcomings/deficiencies in the airport operations.

The Committee therefore strongly recommend that AAI should make a comprehensive review of the system of incident/accident reporting and take urgent steps to set up a centralized database of incidents of runway intrusions and accidents of any description within the precincts of its airports. Further, the Committee desire that the DGCA should make it obligatory on all Airport operators to put a modern system in place and submit the data to DGCA every quarter.

Recommendation - 3

GROUND TRAFFIC MANAGEMENT

The Committee note that in the three airports about which information was furnished regarding accidents/incidents, 24 accidents/ incidents took place within a span of three years and a majority of such accidents/incidents occurred in the apron/ taxiways of airports. This is indicative of the fact that adequate attention is not being paid to the management, monitoring and improvement of movement of service vehicles, passenger ferry buses, equipments and persons in the apron area. Further, the Committee observe that inadequate attention given to the management of human, equipment and vehicle movements in the apron and taxiways of airports have caused several accidents and incidents.

The Committee therefore recommend that a proper system of ground traffic management with a structured and accountable organization be put in place at each airport. Further, the Committee desire that cases of accidents may be properly enquired into, responsibilities be fixed and the penalties for violations leading to accidents must be made harsher and heftier so that they have deterrent effect. Further, the Committee also desire that DGCA should regulate this matter by making it mandatory for all airport operators to put in place a structured and functional system to manage human, equipment and vehicular traffic in the apron and taxiways of airports.

Recommendation - 4

EMERGENCY DRILLS AND THEIR REGULATION

The Committee have been informed that AAI have no separate organizational structure to handle disasters and emergencies. Instead, the officers in AAI have been imparted training on disaster management in general and assigned a definite role in the Local Emergency Procedure and Contingency Plan.

While appreciating the above arrangements, the Committee are of the firm view that there is a need to buttress the functionality of the Local Emergency Procedure and Contingency Plan and therefore recommend that regular mock drills at specified intervals should be made mandatory so as to improve the effectiveness of the system and minimize the response time to handle any emergency. The Committee further desire that the DGCA make it mandatory for all Airport operators to put such a system in place by issuing appropriate regulations.

Recommendation - 5

UPGRADATION AND REGULATION OF ANS SYSTEMS & EQUIPMENTS

The Committee observe that despite the number and frequency of airprox incidents in the Indian skies comparing favourably to incidents in other countries, the fact remained that the absolute figures in India are on the rise, from 10 in 2004 to 21 in 2007. Further, the Committee note with concern that a high percentage of such airprox incidents are due to errors by Air Traffic Controllers or due to procedural and technical shortcomings in the communication, navigation and surveillance (CNS) and Air Traffic Management (ATM) services, commonly known as the Air Navigation Services (ANS). The Committee appreciate the efforts made by AAI to minimize air proximity incidents. Nevertheless, they feel there is an urgent need to speed up the process.

The Committee therefore recommend that AAI should take steps to accelerate the pace of implementation of improvements in procedures and the introduction of latest systems and equipments, especially relating to ATC procedures, ATC automation, surface movement radar, air traffic flow management and safety management system. The Committee further desire that AAI should take urgent steps for implementation of improvements in the ANS system and upgradation of equipments in all major airports in a phased manner. The Committee further recommend that system improvements and equipment upgrades by the ANS provider should be adequately regulated by the DGCA to ensure strict adherence to international norms and standards.

Recommendation - 6

AIR TRAFFIC CONTROL - STRENGTH AND EFFICIENCY

The Committee observe that despite continuously rising air traffic beginning from 2002, no recruitment of Air Traffic Control Officers has been carried out till 2005 and gap between sanctioned and actual strength of ATCs increased from 29 in 2002 to 526 in 2007. The Committee also observed that substantial number of non-executives of ATC discipline had been elevated to executive levels. The upgradation of non-executives to executive cadre in such large numbers, the Committee feel may compromise on quality of ATCOs. One of the findings of ICAO Audit of 2006 *inter-alia* relates to lack of policies, procedures and programmes for determining the short, medium and longterm staffing requirements for the provision of an adequate ATS system, including the timely recruitment of ATM staff. The Committee further observe that in the backdrop of rising air traffic, failure on the part of AAI to put in place necessary policies, procedures and programmes for staffing as pointed out by ICAO Audit, resulting in shortage of manpower, has imposed long hours of work on ATCOs whose jobs require undivided attention. The 42 hours per week working hours are higher than that of a civil servant with a job that is less strenuous at 40 hours per week. The Committee also note that of late attrition rate of ATCOs is also rising which is evident from the fact that during the year 2007, 32 ATCOs left the job.

Taking into account the stressful and sensitive nature of job an ATCO performs, and the revelation that a high percentage of airprox incidents have been attributed to Air Traffic Control personnel, the Committee strongly recommend that AAI should take prompt measures to attract, recruit and retain adequate number of qualified ATCOs by reviewing working hours, making working conditions more attractive and upgrading suitably the salary structure and career progression. As high

alertness of ATC personnel is crucial to the safety of air operations, it is incumbent upon everyone of them to perform their duties with utmost care and caution. In this regard, the Committee recommend that a system of breath analysis/alcohol tests as is done in the case of pilots be introduced for ATCOs before logging-in for duty.

Recommendation - 7

CORPORATIZATION OF ANS

The Committee take note of the critical role of Air Navigation Services (ANS) in the management of aviation safety. The Committee also are in agreement about the need to separate ANS provision from Airport operators. Most importantly, the Committee feel that Air Navigation Service needs to be managed effectively and with no compromise on standards. The Committee feel that challenges such as attracting and retaining adequate trained manpower, development of safety procedures, introduction of advanced systems and induction of new and emerging technologies demand urgent and sustained attention. Besides, AAI as an airport operator, cannot be allowed to be ANS provider in an environment where private airport operators are fast emerging.

The Committee therefore recommend that a separate corporate entity should be created under 100% Government ownership and steps taken to expeditiously make it a world class ANS provider.

