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WORKING PAPER

ASSEMBLY — 39TH SESSION

TECHNICAL COMMISSION

Agenda Item 37: Other issues to be considered by the Technical Commission

THE INTEGRATION OF AIR TRAFFIC SAFETY ELECTRONIC PERSONNEL INTO ICAO ANNEX 1

(Presented by India)

EXECUTIVE SUMMARY

The on-going implementation of air traffic management (ATM) automation systems, upper airspace harmonization, radar networking, satellite-based augmentation system (SBAS) (GPS and geostationary earth orbit augmented navigation (GAGAN)), ground-based augmentation system (GBAS), C- ATFM, ATS interfacility data communications (AIDC), DCL and A-SMGCS in ATM/Air navigation services (ATM/ANS) and with the implementation of advanced technological solutions it is well considered to improve safety, capacity and efficiency of ANS. Global initiatives like SESAR , NextGen, CARATS in other countries will also improve capacity and efficiency in global aviation while improving safety.

Member States need to ensure that they have trained, qualified and competent personnel in ANS for maintenance and operation of these technologically advance and complex systems. Such personnel shall (usually) hold a license and required rating in accordance with the applicable provisions. As per ICAO terminology these personnel are globally recognised as air traffic safety electronic personnel (ATSEP).

States have developed their own standards and requirements for air navigation services personnel other than those personnel covered by Annex 1 — *Personnel Licensing* .The resulting dissimilarity among those requirements leads to lack of uniformity which may be counterproductive and does not ensure uniform levels of safety.

Referring to Annex 1, the requirements for the issuance of a license have not yet accommodated ATSEP, although, this was decided in principle and the 38th Session of the Assembly decided to request the ICAO Council to identify the safety case.

Safety incidents and accidents have a strong relation with ATSEP and communications, navigation, and surveillance/air traffic management (CNS/ATM) air navigation systems (ANS). Considering the fact other personnel in the ANS chain, like pilots, aircraft maintenance engineers (AMEs), air traffic controllers (air traffic controllers), aeronautical station operators, etc. are covered within the ambit of Annex 1 provisions, not covering ATSEPs is a flaw in the safety chain system.

On-going and future integration of ground and aircraft systems also makes it essential that personnel who are entrusted with the maintenance and operation of ground bases air navigation systems have the same level of competency so that safety is not compromised.

Action: The Assembly is invited to develop a specific roadmap for licensing requirements for ATSEPs and update accordingly Annex 1 — *Personnel Licensing* (alongside/based upon the identification of links of the ATSEP profession with safety-related tasks).

Strategic Objectives:	This working paper relates to the Safety Strategic Objective.
Financial implications:	Nil.
References:	Annex 1 — *Personnel Licensing* Annex 10 — *Aeronautical Telecommunications* Doc 9868, *Procedures for Air Navigation Services –Training* Doc 7192, *Training Manual*, Part E-2 , Doc 8071, *Manual on Testing of Radio Navigation Aids*

1. INTRODUCTION

1.1 The development of the modern air navigation systems are arranged in a single uniform system by integrating flight infrastructure, methods, procedures, and regulations to ensure safe, efficient and effective operations. In today's environment, technology in air navigation systems are evolving more rapidly than the capacity of aviation stakeholders can cope with it e.g. integration of Ground Based Systems with Aircraft Based Systems. Consequently, it is necessary for air traffic safety electronic personnel (ATSEP) to accommodate this rapid evolution.

1.2 ATSEP are responsible for communications, navigation, and surveillance (CNS)/air traffic management (ATM) systems for the provision of required communication performance (RCP), required navigation performance (RNP) and required surveillance performance (RSP) which are critical enablers to performance-based navigation (PBN) as stipulated by ICAO.

