

**60<sup>th</sup> CONFERENCE OF  
DIRECTORS GENERAL OF CIVIL AVIATION  
ASIA AND PACIFIC REGIONS**

*Sendai, Japan  
28 July - 1 August 2025*

**AGENDA ITEM 8: CAPACITY DEVELOPMENT AND  
IMPLEMENTATION**

**CONSTRAINT AND PROPOSED SOLUTION FOR  
DEVELOPING SKILLED WORKFORCE IN AVIATION  
(AIRPORT OPERATIONS)**

(Presented by DGCA India)

**INFORMATION PAPER**

**SUMMARY**

Aviation industry supports the global economic growth and act as one of the major transport options of cargo and passenger movement. The sector has seen considerable growth in the last few decades and further continuing to grow. Efforts are being made by the civil aviation regulators to further enhance the safety in Aviation. Unlike other industries, Aviation industry requires special skill set considering the targeted safety factors. Training and Competency assessment are the factors which are being emphasized through regulatory references. However, the skilled work force was always a concern in Aviation. The paper presents the concern in nurturing the skilled work force pertaining to the Aviation industry, especially for airport operations.

## CONSTRAINT AND PROPOSED SOLUTION FOR DEVELOPING SKILLED WORK FORCE IN AVIATION FOR AIRPORT OPERATIONS

### 1. INTRODUCTION

- 1.1 Aviation sector is a diverse industry where mix of different skill sets are required at all levels. The job responsibilities involved are very unique when compared to the other job roles across other industries. Several departments within the Aviation industry mandates specific training needs and certifications to carry the job roles. The direct fit-in into the Aviation roles when absorbed from other industries is complex and requires specific training and assessment.
- 1.2 Several information and working papers have been presented across the industry to emphasize the issue of the skilled work force requirement across several departments in the Aviation industry. The balance in retaining the skilled work force and training the new work force at different levels plays a crucial role in sustaining the present growth in Aviation.
- 1.3 The work force needed to be “skilled” even at lower levels considering the seriousness of the job which directly involves safety. ICAO SARPS and PANS document gives the references regarding the competency levels needed and evaluation of the same to assess the job specific needs of the individuals working at Airport.

***ICAO References on training and competency assessment for Aerodrome operators:***

#### **ICAO Annex 14 Vol - 1**

***10.1.2 Recommendation.***— *The design and application of the maintenance programme should observe human factors principles.*

*Note 1.*— *Guidance material on human factors principles can be found in the Human Factors Training Manual (Doc 9683) and in the Airport Services Manual (Doc 9137), Part 8.*

*Note 2.*— *General principles and procedures on the training of aerodrome personnel, including **training programmes and competence checks**, are specified in the PANS-Aerodromes (Doc 9981).*

#### **ICAO Doc 9981- procedure for Air navigation services - Part I — Appendix 1 to Chapter 2 - 3.2 On-site verification of the SMS**

*c) The capability and competence of aerodrome operator should be assessed so as to ensure sufficient management commitment to and responsibility for safety at the aerodrome.*

*This is usually achieved through the competence of the accountable executive;*

*1) responsibilities and assignments: the aerodrome operator has formally defined the responsibilities of each staff member regarding safety as well as the lines of responsibility;*

*2) training: the aerodrome operator formally monitors the staff's and subcontractors' training, ensuring that it is adequate, and takes action when necessary;*

- 1.4 As per Benefits Beyond Borders 2020 report, aviation accounts directly for 11.3 million jobs. Several experiences in handling the daily operations. Some of these jobs require training Job roles such as Airfield electrical & Civil Maintenance, ground handling, security, Operations, wildlife hazard management, Aircraft rescue and firefighting require expertise and mandates certifications as required by the regulations. Initial, recurrent and refresher training are mandated for all these professions.

- 1.5 These airports are of different categories of operations and traffic densities. A huge skilled workforce is needed to maintain this and to cater for all future needs. Airports are striving to get the skilled force and retain them to ensure the several functions of Airports are handled seamlessly.
- 1.6 Several challenges have been faced by Airports which include concerns in stability of jobs due to global changes in the specific sector such as Airlines, Geo-political conflicts, Pandemics such as COVID 19 and the recent Artificial intelligence innovations and digital transformations. This adds additional concerns in retaining the skilled workforce and developing new competent staff.

## **2. DISCUSSION**

- 2.1 The availability of a ready workforce for Aviation is not feasible for all the departments. Some functions require On-job training and assessment along with the required qualification criteria. However, the challenge is who certifies them and how to assess that they are ready for carrying out the required job roles.
- 2.2 The common concerns on present-day training needs are lacking the:
  - Defined framework for imparting the training and assessing the same prior to executing the specific job in the *airport operations* in a specific department including the validation of the content, the trainer competencies etc.,
  - Special attention or encouragement on development of new training centers/ facilities which shall include both theoretical, practical (where needed) mainly on technical aspects related to airport operations.
- 2.3 Considering the complexity, density of the traffic and category of operations, the level of maintenance varies, and Airports choose their operational and maintenance plan. For example, in a specific area such as “Aeronautical ground lighting system”, the technical competency required is very crucial for the safety of the personnel, equipment and the operations. A survey has been done across 6 airports to identify the requirement of competent staff across the state for the “AGL system” and about 465 skilled manpower is needed for ensuring effective functioning of the AGL department. Considering the needs, Airports in a region can be encouraged to develop their own training centers under the guidance and recognition of state regulator. This helps in complying with the training needs of a specific department.
- 2.4 The process of identifying the training centre includes assessing the training centre, trainers, the training content and recognizing them as part of the initial assessment. This can help in encouraging the development of small training facilities within the region that can ultimately develop the skilled workforce in a sector.
- 2.5 The paper is presented to evaluate the existing methods in developing the training facilities locally by Airports in a region and recognizing them and thereby and hence, improving the skilled work force in the aviation sector especially in airport operations.

## **3. ACTION BY THE CONFERENCE**

- 3.1 The Conference is invited to note the information contained in this Paper.

— END —