Recommendation - 8

NEED FOR SEPARATION OF SAFETY INSPECTION AND ACCIDENT INVESTIGATION FROM REGULATORY FUNCTION

The Committee appreciate the submission made by the Secretary, Ministry of Civil Aviation regarding the consideration given by the Government to separate the accident investigating functions from the regulatory authority. However, in addition to separating the accident investigation functions from the regulatory authority, i.e. DGCA, the Committee are of the opinion that the new agency that shall be created should also be vested with inspectorate functions currently handled by DGCA. The Committee are informed that all the safety related functions of the AAI like fire safety, air traffic services, ground traffic management, etc. are subject to internal inspections and internal safety audits. They also found the DGCA as severely ill-equipped in terms of adequate trained personnel to deliver its functions of safety inspection and audit over Airport & Airline operators. Besides, it was not mandated to regulate and inspect ANS activities until recently. The Committee strongly believe that there is a need for an independent, efficient and credible system of safety inspection and safety audit over the safety functions of Airport operators, Air Transport operators and ANS provider. They appreciate the internal inspection and monitoring that exists and desire this to continue with enhanced rigour. However, the Committee are of the opinion that internal inspections and audits are executive functions aimed at enhancing efficiency and effectiveness and needs to be complimented with the existence of an independent and external agency for inspection and investigation. Besides, the Committee feel that regulatory functions of DGCA will also be rendered more efficiently once the added responsibilities of inspection and investigation are offloaded from it.

The Committee therefore strongly recommend that expeditious steps should be taken to set up an independent agency, which should carry out

inspections and safety audit of all safety related activities of all players in the sector including Air Transport operators, Airport operators, the ANS provider, etc., and should also be vested with responsibility of accident investigation.

Recommendation - 9

RESTRUCTURING OF DGCA

The Committee observe that while the number of airline operators was allowed to increase and airlines were allowed to expand, the Government have failed to take necessary steps to restructure and strengthen the regulatory authority, i.e., the DGCA in tandem with the growth in the sector. Further, the Committee feel that burdening the regulator with inspectorate functions not only put pressure on the organization but also stand to compromise its independent functioning as far as inspection and safety audits are concerned. The Committee are aware that the M.K. Kaw Committee constituted by Government had submitted its report on restructuring the DGCA.

While the Government is implementing the Kaw Committee recommendations, the Committee would like to stress upon the need for an independent agency for aviation safety inspections, audit and accident investigation, as distinct from the regulator, DGCA, which should be outside the administrative control of the Ministry of Civil Aviation. The Committee therefore urge the Government to keep this aspect into consideration while implementing the Kaw Committee recommendations. Further, the Committee is of the view that (in place of the present one-man Director-General of Civil Aviation) a multi-member body consisting of preferably three members, one of whom as Chairman, may be set up and the criteria/qualification for selection of such members shall be as per the international norms for such posts.

Recommendation - 10

SECURITY ROLE OF AIRPORT DIRECTOR

The Committee observe that the Airport Director has been allocated a very critical function of overall management and coordination of security matters in the airports. In view of the trend of privatization of Airports and their management, and also to enable the Airport Director to devote more attention to safety management, the Committee feel that it is necessary that the Airport Director is relieved of the primary responsibility over security matters. In the opinion of the Committee, it may not be advisable that an Airport Director of a private airport be entrusted with such vast security related responsibilities in the interest of National Security.

The Committee therefore recommend that the Government should take immediate steps to relieve the Airport Directors of the responsibility of overall management and coordination of airport security and desire that an officer of the BCAS should be put in charge of security at each airport. The Committee further desire that the Airport Director should be made accountable to the security incharge of the airport in all matters of security.

Recommendation - 11

REVIEW OF STRUCTURAL MECHANISM TO HANDLE AIRCRAFT HIJACK

The Committee observe that the Central Committee chaired by the DGCA is responsible for implementing the orders of the Committee of Secretaries on Aircraft Hijack (COSAH) and handling hijack situations at operational level.

While appreciative of the existence of a structural mechanism to handle aircraft hijack situations, the Committee are of the opinion that the Chairing of the Central Committee which is responsible for implementing orders of the Committee of Secretaries on Aircraft Hijack (COSAH), and handling hijack situation at operational level by the DGCA, which is the authority on safety, needs to be reviewed. Considering the fact that hijacking of aircrafts have increasingly assumed the character of a serious security threat, the Committee desire that the possibility of having an authority on security, like the COS (CA) of the BCAS, at the chair of such a Committee may be seriously explored.

Recommendation - 12

BCAS – REVIEWING STRENGTH, FUNCTIONS AND EFFICIENCY

The Committee observe that the Bureau of Civil Aviation Security is the regulator and overall supervisor of aviation security. The committee, while applauding the BCAS are appalled at the callous treatment meted out to this important institution. The number of sanctioned strength of critical positions in the BCAS remained unrevised since its formation in 1987 despite tremendous expansion in its responsibilities with the growth in civil aviation sector. Worse, the actual strength of ACOS and DCOS officers in the BCAS did not even meet 50% of the sanctioned strength till May 2007. Further, the Committee observe that due to acute shortage of manpower, the BCAS has been reduced to a body merely issuing regulations without having adequate capacity to oversee adherence by concerned agencies to such regulations.

The Committee therefore strongly recommend that steps be taken by the Government to expedite the plans to restructure and strengthen the BCAS on priority. The Committee further recommend that besides the regulatory functions of the BCAS, its supervisory and inspectorial functions and responsibilities may be enhanced to cope up with the Aviation Security challenges posed by unprecedented growth in the domestic civil aviation sector as also the entry of the private airport & airline operators.

Recommendation – 13

NATIONAL POLICY ON CIVIL AVIATION

The Committee observe that even after more than a decade into the liberlization of the Civil Aviation Sector, the Ministry has not put in place a National Policy Framework for the Civil Aviation Sector. The Committee further observe with regret that despite being aware of the larger growth path that a policy framework can provide to the sector, the Ministry are still in no hurry to draw up such a roadmap and are showing a lackadaisical approach to the whole issue, saying its absence does not affect the sector.