1.3 The extensive networking of CNS/ATM systems (specially cross border) poses new cyber-security challenges in the area of ATM/ANS and imposes that highly trained, skilful and accountable ATSEPs have to be employed ensuring the required performance of the corresponding CNS/ATM infrastructure. ATSEPs are in the forefront of addressing cyber security issues either in the networked system constituents or remote CNS facilities and need to be trusted, competent and responsible.

1.4 The Next Generation Aviation Professionals (NGAP) program includes ATSEPs alongside with the ATCOs in the process of developing the competency -based training concept.

2. DISCUSSION

2.1 Under several national regulations, ATSEPs are the authorised personnel who are competent to operate, maintain, release from and return into operations CNS/ATM systems. Moreover, they are responsible for ensuring the availability, accuracy, integrity and continuity of CNS/ATM services to ATC and directly to the airspace users (e.g. navigation is provided directly to the pilot) ensuring safety.

2.2 Continuity of CNS/ATM systems services is very important for aviation business. Thus, besides the imperative safety element, the availability of CNS/ATM services impacts efficiency and cost elements of operations as a whole.

2.3 It is widely accepted that various actors, whether individuals or organized groups, may seek to interfere with aviation-related systems with malicious intent. Their collective determination knows no limit and we should resolve to work together to mitigate the threats they

pose. ATSEPs are required to identify and resolve these system intrusions in real time thus ensuring the Safety, Security and efficiency of ANS.

2.4 Annex 1 — *Personnel Licensing* sets Standards and Recommended Practices (SARPs) on licensing and rating for various aviation professionals viz. pilots, flight crew members, aircraft technician/mechanics/engineers, ATCOs etc. However, Annex 1 provisions have not yet accommodated for ATSEP, and, although this was decided in principle by the 36th Session of the Assembly, no actions were made. Furthermore the issue was raised again in the 38th Session of the Assembly where it was further decided to request the ICAO Council to identify the safety case. The ATSEP profession is the only one of the NGAP which remains to be licensed.

2.5 States develop national requirements for the issuance of licenses and ratings for air navigation personnel other than personnel already included in Annex 1. Although usually following guidance in ICAO documents, such national requirements create dissimilarity among States relating to their requirements for the issuance of the license or certificate of competence for ATSEPs. Several States have established legislation that requires ATSEPs to have a license (e.g. Turkey ["Regulation on the Examination, Certification and Licensing of Air Traffic Safety Electronics Personnel (SHY-ATSEP)", promulgated by the Directorate General of Civil Aviation on 14.11.2013], Ghana [Ghana Civil Aviation Regulation Part 23, Section 6 ATSEP Licensing], Japan [Radio Law of Japan regulates ATSEP be license holder of 1st or 2nd class radio technical operators as the minimum requirement in Japanese ATSEP qualification system],and Nepal [Enacted by Civil Aviation Authority of Nepal, pursuant to Rule-31(5) of Civil Aviation Regulation- 2058 (2002)].

2.6 ATSEP is the key profession responsible for safe and secure air navigation services. The need for enhanced competency, responsibility and accountability for ATSEPs is already stipulated in ICAO's *Training Manual* (Doc 7192) as well as in the *Procedures for Air Navigation Services — Training* (PANS-TRG, Doc 9868). The NGAP program and Doc 9868, with a strong rational, includes ATSEPs alongside with the ATCOs in the process of competency-based training concept. However, the implementation of ATSEP training and competency provisions contained in Doc 7192 and Doc 9868 is up to each State's discretion. Due to this, ATSEPs involved in the technical operation and installation of CNS/ATM systems are trained and qualified under various standards of different States. The introduction of corresponding common requirements in Annex 1 will render them imperative and binding for all the States

2.7 Licensing of aviation professionals has considerably enhanced safety by providing regulatory standards that guarantee global application of the requirements. ATSEPs, who are presently not covered by the SARPs of Annex 1, should therefore be included. It is commonly believed that such global requirements for issuance of license for ATSEPs would contribute to creation of standardised environment in competency domain resulting in the further enhancement of aviation safety.

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