

FIJI AERONAUTICAL INFORMATION CIRCULAR



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Competency Assessment and Evaluation for Pilots, Instructors and Evaluators

1.0 BACKGROUND

- 1.1 There is industry-wide consensus that, in order to reduce aircraft hull loss and fatal accident rates, a strategic review of recurrent training for airline pilots is necessary. Consequently, procedures for evidence-based training (EBT), developed by the IATA Training and Qualifications Initiative, were introduced in Amendment 2 to the PANS-TRG issued in 2013 and are intended as a means of assessing and training key areas of flight crew performance in a recurrent training system. In addition, qualifications of the instructor were expanded.
- 1.2 Between 2006 and 2010, aeroplane accidents resulting from a loss of control in flight (LOC-I) event were the leading cause of fatalities in commercial aviation. Recognizing the need to identify and effectively implement mitigating strategies, the prevention of aeroplane upsets quickly became an ICAO priority. Following extensive studies of the LOCI phenomena, in collaboration with civil aviation authorities (CAAs), aviation accident investigative bodies, LOC-I focus groups, industry associations, original equipment manufacturers and subject matter experts from around the world, it became readily apparent that deficiencies in current training practices were contributing factors in most aeroplane upset related accidents. Consequently, Amendment 3 to the PANS-TRG improved the existing ICAO Standards and Recommended Practices (SARPs) and supporting guidance material by introducing aeroplane upset prevention and recovery training (UPRT) requirements.
- 1.3 In 2018, the Secretariat, with the assistance of the Competency-based Training and Assessment Task Force, developed Amendment 7 to align the existing material in the PANS-TRG with Amendment 5 to the PANS-TRG and to update some references and procedures. Notable changes include the introduction of new ICAO competency frameworks.

2.0 SCOPE AND PURPOSE

- 2.1 This AIC is intended to provide guidance to Operators (AOC) and Aviation Training Organizations (ATO) for the **competency assessment and evaluation of pilots, instructors and evaluators in the context of the global expansion of Competency-based Training and assessment (CBTA) programs**. Since ICAO has released the Doc 9868 Pans TRG amendment 7, the principles of CBTA are applicable to all licensing and operator training with

the goal to provide a competent workforce for a safe and efficient air transport. CBTA programs are **also performance-based training programs that integrates per design a continuous monitoring and evaluation of the course**. The training system performance is measured and evaluated through a feedback process that use training metrics to collect the post-delivery training program data.

3.0 GENERAL PROVISIONS

3.1 Components of a CBTA program

CBTA programs are outlined respecting a robust instructional systems design (ISD) methodology. The ISD can serve as a basis to derive the essential components of competency-based training and assessment as described below.

In **bold** the components that are directly related to competency assessment:

- A training specification that describes the purpose of training, the task list and the requirements that must be fulfilled when designing the training
- **An adapted competency model**, which is a group of competencies with their associated description and performance criteria adapted from an ICAO competency framework that the ATO/AOC uses to develop competency-based training and assessment for pilots and instructor-evaluators
- **An assessment plan** providing the process and tools for gathering valid and reliable evidence at different stages during training
- A training plan describing the training required to achieve the competencies. It includes but is not limited to a syllabus (including knowledge, skills and attitudes (KSA), milestones, lesson plans and schedules), and
- Training and **assessment materials** and the human, material and organizational resources needed to implement training and assessment plans.

3.2 CBTA training system performance

CBTA is a performance-based training program that integrates per design a continuous monitoring and evaluation of the course. Under CBTA, the training system performance is measured and evaluated through a feedback process in order to validate and refine the program and ascertain that the organization program develops pilot competencies and meets the training objectives. The feedback process should be included in the AOC or ATO safety and compliance management system.

The typical CBTA feedback process should use defined training metrics to collect data in order to:

- identify trends and ensure corrective action where necessary;
- identify collective training needs;
- review, adjust and continuously improve the training program;
- further develop the training system; and
- standardize the instructors.

Typical metrics include but are not limited to:

- differences in success rates between training topics
- grading metrics
- trainee's and instructor's feedback, which provides individual perspective as to the quality and effectiveness of the training
- differences in success rates between different trainee cohorts
- distribution of errors for various training topics, scenarios and aircraft class or types
- distribution of level of performance within the range of competencies and outcomes
- instructor inter-rater reliability data

4.0 Competencies and Threat and Error Management (TEM)

The role of the competencies within the Threat and Error Management model has been formalized at international level. First, ICAO Doc 9868 (PANS-TRG) Amendment 7 states that: "From a competency-based training and assessment perspective, the competencies of the approved adapted competency model provide individual and team countermeasures to threats and errors and undesired aircraft states. CRM skills are embedded in the approved adapted competency model. Therefore, the CRM training supports the development of the competencies as countermeasures in the TEM concept."

5.0 References

- ICAO DOC 9868 PROCEDURES FOR AIR NAVIGATION SERVICES - **TRAINING** [PANS]
- IATA GUIDANCE (PDF) - COMPETENCY ASSESSMENT AND EVALUATION FOR PILOTS, INSTRUCTORS AND EVALUATORS