The Committee feel that lack of a much needed wider perspective and the Ministry's failure in providing a clear vision to the sector is largely responsible for the haphazard growth in the sector. The Committee strongly disapprove the lackadaisical approach of the Ministry resulting in unsynchronised decisions and sporadic growth in the sector. The Committee feel that such developments have, among other things, seriously undermined safety and security concerns. The Committee therefore recommend that the Government should expedite the process of having the National Policy on Civil Aviation in place at the earliest, after obtaining inputs from experts in the field, who may be given lateral entry into the Ministry on contractual basis, if required.

Recommendation - 14

SAFETY NORMS

The Committee observe that safety inspection of transiting foreign air transport operators' aircrafts was started by the DGCA as recently as January 2008. The Committee also noted that an Aviation Safety Week was organized during December 2007. The Committee express shock over the laxity in inspecting the foreign operators while transiting Indian airspace and Indian Airports. The Committee also feel that aviation safety needs to be ensured through systematic and sustained efforts towards continuous improvements, and desire that the lessons learnt from events such as the Aviation Safety Week should be properly assessed and gainfully utilised.

The Committee recommend that a proper and fool proof system to ensure adherence to safety norms by all the aircrafts operating/transiting the national airspace should be put in place by the Government through the DGCA.

New Delhi   RUPCHAND PAL
28 April 2008   CHAIRMAN
8 Vaisakha, 1928   COMMITTEE ON PUBLIC UNDERTAKINGS

GROUND INCIDENTS / ACCIDENTS

NSCBI Airport

Year 2005	Details of incident / accident	Penalty imposed
January	On 03-01-2005 at 1150 hrs., Indian Airlines tractor No.27 driven by Shri Gurdev Singh, Operator, while maneuvering tractor hit Indian Airlines aircraft Flt. No.IC-401 (type of Aircraft AB 320, registration marking VT-ESH) parked on bay No.22. Due to this impact, the rear portion of fuselage below port side was slightly damaged.	The airside Driving Permit of the operator was withdrawn.
July	On 04.-07-2005 at about 2335 hrs. Air India step ladder damaged the aerobridge limit switch at parking bay No.23 when the same was in process to connect with the Air Deccan flight No.DN-632 parked on bay No.23. As a result the said aerobridge become unserviceable.	The ADP and vehicle pass of the stepladder driver was confiscated and penalty of Rs.200/- was imposed.
September	On 06-09-2005 at about 1105hrs. Air India Flight No. AI-151 while on its push back maneuver made a deviation from centre line marking by about 5 meters. This resulted in locking of nose wheel and affected the star-board main landing gear alignment. (Sector Dhaka-Kolkata-London, Type of Aircraft B-777-200, Registration marking VT-AIL, POB-268) All precautions were taken immediately to close down the affected portion of taxi track "F" and the other aircrafts on the adjacent bays were provided with "Follow-Me" service for safe and smooth operations.	
Year 2006	Details of incident / accident	Penalty imposed
May	On 05-05-2006 at about 1815 hrs. the step ladder of aerobridge on parking stand No.23, while being retrieved back after serving the departing aircraft dashed with a Bolero Jeep belonging to M/s Hindustan Petroleum Corporation Ltd. which was parked on the Aerobridge maneuvering area.	The ADP and vehicle permit of the driver was confiscated and a token penalty of Rs.200/- was imposed.
July	On 27-07-2006 at about 0705 hrs. CISF QRT vehicle bearing Regn. No.WB 23A 8130 (type of vehicle Tata Sumo) met with an accident on perimeter road eastern side near CISF post No.5A.	
September	On 20-09-2006 at around 2115 hrs. Jet Airways tractor Regn. No. DH-20-10G was hit on the rear left side by Indigo passenger coach bearing Regn. No.WB-111 BA 18210M near bay no.22 baggage make up area of domestic apron. The passenger coach of Indigo got slightly damaged. Two loaders of M/s. Jet Airways who were standing on the tractor fell down resulting in minor injuries.	
November	On 30-11-2006 at 1048 hrs. a non-scheduled aircraft while landing swing / skid on the runway and was bogged down on the basic strip approximately at a distance of 22 mtrs. from the side strip of the RWY 19L.	

Year 2007

For the year 2007 no ground incident / accident occurred.

AIRPROX INCIDENT IN CIVIL AIRSPACE UNDER THE JURISDICTION OF AAI DURING THE YEAR 2004-2006

YEAR	2004	2005	2006
No. of Airprox (Near-miss)	10	17	16

AIRPROX INCIDENT IN CIVIL AIRSPACE UNDER THE JURISDICTION OF AAI DURING THE YEAR 2004

SI No	Date	Type of aircraft	Brief Description of incident	Reason	Action Taken
01	04-02-2004 In Chennai	Emirates Boeing 777 Malaysian Airlines Airbus 330	UAE 347 WMKK – OMDB on N571 reported TCAS warning between BIKEN and IDASO. MAS 7365 was claimed through the level of UAE 347	1. ATC Personnel error 2. Non-availability of Automatic Dependence Surveillance equipment	1. The ATS in-charge Chennai has been instructed to warn the controller for his errors. 2. The controller has also been in recommended to undergo corrective training under the supervision of Instructor. 3. GM (Aero), Chennai has been advised to reschedule hours of operation of ADS to cover the period of peak traffic.
02	11-06-2004 In Kolkata	Gulf Air Boeing 767 Eva Airlines BD-11	GFA458 while descending from F370 to F330 stopped descend at F350 over CEA due to traffic EVA671 at F340. The controller thought that EVA671 was maintaining F320 based on FPS. EVA671 always reported maintaining F340 on R/T.	ATC personnel error.	1. Concern controllers were subjected to corrective training with emphasis on attentiveness to monitor aircraft transmission and proper strip marking. 2. Instruction issued to do all intra unit coordination on recorded channels.

