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Twenty-Second Meeting of the AFI Planning and Implementation Regional Group (APIRG/22)
(Accra, Ghana, 29 July – 2 August 2019)

Agenda Item 2.2: 2.2.   Airspace and Aerodrome Operations

REPORT OF THE AIR TRAFFIC SERVICES COMPETENCY STUDY GROUP (ATSCSG)

(Presented by IFATCA)

SUMMARY
This paper acts as a report of the ATSCSG and seeks to invoke discussions on the different levels of competency of ATC personnel based on training and equipment used in various ATM units across the AFI region. It is believed that lack of harmonized standards for ATC training and indoctrination into various ATC environment may lead to a significant variance in level of service delivery and to some extent affect the level of ATM capacity and safety. Data on the level of variance, is required to be able to craft workable and sustainable interventions. APIRG Decision 19/18 established the **Air Traffic Services Competency Study Group (ATSCSG)** for the purposes of carrying out an analysis of the impact on aviation safety by the different methods of trainings offered by the many Aviation Training Organizations in the region.
REFRENCE(S): ICAO Doc 9841 Manual for Approval of Training Organizations ICAO Doc 9868 Procedures for Air Navigation Services- Training ICAO Doc 10056 Manual on Air Traffic Controller Competency-based Training and Assessment ICAO Assembly resolution A38-12, Appendix D APRIG Decision 19/18
Related ICAO Strategic Objective(s): **A** – *Aviation Safety,* **B** – *Air Navigation Capacity and Efficiency*

1.   INTRODUCTION

1.1   APIRG Decision 19/18 required the Establishment of the ATS Competencies Study Group in order to:

   a) Study the shortcomings in ATC training including States' (and ANSPs) training programmes and plans; and
   b) Establish and provide recommendations that would address issues relating to lack of competency of ATS personnel in the AFI region.

The TORs of the study group are provided as Appendix 1 to this WP

1.2   First Meeting of the Air Traffic Services Competencies Study Group (ATSCSG/1) was held in Nairobi, Kenya, 22-23 July 2014.

1.3   Meeting resolved to develop a survey tool to collect data on the above two objectives. However, in order to manage costs, time and other resources, visits were to be done to selected academies/schools/institutions in AFI States and detailed focus should be on the four institutions with low output/enrolment of ATM and AIM (including Message Handling) candidates, and four with the highest output. In addition, four ANSPs having the highest number of UCRs should be visited.

1.4   Survey was rolled out in May 2016 through to 2017. Only 4 responses were received.

1.5   Tasks 1.3 & 1.4 called for time and resources to be committed to the project. Whereas the study group comprises of members dedicated to the course, funds have not been available.

2.   DISCUSSION

2.1   The ICAO TRAINAIR PLUS Programme (TPP), which was launched in 2010, has successfully expanded into a global cooperative network of aviation training organizations and industry partners. TPP constitutes valuable ICAO support to its Member States and the aviation industry through the implementation of high-quality standards in civil aviation training and capacity building. Additionally, this Programme is one of the key pillars of the ICAO Civil Aviation Training Policy, which entered into force on 1 July 2014, and assists in implementing sustainable human resources development strategies, consistent with Assembly Resolution A38-12, Appendix D.

> **The Assembly resolves that:**
>
> 1. ICAO shall assist Member States in achieving and maintaining competency of aviation personnel through the ICAO Aviation Training Programme;
> 2. The ICAO Aviation Training Programme shall be governed by the following principles:
>   a) qualification of aviation professionals is the responsibility of Member States;
>   b) the highest priority is placed on learning activities that support the implementation of SARPs;
>   c) cooperation with Member States and industry is essential to develop and implement learning activities to support the implementation of SARPs; and
>   d) priority shall be placed on cultivating the next generation of aviation professionals.
> 3. ICAO advises operators of training facilities but does not participate in the operation of such facilities; and
> 4. Member States assist each other to optimize access to learning activities for their aviation professionals.
>
> **Associated practices**
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> 1. The Council should assist Member States to harmonize aviation professionals' levels of competency. These efforts should be based on:
>   a) data analysis to determine priorities and needs;
>   b) identified training needs for the implementation of ICAO provisions; and
>   c) a competency-based approach.

2.2   ICAO Annex 1 sets out the applicable Air Traffic Control Officer (ATCO) standards for the rating, validation, medical fitness,
Aviation English and procedures for acquiring a license, keeping the license valid, renewal of the license and even provisions for withdrawal of ATC license under certain conditions. Where all these conditions are met, the ATCO is licensed to perform an air traffic control service. Where they are not, the ATCO cannot perform an air traffic control service.

2.3   Doc 9841 *Manual on Approval of Training Organizations*
Has given guidelines on the approval of Approved Training Organizations (ATO) where Air Traffic Management (ATM) personnel training should be conducted. It stipulates the requirements for an acceptable ATC training program/manual. Such approval is largely based on syllabus that is structured as a single document for both theoretical and practical training. In this regard, the Doc 9841 recognizes that numerous new and emerging differences in training brought about by rapid advancements in technology, by improved methodologies in training programme and courseware design, and by the need to realize significant increases in safety levels through training that is more job focused.

