



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**TWENTY-SECOND MEETING OF THE
ASIA/PACIFIC AIR NAVIGATION PLANNING AND
IMPLEMENTATION REGIONAL GROUP (APANPIRG/22)**
Bangkok, Thailand, 5-9 September 2011
**Agenda Item 3: Performance Framework for Regional Air Navigation Planning
and Implementation**
3.5 Other Air Navigation Matters
**IMPLEMENTATION OF AIR TRAFFIC CONTROLLERS CAPACITY
ENHANCEMENT AND SKILL DEVELOPMENT PROGRAMME**

(Presented by India)

SUMMARY

Airports Authority of India is vested with the responsibility for provision of the Air Navigation Services in India. In the high growth scenario of air traffic, demanding reorganization of airspace and increase of sectors for optimal performance requires enhancement of human resources, both quantitatively and qualitatively.

The information paper provides an insight into Air Traffic Controllers capacity and skill enhancement programmes adopted by India and share skill enhancement sets adopted by the other states for mutual benefit.

Strategic Objectives:

A: *Safety – Enhance global civil aviation safety*

C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

1. INTRODUCTION

1.1 Airports Authority of India (AAI) is vested with the responsibility of the Air Navigation Services including Air Traffic Services in India. To handle the high growth of air traffic with an annual traffic forecasted growth of 9.4 percent between 2010 and 2030 in South Asia and domestic traffic growing at 14% or more over Indian airspace requires planning for airport and airspace infrastructure, human resources and their skill development for continued sustenance.

1.2 AAI has been gearing itself to meet the challenges. Implementation of increased and annual intake of controllers has been the first step in augmenting the ATC manpower. The manpower strength over a period of six years has doubled from 1200 plus controllers in 2005 to 2400+ in 2011.

1.3 Consequent to the increase in recruitment, necessitated increase in training establishments, provision of state of the art ATC simulators at the training colleges, introduction of new courses on emerging technologies and introduction of skill enhancement programmes at the station level through simulated environment.

1.4 Training controllers on the capabilities and limitations of human memory is an important first step in preventing operational errors due to controller memory lapses. Providing controllers with tools to help manage their memory resources while working in ever-changing, dynamic conditions can help prevent memory lapses, and prevent and correct these errors before they develop into incidents or accidents.

2. DISCUSSION

2.1 ATCO Manpower enhancement:

2.1.1 Due to the phenomenal growth of traffic since 2004, operationalization of new airports, restructuring of airspace with the introduction of EMARSSH routes and RVSM, creation of additional sectors and demand for increase in watch hours of remote stations necessitated AAI to make a comprehensive review of ATC manpower. A short term strategy was immediately adopted by going through annual recruitment plan of recruiting and training approximately 300 controllers per annum.

2.1.2 Training capacity was enhanced by establishing new ATC Training Centres at Hyderabad and Gondia besides the premier Civil Aviation Training College at Allahabad. Regional Training Centres under direct supervision from CATC provided additional training support.

2.1.3 The strength of controllers in India has risen from 1200+ in 2004 to 2425 in 2011.

2.1.4 The projected traffic growth for the next ten years requires advance planning. In collaboration with US-ACP, a long term ATCO manpower assessment programme has been undertaken.

2.2 Provision of ATC simulators to training centers:

2.2.1 Air Traffic Controller course curriculums for initial and refresher training was revised to ensure that controllers utilize the essential skills of scanning, anticipated separation, and prioritization of control duties. Notably, these skills could be taught and strengthened with simulator training.

2.2.2 Radar simulator capable of 20+ training at any given time was commissioned in 2004. Aerodrome Visual Simulator was commissioned at training College in 2006.

2.2.3 Non Radar procedural simulators capable of training 200 controllers at any given time are in the stage of installation at the two training centres. This is intended for systematic time controlled ab-initio training. The Non Radar Simulator is planned to have the capabilities to train controllers in terminal and enroute scenario.

2.3 Skill enhancement programmes through Regional Training Simulators:

2.3.1 With the development of new technologies/concepts like PBN, RNAV, ADS-B/ Data-link operations etc., changes the work environment of controllers.

2.3.2 Regular/periodic training programmes have been introduced to keep the controllers abreast with the current requirements.

2.3.3 In order to enhance skills of the rated controllers, AAI has planned to install integrated ATC Training Simulators at four Regional ATC Centers, viz., Mumbai , Delhi, Kolkata and Chennai.

2.3.4 The simulator has multi functionalities catering to the requirements of Surface Movement with SMGCS, Tower, Approach Radar and Non Radar, Enroute, Oceanic ADS-CPDLC. The simulator is capable of unusual occurrence training which will be imparted on periodical basis to all the controllers to maintain the skill level of handling such situations.

2.3.5 The simulators procured will be capable of providing proficiency in English Language (PELA) testing tools necessary for assessment. The Computer based learning packages can be introduced depending on need through the tools provided in the simulator.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- (i) Note the Air Traffic Controllers capacity and skill enhancement programmes adopted by India; and
- (ii) Share skill enhancement sets adopted by the other states for mutual benefit.

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