03	15-07-2004 Trivandrum	Royal Jordanian Airbus 310 Oman Airlines Boeing 737	RJA194 OJAI-N300-VCBI F330 estimating CLC 0021 OMA827 OOMS-M300-VOCI F370 estimating CLC 0021. RSR controller gave descend to OMA827 to F170 forgetting about RJA194. At time 0019 RJA194 reported traffic crossing ahead at the same level 100 feet.	ATC personnel error.	1. The concerned controller was subjected to corrective training. 2. Circular issued by ATS in-charge emphasizing better coordination between radar and non-radar controller for climb & descent of aircraft.
04	12-08-2004 In Mumbai	Air Deccan ATR 42 Jet Airways Boeing 737	DNK303 ATR from Mumbai to Kolhapur was cleared to climb to FL100 by ASR controller. JAI406 B737 Cochin to Mumbai was descended to FL110. JAI406 was on a heading of 020. At time 042847 UTC the controller observed that DKN303 had climbed to FL106. JAI406 reported an aircraft passing FL100.	Air Deccan pilot's error	DGCA initiated action against the Pilot of Air Deccan Aircraft.
05	18-09-2004 In Kolkata	Pakistan Airlines Air Bus 310 Gulf Air Boeing 767	The ACC(W) controller descended PIA266 A310 from Karachi to Dhaka from FL370 to FL330 near CEA VOR without visualizing the opposite direction traffic was GFA251 B767 from Dhaka to Bahrain maintaining FL360. The OJT instructor immediately negated the incorrect clearance and advised PIA266 to maintain FL370. The aircraft did not acknowledge the instruction. Instructor gave an emergency avoiding Hdg. of 240 to GFA251. PIA266 descended immediately on receipt of the instruction by 100 feet and received advisory warning.	ATC personnel error	The trainee controller was subjected to theoretical training at RTC Kolkata in separation methods and standards and his training period extended by 25 hours.

06	23-09-2004 In Mumbai	Jet Airways Boeing 737	The trainee ARSR/MSSR controller descended JAI371 Udaipur to Mumbai from FL380 to FL330 at approx. 100NM from BBB VOR. The aircraft passed through the level of same direction traffic JAI312 Delhi to Mumbai, which was maintaining FL340. JAI312 raised airprox violation.	1. ATC personnel error 2. ATC system deficiency.	1. The airspace in Mumbai FIC was redefined in the automation system so that volume of airspace comprising Ahmedabad TMA, above certain level may be defined as a separate sector and merged with R1. 2. Fresh instruction issued for consolidation of airspace in respective sectors. 3. Suitable guidelines issued regarding hand-off procedures between FIC/OCC and ARSR. 4. Training period of trainee increased.
07	14-09-2004 In Delhi	Thai Airways Boeing 777 British Airways Boeing 747	The ARSR controller permitted THA316, which had deviated nearly 20NM left of track to climb to FL330 unrestricted between KADAS and LLK. Opposite direction traffic BAW10 maintaining FL320 came very close to THA316 and reported airprox.	ATC personnel error	1. The concerned controller was subjected to corrective training. 2. Training period of trainee increased.
08	12-11-2004 In Kolkata	Malaysian Airlines Boeing 747 Bangladesh Viman DC-10	A breach of separation took place between MAS20 and BBC049 over OTABA when both the traffic passed OTABA at FL320 with four minutes separation.	ATC personnel error	1. The controller was subjected to corrective training. 2. GM (Aero) issued circular to assess separation at crossing point on receipt of estimate/ FPS.
09	5-12-2004 In Mumbai	Saudia Airlines Boeing 747 Lufthansa Airlines Boeing 747	Airprox between SVA748 and DLH8418 took place near NOBAT when both the traffic was maintaining FL350 and passed NOBAT with three to four NM difference.	ATC personnel error	1. Controller subjected to corrective training. 2. RSR controller was advised to keep global FPS with them. 3. It was reiterated to

SLNo.	Date & Place	Type of aircraft	Brief Description of incident	Reasons	Action Taken
					the controllers that on receipt of change of level/estimate they should reassess traffic scenario to detect conflict/separation loss before approving the level.

AIRPROX INCIDENT IN CIVIL AIRSPACE UNDER THE JURISDICTION OF AAI DURING THE YEAR 2005

SLNo.	Date & Place	Type of aircraft	Brief Description of incident	Reasons	Action Taken
01	23-01-2005 In Delhi	Air India Airbus 310 IAF Fighter (Sukhoi)	AIC348 was holding at FL210 between 50-60 NM from Delhi on radial213. IAF fighter (sukhoi) was given climb to FL200 but climbed to FL210 and AIC348 carried out TCAS climb to FL220.	Error by Indian Air force Pilot	1. IAF initiated action against the Sukhoi Pilot. 2. Revised procedure was framed keeping more separation with IAF aircraft during air exercise.
02	07-02-2005 In Chennai	Indonesian Airlines Boeing 767 Sri Lankan Airlines Airbus 320	GIA1308F from WAAA to OMAL executed TCAS decent from FL 380 due to traffic ALK176 from VOHY to VCBI at FL 380.	ATC personnel error.	1. Corrective training for both the controllers for two weeks and assessment by local board. 2. GM(aero) Chennai was advised to issue a local circular regarding use of RBT line to assess separation at crossing points.
03	12-02-2005 In Chennai	Indian Airlines Airbus 320 Jet airways Boeing 737	IAC610 from VOBG to VABB EST BBI 1254 climbing to FL340 got traffic on TCAS JAI461 from VABB/VOMM at FL330.	ATC personnel error.	1. The controller counselled regarding casual attitude while putting the estimates on FDPS. 2. Controller was advised to verify the printed estimates at the entry point before handing over the

