



**WORKING PAPER**

**ASSEMBLY — 42ND SESSION**

**TECHNICAL COMMISSION**

**Agenda Item 25: Other issues to be considered by the Technical Commission**

**PROVISION FOR THE ISSUANCE OF PERSONNEL LICENSES TO AIR TRAFFIC SAFETY  
ELECTRONICS PERSONNEL (ATSEP) ENGINEERS AND THE DEVELOPMENT OF  
CORRESPONDING ICAO IMPLEMENTING STANDARDS**

(Presented by Kazakhstan)

**EXECUTIVE SUMMARY**

This working paper addresses a critical gap in the global aviation safety framework: the absence of ICAO provisions for the licensing of air traffic safety electronics personnel (ATSEP) engineers, who ensure the reliability of communication, navigation, and surveillance (CNS) and air traffic management (ATM) systems. These systems are essential to safe and efficient air traffic control.

Just as licensed aircraft maintenance engineers (AMEs) uphold aircraft airworthiness, ATSEP engineers safeguard the infrastructure on which air traffic services depend. In an increasingly digital and performance-based environment, their standardized qualifications and oversight are vital. Yet, without harmonized licensing requirements, variations across States pose risks to global safety, interoperability, and accountability. While the *Manual on Air Traffic Safety Electronics Personnel Competency-based Training and Assessment (Doc 10057)* offers competency-based training guidance, the absence of binding provisions in Annex 1 — *Personnel Licensing* leaves States without a common licensing framework. Some, including Kazakhstan, have implemented national systems, proving both the feasibility and value of formal ATSEP recognition.

This paper proposes that ICAO initiate the development of Standards and Recommended Practices (SARPs) and related guidance under Annex 1 to ensure consistent qualifications, support State oversight, promote cross-border mobility, and enhance the overall safety and efficiency of air navigation services.

**Action:** The Assembly is invited to:

- a) acknowledge the critical safety role played by air traffic safety electronics personnel (ATSEP) engineers in the operation and integrity of CNS/ATM systems;
- b) request the ICAO Council to initiate the process of amending Annex 1 to include licensing provisions for ATSEP engineers;
- c) recommend the development of new ICAO SARPs and guidance materials to support the implementation of ATSEP licensing, building upon existing resources such as Doc 10057; and
- d) encourage Member States and relevant stakeholders to contribute to this initiative through the Air Navigation Commission and relevant expert panels.

<i>Strategic Goals:</i>	This working paper relates to <i>Every Flight is Safe and Secure</i> .
<i>Financial implications:</i>	The financial impacts will depend on approved decisions.
<i>References:</i>	Annex 1 — <i>Personnel Licensing</i> Doc 10057, <i>Manual on Air Traffic Safety Electronics Personnel Competency-based Training and Assessment</i> Doc 9868, <i>Procedures for Air Navigation Services — Training (PANS-TRG)</i>

## 1. INTRODUCTION

1.1 The safety of air navigation systems is underpinned not only by operational personnel such as air traffic controllers and pilots but also by highly skilled technical personnel responsible for the design, maintenance, and integrity of critical systems. These individuals are commonly referred to as air traffic safety electronics personnel (ATSEP).

1.2 ATSEP engineers maintain and manage communication, navigation, surveillance (CNS), and air traffic management (ATM) systems. As aviation evolves and technologies become increasingly complex and interconnected, the need for standardized qualifications and oversight of ATSEP functions becomes imperative.

1.3 Currently, ICAO Annex 1 — *Personnel Licensing* does not include provisions for the licensing of ATSEP, resulting in varied approaches across States and a lack of international standardization. This situation may compromise the consistent application of safety practices and weaken global interoperability.

## 2. BACKGROUND

2.1 The *Manual on Air Traffic Safety Electronics Personnel Competency-Based Training and Assessment* (Doc 10057), offers valuable guidance for training and evaluating ATSEP. However, without formal incorporation into Annex 1, these recommendations remain non-binding.

2.2 Several ICAO Member States, including Kazakhstan, have recognized this gap and initiated the development of national licensing frameworks for ATSEP. These efforts reflect a growing awareness of the safety-critical nature of ATSEP roles.

2.3 With the rise of performance-based navigation, digitalized systems, and cybersecurity concerns, ATSEP responsibilities now directly impact the operational safety of aircraft and air traffic services. Their competence must therefore be assured through a formal mechanism.

2.4 Other domains of aviation personnel—such as aircraft maintenance engineers—already benefit from globally harmonized licensing under Annex 1. A similar framework is warranted for ATSEP, who play a comparable role in safety assurance.

### 3. DISCUSSION

3.1 There is a growing consensus among States and industry stakeholders that licensing ATSEP engineers would enhance the safety, reliability, and efficiency of global air navigation services.

3.2 The benefits of licensing ATSEP engineers under Annex 1 include:

- a) establishing minimum qualifications and competence standards;
- b) improving oversight and accountability for safety-related technical activities;
- c) supporting harmonization and mutual recognition between States;
- d) enabling cross-border recognition and mobility of qualified personnel; and
- e) strengthening the implementation of safety management systems (SMS).

3.3 Kazakhstan has already enacted national regulations classifying ATSEP engineers as aviation personnel and establishing mandatory training requirements based on competency assessments. Although a formal licensing mechanism has not yet been introduced, the implementation of structured training standards has contributed to improved oversight, enhanced training quality, and better technical performance.

3.4 ICAO's leadership is needed to expand this practice globally by initiating work on the inclusion of ATSEP in Annex 1 and by developing associated SARPs and guidance materials.

3.5 This initiative aligns with the ICAO Global Aviation Safety Plan (GASP) objectives, particularly in terms of building robust State safety oversight capabilities and improving personnel competence.

### 4. WAY FORWARD

4.1 Steps toward the development and implementation of ATSEP licensing provision:

- a) recognition of ATSEP as a distinct category of licensed aviation personnel;
- b) amendment of Annex 1 to define the scope of ATSEP licensing;
- c) development of minimum training, examination, and medical fitness standards;
- d) integration with competency-based training frameworks such as those in Doc 10057; and
- e) cooperation with industry bodies such as International Federation of Air Traffic Safety Electronics Associations (IFATSEA) to ensure alignment with operational realities.

4.2 ICAO may consider establishing a dedicated expert working group, under the auspices of the Personnel Training and Licensing Panel (PTLP), to initiate the development of ATSEP licensing provisions. This group could include subject matter experts from States, international organizations, and industry stakeholders to ensure comprehensive and practical recommendations.

## 5. CONCLUSION

5.1 The proposed actions summarize the call for global recognition and standardization of ATSEP licensing. By amending Annex 1 and developing supporting SARPs, ICAO can strengthen the safety oversight framework and ensure consistent qualifications for a critical category of aviation professionals. Member States are encouraged to support and participate in this initiative.

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