2.4   Rapidly introduced improvements in simulation fidelity have, in many instances, outpaced the ability to embrace the full potential of simulation within the training environment. A seamless transfer of learned skills from a highly simulated training environment to the actual work environment is always not likely to happen. To address this, a competency based approach to ATC training, from the training organization through to the live environment is proposed

2.5   Doc 9868 *Procedures for Air Navigation Services — Training*
Outlines the general principles and procedures to be followed in the design and implementation of competency-based training and assessment of ATM personnel. It outlines key features of the competency-based approach and describes how it is to be used by course developers, instructors and examiners. It also outlines the principles and procedures that are applicable to the development and implementation of competency-based training for ATCOs by those training organizations or air navigation services providers (ANSPs) opting for a competency-based approach. Implementation of this requirement is at various stages and states have equally adopted different approaches, based on their operational and financial constraints.

Requirements for a competency based approach (Doc 9868)

> **Competency.** A dimension of human performance that is used to reliably predict successful performance on the job. A competency is manifested and observed through behaviours that mobilize the relevant knowledge, skills and attitudes to carry out activities or tasks under specified conditions.
>
> **Competency-based training and assessment.** Training and assessment that are characterized by a performance orientation, emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.
>
> **Competency standard.** A level of performance that is defined as acceptable when assessing whether or not competency has been achieved.

2.6   Doc 10056 *Manual on Air Traffic Controller Competency-Based Training and Assessment*: The ATM system is evolving towards a globally integrated and collaborative system. Air traffic controllers (ATCOs) managing and operating this system must have a shared understanding of what is expected of them in terms of performance wherever they may work in order to support a globally interoperable system and to achieve optimum capacity within acceptable safety limits. This shared understanding becomes critical when considering the increasing traffic and the growing complexity and interconnectedness of the systems involved. As controller-pilot and system-to-system interfaces evolve, the ATCOs managing and operating these systems need to share a common reference to ensure seamless operations.

2.7   The design of a competency competency-based training and assessment needs to be specific to the environment and requirements. It makes use of the ICAO ATCO competency framework and the ADDIE (analyze, design, develop, implement and evaluate) instructional design model.

3   **OBSERVATIONS**

3.1   Whereas Annex 1 makes provisions for standards for issuing an ATC license, the region may not have a common way of compliance.

3.2   It is noted that the region may have challenges in a standard methodology to seamless transition from a simulated environment to a live environment.

3.3   Success of a competency based framework that adequately bridges theory with practice is context dependent.

3.4   The shortcomings identified earlier through studies by IFATCA on the need to address variance between existing operational requirements, industry best practices and ICAO recommendations for ATC training still exist. The need for continuity of the study is thus still valid.

3.5   In order to inform any interventions to ATC competence within the region, it is paramount that the objectives of the study be realized in order to provide reliable data on the variance of the requirements stated above and the reality within AFI.

4. **ACTION BY THE MEETING**

4.1   The meeting is invited to:

   a) Take note of the APRIG 19/18 and approve the continuation of the study.
   b) Allocate funds for the continuation of the project as per the recommendations above.
   c) Provide guidance on the work of the study.

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TERMS OF REFERENCE OF THE AIR TRAFFIC SERVICES COMPETENCY STUDY GROUP (ATSCSG)

Terms of Reference (TOR)

1.   The ATSCSG will review and assess the adequacy of training in the following areas against ICAO Annex 11 requirements, Doc 4444 and common operational requirements (industry best practices) as follows:

   a) Aviation Training Academies, schools and institutions.
   b) Abridging (conversion) training being provided by ANSPs in order to bring their candidates to set Standards and to specific requirements air traffic services units (ATSUs) requirements (airspace configuration, aircraft movements, procedural or radar control, etc.).
   c) Type and quality of on-the-job (OJT) training being provided, covering both initial and in-service OJT.
   d) Recurrent training.
   e) Special training including introduction/indoctrination to new technologies.
   f) Development and implementation of training programmes and training plans (Ref. ICAO USOAP Audit reports)
   g) ANSP mechanisms to identify and rectify competency deficiencies

2.   The ATSCSG will review the shortcomings in these areas and will make recommendations to the ATM/AIM/SAR SG to address and rectify them, so as to close the gaps identified.

3.   Surveys should be conducted to cover all AFI States. However, in order to manage costs, time and other resources, visits should be taken to selected academies/schools/institutions in AFI States and detailed focus should be on the four institutions with low output/enrolment of ATM and AIM (including Message Handling) candidates, and four with the highest output. In addition, four ANSPs having the highest number of UCRs should be visited.

4.   The ATSCSG will be guided by ICAO and will submit interim progress reports to the ESAF Regional Office through the TAG.

5.   The report and proposals of the ATSCSG will be submitted to the ATM/AIM/SAR Sub-Group.

6.   Composition/Number of Experts: South Africa, Swaziland (now Eswatini), Uganda, Ghana, Roberts FIR, Kenya, ASECNA, IFATCA, IFALPA, IATA, ARMA.

7.   The Study Group may, with the agreement of the Secretariat invite other expertise as necessary.

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