					strips to delta controller.
04	24-02-2005 In Chennai	Air India Airbus 310 Emirates Airbus 330	AIC663 was given decent to FL 105 & UAE3545 was given unrestricted climb to FL 380 by TAR controller. UAE3545 got TCAS advisory while passing FL 130, same is received by AIC 663,	ATC personnel error.	No action could be taken against the controller since he has retired before completion of the incident.
05	01-03-2005 In Kolkata	Lufthansa Boeing747 Phuket Airlines Boeing 757	DLH744, B744 from EDDF to VTBD following ATS route R460 maintaining FL370 estimating CEA 0605 and VAP818, B752 from OMDB to VGEG was following ATS route G450 maintaining FL370 estimating CEA 0608.VAP818 came in VHF contact at time 0540 and DLH744 came in VHF contact at time 0544. DLH744 appeared on Radarscope after TEPAL and VAP818 appeared on Radarscope after JJS. The controller did not identify the aircraft. At time 0608 DLH744 reported carrying out TCAS descend. Both DLH744 and VAP818 passed overhead CEA almost at the same time.	ATC personnel error	The concerned controller was subjected to corrective training with regard to the error on his part.
06	12-03-2005 In Mumbai	Emirates Air Bus 330 Jet Airways Boeing 737	Approach radar controller descended UAE502 EA33, OMDB-VABB and JAI424 B737, VOCL-VABB to FL090. Both the aircraft were on a converging heading. Approach controller failed to provide adequate radar separation. By the time the controller became aware of the situation and initiate corrective actions, the aircraft started getting TCAS advisories. Both aircraft followed RA. The	ATC personnel error	1. The practice of descending more than one aircraft at the same level should be avoided because communication congestion, heavy traffic or communication failure may lead to a situation beyond the control of any individual. Circular issued to all controllers to

			minimum separation between UAE502 and JAI424 was 2 NM, when both aircraft were maintaining FL90.		desist from such practices. 2. Controllers were advised to vector number of aircraft than can safely be handled. 3. The aircraft much later in the sequence should be allowed to continue their navigation and issued suitable holding instructions. They should be taken for vectoring only for sequencing or deriving some operational advantages. 4. The concerned controller subjected to corrective training.
07	1-04-2005 In Kolkata	Qantas Airlines Boeing 747 Lufthansa Airbus 340	QFA5 WSSS-L759/L333-EDDF FL340 and DLH783 VTBD-B209/L333-EDDF at FL340 reported KKJ with five miles separation. QFA5 reported traffic (DLH783) five miles ahead and followed TCAS. Both aircraft were suppose to follow same route i.e., L333 from KKJ. Delhi RSR controller descended DLH783 to FL330 in co-ordination with planning controller and subsequently descended the aircraft to FL320. Both aircraft were beyond the radar coverage of Delhi ARSR/MSSR. Kolkata ACC (West) planning controller missed the converging traffic over KKJ.	ATC personnel error	1. All involved controllers of Kolkata and Delhi were subjected to corrective training. 2. GM (Aero) Kolkata was advised to provide additional manpower for coordination purpose during peak traffic period.

08	23-05-2005 In Mumbai	Private aircraft registration CFTMS Type- Citation C550 Emirates Boeing 777	Breach of separation between CFTMS C550 OMDB-L301-VABB and UAE418 B773 OMDB-L301-VTBD both at FL370. Near NOBAT UAE418 reported traffic just ahead at same level. UAE418 was given Hdg 180 by RSR controller to save the situation when UAE418 came in contact.	ATC personnel Dubai and Muscat	1. GM (Aero) Mumbai was advised to commission ADS/CPDLC at the earliest for suitably equipped aircraft. 2. RED Mumbai was advised to improve HFRTF at Mumbai.
09	17-06-2005 In Kolkata	Indian airlines Airbus 320 And British Airways Boeing747	IAC294 VTBD-VEGT FL360 and BAW3464 VHHH-VIDP FL360 crossed near LLP at same level (crossing of routes W104 and A201), BAW3464 descended to FL355 and subsequently FL350 on TCAS.	ATC personnel error	1. All the involved controllers were warned in writing to be careful in future. 2. GM (Aero) Kolkata was advised to reiterate Operational Circular 20 of 2003 on duties of "A" controller. 3. Kolkata was advised to rectify fault if any in the FDPS software. They were further advised to issue local instructions for making manual strips if FDPS or printer was un-serviceable or strip did not print.
10	20-09-200 In Mumbai	Jet Airways Boeing737 And Indian Airlines Airbus320	JAI412 did not accept radar heading given by radar controller due to weather and deviated left thereby conflicting with departing aircraft IAC688. The vertical separation reduced to 500 feet and lateral separation reduced to 4NM.	ATC personnel error	1. The radar controller was put through corrective training. 2. GM (Aero), Mumbai was advised to issue a general circular to all controllers to follow "CONFLICT ALERT PROCEDURES" as published in Chapter 22 of MATS Part 2. 3. Controllers were

					advised that during weather deviation when aircraft won't take desired heading the number of aircraft that can be safely handled is less than under normal circumstances. This factor may be explained to the controllers through a circular or classroom lectures.
11	11-10-2005 In Mumbai	Air India Airbus 310 Jet Airways Boeing737	Airprox incident took place between arriving traffic AIC631, EA31, VAAH-VABB and departing traffic JAI333, VABB-VIDP at time 0338UTC in Mumbai Approach Radar.	ATC personnel error	The radar controller was subjected to corrective training
12	18-10-2005 Hyderabad	Dornier228 registration VTEUM and Indian Airlines Airbus320	Breach of separation between IAC617 and VTEUM. IAC617 arriving aircraft was descended to 5600 feet and departing aircraft VTEUM was climbed to 4600 feet. By mistake VTEUM climbed up to 5200 feet resulting in RA.	Error by private airlines pilot.	DGCA initiated action against the Pilot
13.	15-11-2005 Nagpur	Jet Airways Boeing 737 Qatar Airways Airbus 330	No standard separation existed between JAI826, VOHY-VIDP at F380 and QTR343 VGZR-OTBD at F380 over TAMID.	ATC personnel error	1. The radar controller was subjected to corrective training. 2. Controllers were advised to use available tool on radar to assess separation between aircraft.
14.	22-11-2005 Kolkata	Alliance Air Boeing 737 Jet Airways Boeing 737	At 0728 UTC LLR 7891 VIDP-VEGT ROUTE W105 FL 270 estimating KH 0728 reported getting TCAS. The traffic was JAI617 VECC-VEBD via route W69 FL 330 estimating KH 0728, descended through the level of LLR 7891.	Error by Indian Air Force ATC	Indian Air-force advised to investigate the incident and take appropriate action against the concerned controller.

