



**WORKING PAPER**

**THIRTEENTH AIR NAVIGATION CONFERENCE**

**Montréal, Canada, 9 to 19 October 2018**

**COMMITTEE A**

**Agenda Item 3: Enhancing the global air navigation system**

**3.5: Other ATM issues**

**REQUIRED SUCCESSFUL ACHIEVEMENT OF BASIC TRAINING OBJECTIVES  
BY ALL ATSEP**

(Presented by the International Federation of Air Traffic Safety Electronics  
Associations (IFATSEA))

**EXECUTIVE SUMMARY**

This paper describes a proposal to make the successful achievement of the Basic Training Objectives as listed in the ICAO *Manual on Air Traffic Safety Electronics Personal Competency-based Training and Assessment* (Doc 10057) mandatory for all Air Traffic Safety Electronics Personnel (ATSEP).

**Action:** The Conference is invited to:

- a) note the increasing roles and responsibilities of ATSEP for maintaining a safe communications, navigation, and surveillance/ air traffic management (CNS/ATM) infrastructure;
- b) encourage ICAO and States to create harmonization by pursuing professional recognition of ATSEP's by encouraging ANSP's to implement competency-based training ATSEP scheme to better support the safety-critical ATM and CNS equipment operations; and
- c) support the requirement for all ATSEPs to have successful completion of all Basic Training Objectives in Doc 10057, Appendix B.

**1. INTRODUCTION**

1.1 Background information regarding the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868): In February 2015, procedures for the implementation of competency-based training and assessment for ATSEP were included in the Doc 9868. These procedures provide States, air navigation service providers (ANSPs) and training providers with guidance on how to structure their approach to training and assessment of ATSEP. The procedures provide a flexible framework that stakeholders can adapt to their local operational contexts and requirements. Some of the provisions already included in the PANS-TRG are of a generic nature and can apply to all aviation functions including air traffic management (ATM) personnel.

1.2 Background information regarding the *Manual on Air Traffic Safety Electronics Personnel Manual Competency Based Training and Assessment* (Doc 10057): The purpose of this manual is to provide additional guidance to the provisions of the PANS-TRG and support stakeholders in the

successful implementation of competency-based training and assessment for ATSEP. Initial training is made up of Basic Training and Qualification Training. Doc 10057 states that all ATSEP should successfully complete Basic Training.

1.3 Basic Training Objectives: In the Initial Phase of training for ATSEP (as described in Doc 10057), the first part of training is Basic Training. It is designed to provide underpinning knowledge for all further training. At the end of basic training, trainees should have acquired general knowledge regarding: a) International and national organizations and Standards; b) Air traffic services, airspace Standards, aeronautical information systems, meteorology and altimetry; c) communications, navigation, and surveillance/ air traffic management (CNS/ATM) concepts; and d) Human factors (a detailed description of the Basic Training Objectives is in the Appendix of this document).

1.4 Background information regarding workshops in support of Docs: Starting in June 2016 at the ICAO office in Montréal, workshops have been delivered at all ICAO Regional offices based on Doc 9868, the *Manual on Air Traffic Controller Competency-based Training and Assessment* (Doc 10056) (ATCO) and Doc 10057 (ATSEP) manuals. The purpose of the workshops was to provide guidance for the implementation of Competency-based Training and Assessment for ATSEP's and ATCO's. The workshops were three days in length. The first day of the workshop was common to both ATSEP and ATCO. For the second day and the morning of the third day, ATSEP and ATCO attend separate sessions, with the two groups rejoining for a common session on the afternoon of the third day. The ATSEP portion of the workshop has been presented by both IFATSEA and Civil Air Navigation Services Organisation (CANSO) members. IFATSEA and CANSO were also involved with the initial design and development of the workshop. During the second day, the concept of ANSP's using the Basic Training Objectives as a foundation for all ATSEP training as outlined in Doc 10057 is discussed.

## 2. DISCUSSION

2.1 The world is building a robust and efficient air navigation system. The worlds CNS/ATM technology continue to evolve and have no longer geographical boundaries. CNS/ATM electronic system information/data from a specific CNS or ATM system is being distributed "electronically" throughout the world. ATSEP's are tasked with installation and maintenance of these ATM systems/equipment. The ATSEP's role continues to increase their contribution to the safety chain. Basic training for ATSEPs can be considered the foundation of the ATSEP's training contributing to the optimal performance of the air navigation system.

2.2 In support of ICAO's fifth key air navigation policy principles: Global Air Navigation Plan (GANP, Doc 9750). The global air navigation priorities are described in the GANP. ICAO should develop provisions, supporting material and provide training in line with the global priorities for air navigation.

2.3 IFATSEA has passed a motion to establish a committee tasked with creating a training course material package that supports the objectives outlined in ICAO Doc 10057, Appendix B.

## 3. CONCLUSION

3.1 The Conference is invited to note the actions in the executive summary.

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## APPENDIX

### DESCRIPTION OF BASIC TRAINING OBJECTIVES

#### *International and national organizations and standards*

CNS/ATM systems operations are regulated by international organizations that provide rules and Standards to ensure the safe operation and interoperability of ANS worldwide. Among these organizations are ICAO, the European Civil Aviation Conference (ECAC), the European Aviation Safety Agency (EASA) and the Institute of Electrical and Electronic Engineers (IEEE). Achievement and maintenance of safety and efficiency in air aviation operations depend on the standardization of operational practices for international services. The syllabus should give a general view on aviation regulations as adopted by ICAO and implemented in international ANS operations.

#### *Air traffic services, airspace Standards and meteorology*

CNS/ATM systems are vital to the safe, reliable and efficient delivery of air traffic services. ATSEP perform critical tasks on CNS/ATM systems or equipment which impact users. In order for ATSEP to fully understand the impact of their work on these systems, they must have a sound knowledge of the ATM operational environment. The consequences of system outages and their negative impact on users (i.e. pilots, air traffic controllers) may result in unsafe situations or cause excessive delays in airline operations.

#### *CNS/ATM concepts*

The ATSEP's main activities are to maintain, modify, repair and develop CNS/ATM systems, while keeping them fully operational and safe. The consequences of system outages and their direct impact on the users (i.e. pilots, air traffic controllers) may result in unsafe situations or cause excessive delays in airline operations. The syllabus gives a general view of these concepts, including power distribution.

#### *Human factors*

Lapses in human performance are cited as causal factors in the majority of accidents. A better understanding and knowledge of human factors in ATSEP work can potentially decrease the accident rate. This module introduces ATSEP to fundamental human factors concepts in ANS.

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