15.	30-11-2005 Varanasi	Air Sahara CRJ Eva Airlines Boeing 777	SAH6235 CRJ VABB-VEPT via W33 F310 was on direct routing from BHITI to IBUSU. EVA67 B783 VTBD-EGLL via R460 F300 on direct routing from GGC to LLK. At time 0922 SAH6235 was given descent to F100 through the level of EVA67. Both aircraft reported getting traffic advisory on TCAS.	ATC personnel error	1. The radar controller was subjected to corrective training. 2. Controllers were advised to use available tool on radar to assess separation between aircraft.
16.	1-12-2005 Kolkata	Indian Airlines Air Bus 320 Jet Airways Boeing 737	AT 0840 UTC IAC 230 VEBD – VECC via W69 was climbing to FL 240, CROSSED KH at 0839, reported getting TCAS . The traffic was JAI 617 VECC-VEBD via route W69 FL 300, estimating KH 0845, which was given descend by Bagdogra ATC.	Error by Air Force ATC	Indian Air-force advised to investigate the incident and take appropriate action against the concerned controller.
17.	4-12-2005 Mumbai	Emirate Boeing 777 Lufthansa Cargo MD 11	The controller descended UAE504 from FL350 to FL330 due to traffic GEC8443 maintaining FL320 but missed GEC8443, which was maintaining FL340.	ATC personnel error	1. The radar controller was subjected to corrective training. 2. Sectorization of Mumbai Area Control Centre was recommended to reduce Radio Telephony congestion.

AIRPROX INCIDENT IN CIVIL AIRSPACE UNDER THE JURISDICTION OF AAI DURING THE YEAR 2006

Sl No	Date & Place	Type of aircraft	Brief Description of incident	REASONS	Action Taken
01	21-01-06 Kolkata	Saudia airlines B744 Rastriya Sahara B737	At around 0820 UTC SVA860, B744, OEJN-RPLL via route N895 maintaining FL350 and RSH310, B737, VOHY-VECC via route W41 maintaining FL350 converged over BBS. The two aircraft came within 2-3 NM of each other.	ATC personnel error	1. The Procedural controller was subjected to corrective training. 2. The radar controller was issued warning for his error.

02	06-02-06 Mumbai	Indian Airlines Air Bus 320 Jet Airways Boeing 737	RA took place between IAC602, EA32, VIDP-VABB FL340 and JAI364, B737, VAPO-VIDP on direct routing to IDOLA from Pune via east of SG.	ATC personnel error	1. The RSR controller was subjected to corrective training. 2. RSR controllers were issued instructions to keep Global FPS with them to correlate SSR code and call sign while identifying any aircraft and to identify wrong association of data block in future. 3. Instructions issued not to combine ACC sectors.
03	08-02-06 Kolkata	Malaysian airlines B747 Jet Airways Boeing 737	At around 0627 MAS1, B747, EGLL-WMKK via route L759 at FL390 and JAI217, B737, VABB-VECC via route G450 at FL390 crossed each other near OTABA resulting in the RA manoeuvre by both the aircraft.	ATC personnel error	1. Controller was warned to be more careful in future. 2. ATS in-charge Varanasi was advised to issue a local instruction that estimate message should be passed first and co-ordination signs may be put up later on. All controllers were advised to be extra cautious on passing estimates on route L759. 3. Action is being initiated to provide VHF
04	18-03-06 Mumbai	Emirate Boeing 777 OEG B752	At 1130 UTC UAE 502 B773 OMDB-L301-VABB FL350 and OGE 989 B752 VTSP-L301A-OMRK FL340 came in close proximity to each other, less than the prescribed minima resulting in an RA.	Pilot as well as ATC personnel error	Whenever unusual situations like power failure in ATC units take place which required special attention, training should be discontinued and if required WSO may be advised to provide additional assistance.

05	03-05-06 Mumbai	King fisher Air Bus 320 Indian Airlines Air Bus 320	The controller mistakenly descended KFR104 to FL130, which was actually intended for KFR304. This resulted in a breach of separation between KFR104 and IAC167.	ATC personnel error	1. The controller should pay undivided attention to transmission of aircraft having similar sounding call sign. 2. The Cleared flight level CFL information in the SDD must be filled up immediately after issuing descent/climb clearance. 3. The call sign of the aircraft may be changed temporarily after intimating the pilot to avoid confusion.
06	09-08-06 Kolkata	Emirate Boeing 777 Singapore	Approximately 10nm from position URKOK on L301 A TCAS target was observed by UAE335 B777 REG A6EBP FROM Manila to Dubai. The conflicting traffic was SIA352 westbound on P628 AT 9O"clock and 15nm to UAE335 and was converging at URKOK. UAE335 was asked by ATC to climb to FL350 (Non standard).	ATC personnel error	1. Concerned controllers were subjected to corrective training. 2. Suitable action to augment the range of VHF. 3. Suitable modification in the system to display ADS logged aircraft on SDD display. 4. Necessary software modifications to highlight the conflict alert on the FDD Screen.
07	21-09-06 Rajkot	Jet Airways Boeing 737 IAF Sukhoi	JAI345 B737 Mumbai to Rajkot descending to FL75, under Rajkot control zone, while passing FL227 reported getting RA with respect to Sukhoi aircraft of IAF. An airforce exercise Gagan Shakti was in progress under Jamnagar ATC.	Error by Indian Air Force ATC	1. Better coordination between IAF and Civil ATC for air-force exercise. 2. DGCA carried out investigation of the incident.

08	26-09-06 Nagpur	IAF AN32 IAF AN32	VUBLA AN32 VOYK/VANP On radial 189 NNP was instructed to descent to 5000 feet, there was a departing aircraft VUBCK AN32 VANP/VOBG on radial 205 NNP which Was climbing unrestricted, this resulted in breach of separation within 5nm of Nagpur VOR with just 1 mile lateral separation.	ATC personnel error	1. Involved controller superannuated. 2. It is recommended that jurisdiction of Nagpur tower may be reduced to FL75 and 25NM around Nagpur.
09	02-10-06 Delhi	Jet Airways Boeing 737 Sri Lankan Airlines Airbus 320	Simultaneous runway operations were in progress at Delhi. Due to coordination failure between tower (S) and tower (N) JAI354 (B737) and ALK196 (A320) were both given takeoff clearance simultaneously from runway27 and runway28 resulted in the airprox.	ATC personnel error	Involved controllers were subjected to corrective training.
10	16-10-06 Mumbai	Indian Airlines Air Bus 320 North West	IAC108 was descended to FL 130 instead of FL150 by TAR controller which resulted in the RA with the conflicting traffic NW034 which was also descending to FL130.	ATC personnel error	The radar controller was subjected to intensive counseling.
11	28-10-06 Guwahati	Indigo airlines Air Bus 320 IAF MI18	Indigo airlines IGO 202 IMPHAL/GUWAHATI reported a helicopter just one mile ahead at the same level. Helicopter 673 climbed to FL100 without coordinating with Guwahati ASR resulting in the airprox.	IAF personnel error	Action was initiated by IAF against the Pilot of MI18.
12	18-11-06 Kolkata	King fisher Air Bus 320 Indigo airlines Air Bus 320	At 1127 UTC KFR572 A320 was asked to hold at approx. 20NM west of Kolkata AT FL85 due traffic congestion. IGO203 A320 Delhi/Kolkata was also instructed to hold approx. at the same area at FL 85. IGO203 had leveled of at FL90 as she got the TCAS alert and carried out RA manoeuvere.	ATC personnel error	The radar controller was subjected to corrective training.

13	05-12-06 Nagpur	Rastriya Sahara B737 C-550	RA INCIDENT BETWEEN RSH6222 AND VTCLC over BPL at FL280.	ATC personnel error	The radar controller was subjected to corrective training
14	05-12-06 Kolkata	Jet Airways Boeing 737 Emirate Boeing 747	RSR controller (west) inadvertently gave JAI615 EA332 Kolkata/Mumbai G450 descend to FL 340, resulting in RA with the reciprocal traffic UAE 9863 B744 Hong Kong /Dubai Which was maintaining FL340 route A791.	ATC personnel error	The radar controller was subjected to intensive counseling.
15	10-12-06 Kolkata	German Cargo MD-11 Cors Air B747	GEC 8469 (MD-11) Hong Kong to Sarjah FL320 EST OTABA 1506 and BLX932 corsair B744 Phuket /Helsinki FL320 EST OTABA 1507 converged over OTABA, The planning controller could not detect the conflict as he did not update the strips of GEC 8469 at the crossing point OTABA .	ATC personnel error	1. The involved controller is subjected to corrective training for a period of 10 days. 2. Work on proposed RCAG at Jharsuguda to be expedited for better VHF coverage.
16	26-12-06 Hyderabad	Jet Airways Boeing 737 IAF AN32	JAI452 after getting airborne from runway 09, while climbing unrestricted on R282 HHY got RA while passing FL105. The conflicting traffic was VUBLE AN32 which was descending in the KAMAP hold to FL100	ATC personnel error	The controller was subjected to corrective training

MINUTES OF THE 6th SITTING OF THE COMMITTEE ON PUBLIC UNDERTAKINGS HELD ON 3rd AUGUST 2007

The Committee sat from 1130 hours to 1345 hours.

PRESENT

Chairman

    Shri Rupchand Pal

Members, Lok Sabha

2. Shri Ramesh Bais
3. Shri Gurudas Dasgupta
4. Shri Francis K. George
5. Dr. Vallabhbhai Kathiria
6. Shri Shriniwas Patil
7. Shri Kashiram Rana
8. Shri Ramjilal Suman
9. Shri Ram Kripal Yadav

Members, Rajya Sabha

10. Prof. Ram Deo Bhandary
11. Shri R.K. Dhawan
12. Shri Mahendra Mohan
13. Shri Ajay Maroo
14 Shri Pyarimohan Mohapatra
15. Shri K. Chandran Pillai
16. Shri Dinesh Trivedi

    Secretariat

1. Shri J.P. Sharma   Joint Secretary
2. Smt. Anita Jain   Director
3. Shri N.C. Gupta   Deputy Secretary
4. Shri Ajay Kumar   Deputy Secretary-II

List of Representatives

Ministry of Home Affairs

1. Smt. Anita Choudhary,   Additional Secretary (CS)

2. Shri A.K.Srivastava,   Joint Secretary (PM)

Central Industrial Security Force

1. Shri R.K.Das,   Director General (CISF)
2. Shri M.S.Bali   Inspector General (Airport Sector)
3. Shri Jishnu Mukherjee,   AIG(Airport Sector)

Bureau of Civil Aviation Security

1. Shri S.R.Mehra,   Commissioner of Security (Civil Aviation)
2. Shri M.N.Chaturvedi,   Deputy Commissioner of Security (Civil Aviation)

Directorate General of Civil Aviation

1. Shri K.Gohain,   Director General
2. Shri A.K.Chopra,   Joint Director General

2.   The Committee took oral evidence of the representatives of Ministry of Home Affairs, CISF, Bureau of Civil Aviation Security and Directorate General of Civil Aviation in connection with examination of "Airports Authority of India – Safety and Security Aspects".

3.   At the outset, the Chairman welcomed the representatives of Ministry of Home Affairs, CISF, Bureau of Civil Aviation Security and Directorate General of Civil Aviation and also drew their attention to direction 58 of the Directions by the Speaker relating to evidence before the Parliamentary Committee. Thereafter, the representatives made an audio-visual presentation on Safety and Security Aspects. After the audio-visual presentation, Members raised queries on various aspects pertaining to safety and security in the airports. Due to paucity of time, the reply to queries could not be ascertained from the witnesses. It was, therefore, decided that written replies to all the queries might be furnished to the Committee within a fortnight.

4.   The Chairman then thanked the representatives for providing all the material/information on the subject matter as desired by the Committee.

5.   A copy of the verbatim proceedings has been kept on record separately.

6.   The witnesses then withdrew.

7.   The Committee then adjourned.

MINUTES OF THE 14th SITTING OF THE COMMITTEE ON PUBLIC UNDERTAKINGS HELD ON 20th DECEMBER, 2007

The Committee sat from 1130 hours to 1330 hours.

PRESENT

Chairman

    Shri Rupchand Pal

Members, Lok Sabha

  2.   Smt. Sangeeta Kumari Singh Deo
  3.   Shri Francis K. George
  4.   Ch. Lal Singh
  5.   Shri Shriniwas Patil
  6.   Shri Kashiram Rana
  7.   Shri Ramjilal Suman

Members, Rajya Sabha

  8.   Shri Mahendra Mohan
  9.   Shri Ajay Maroo
 10.   Shri K. Chandran Pillai
 11.   Shri Dinesh Trivedi

Secretariat

1.   Shri S.K. Sharma   Additional Secretary
2.   Shri J.P. Sharma   Joint Secretary
3.   Smt. Anita Jain   Director
4.   Shri N.C. Gupta   Deputy Secretary
5.   Shri Ajay Kumar   Deputy Secretary-II

Representatives of Airports Authority of India

1.   Dr. K. Ramalingam   Chairman
2.   Shri P. Seth   Member (Operations)
3.   Shri V.P. Agrawal   Member (Planning)
4.   Shri M.C. Kishore   ED, (CA) & CS

2.   The Committee took oral evidence of the representatives of Airports Authority of India (AAI) in connection with examination of Safety and Security in its civil aviation sector.

3.   At the outset, the Chairman welcomed the representatives of AAI and also drew their attention to direction 58 of the Directions by the Speaker relating to evidence before the Parliamentary Committee. Thereafter, the representatives of AAI made an audio-visual presentation on Safety and Security Aspects of their activities.   After the audio-visual presentation, Members raised queries on various aspects pertaining to the subject and the explanations/clarifications on the same were made by the representatives of AAI. Information on some of the points raised by the Committee was not readily available with the representatives of AAI. It was, however, promised by them that the same would be furnished to the Committee Secretariat in due course.

4.   The Chairman then thanked the representatives of AAI for providing all the material/information on the subject matter as desired by the Committee.

5.   The witnesses then withdrew.

6.   XXXXXX

7.   A copy of the verbatim proceedings has been kept on record separately.

8.   The Committee then adjourned.

MINUTES OF THE 17th SITTING OF THE COMMITTEE ON PUBLIC UNDERTAKINGS HELD ON 27th FEBRUARY 2008

The Committee sat from 1530 hours to 1700 hours.

PRESENT

Chairman

Shri Rupchand Pal

Members, Lok Sabha

2	Shri Ramdas Bandu Athawale
3	Shri Francis K. George
4	Dr. Vallabhbhai Kathiria
5	Ch. Lal Singh
6	Shri Kashiram Rana

Members, Rajya Sabha

7	Prof. Ram Deo Bhandary
8	Shri Mahendra Mohan
9	Shri Ajay Maroo
10	Shri K. Chandran Pillai

Secretariat

1	Shri S.K. Sharma	Additional Secretary
2	Shri J.P. Sharma	Joint Secretary
3	Shri Ajay Kumar	Deputy Secretary-II

Representatives of Ministry of Civil Aviation

1.	Shri Ashok Chawla	Secretary
2.	Shri K.N.Shrivastava	Joint Secretary
3.	Shri Sandeep Prakash	Director
4.	Dr. K.Ramalingam	Chairman(AAI)

2.   The Committee took oral evidence of the representatives of Ministry of Civil Aviation in connection with examination of 'Airports Authority of India – Safety and Security Aspects'.

3.   At the outset, the Chairman welcomed the representatives of Ministry of Civil Aviation and drew their attention to direction 58 of the Directions by the

Speaker relating to evidence before the Parliamentary Committee. Then, Members raised queries on various aspects pertaining to the subject and the explanations/clarifications on the same were made by the representatives of Ministry. Information on some of the points raised by the Committee was not readily available with the representatives of Ministry. It was, however, promised by them that the same would be furnished to the Committee Secretariat in due course.

5. The Chairman then thanked the representatives of Ministry of Civil Aviation for providing all the material/information on the subject matter as desired by the Committee.

6. A copy of the verbatim proceedings has been kept on record separately.

MINUTES OF THE 23rd SITTING OF THE COMMITTEE ON PUBLIC UNDERTAKINGS HELD ON 28th APRIL, 2008

The Committee sat from 1600 hours to 1630 hours.

PRESENT

Chairman

Shri Rupchand Pal

Members, Lok Sabha

2   Shri Ramdas Bandu Athawale
3   Shri Gurudas Dasgupta
4   Smt. Sangeeta Kumari Singh Deo
5   Shri Francis K. George
6   Shri Shriniwas Patil
7   Shri Ram Kripal Yadav

Members, Rajya Sabha

8   Shri Pyarimohan Mohapatra
9   Shri K. Chandran Pillai

Secretariat

1   Shri S.K. Sharma   Additional Secretary
2   Shri J.P. Sharma   Joint Secretary
3   Smt. Anita Jain   Director
4   Shri N. S. Hooda   Deputy Secretary
5   Shri Ajay Kumar   Deputy Secretary-II

2.   At the outset, the Chairman, Committee on Public Undertakings, delivered the valedictory address and thanked the members of the committee and the officials of the Lok Sabha Secretariat for their cooperation and assistance rendered during the term of the committee. The Committee thereafter considered two draft reports on the following subjects and adopted the same without modifications:

(i)   Airports Authority of India-Safety and Security Aspects

(ii)   XXXXXX   XXXXX   XXXX XXXXXX

3.   The Committee authorized the Chairman to finalize these Reports for presentation.

4.   The Committee then adjourned.