

## ANNEX Ib to EASA Opinion No 08/2019

Draft Annex to draft Commission Implementing Regulation (EU) ..../... amending Commission Regulation (EU) No 965/2012 as regards the requirements for flight crew competence and training methods

Annex I (Definitions for terms used in Annexes II to VIII) to Commission Regulation (EU) No 965/2012 is amended as follows:

(1) the following definitions are inserted in Annex I:

‘(23a) ‘competency’ means 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 mobilise the relevant knowledge, skills and attitudes to carry out activities or tasks under specified conditions;

(23b) ‘competency-based training’ means assessment and training programmes that are characterised by a performance orientation, emphasis on standards of performance and their measurement and the development of training to the specified performance standards;

(23c) ‘competency framework’ means a complete set of identified competencies that are developed, trained and assessed in the operator’s evidence-based training (EBT) programme utilising scenarios that are relevant to operations. The chosen competency framework should be wide enough to prepare the pilot for both foreseen and unforeseen threats and errors;

(42a) ‘EBT module’ means a combination of sessions in a qualified flight simulation training device as part of the 3-year period of recurrent assessment and training;

(47a) ‘enrolment’ means the administrative action carried out by the operator where a pilot participates in the operator’s EBT programme;

(47b) ‘enrolled flight crew member’/‘enrolled pilot’ means the pilot that participates in the EBT recurrent training programme;

(47c) ‘equivalency of approaches’ (approach clustering) means all the approaches that place an additional demand on a proficient crew regardless of whether they are used or not in the EBT modules;

(47d) ‘equivalency of malfunctions’ (malfunction clustering) means all the malfunctions that put a significant demand on a proficient crew regardless of whether they are used or not in the EBT modules;

(47e) ‘evaluation phase (EVAL)’ means one of the phases of an EBT module. The evaluation phase is a line-orientated flight scenario, representative of the operator’s environment during which there are one or more occurrences to evaluate key elements of the defined competency framework. The root cause rather than the symptoms in any deficiency should be identified, in order to determine training needs;

- (47f) ‘evidence-based training (EBT)’ means assessment and training based on operational data that is characterised by developing and assessing the overall capability of a pilot across a range of competencies (competency framework) rather than by measuring the performance in individual events or manoeuvres;
- (69a) ‘in-seat instruction (ISI)’ means a technique used in the manoeuvres training phase or the scenario-based training phase, where the instructors can:
- (a) provide simple instructions to one pilot; or
  - (b) perform predetermined exercises acting, in a pilot seat, as pilot flying (PF) or pilot monitoring (PM) for:
    - (1) the demonstration of techniques; and/or
    - (2) triggering the other pilot to intervene or interact;
- (69b) ‘instructor concordance’ is the consistency or stability of scores between different EBT instructors. It gives a score (or scores) of how much homogeneity, or consensus, there is in the ratings given by instructors (raters);
- (72a) ‘line-orientated flight scenario’ refers to the assessment and training involving a realistic, ‘real-time’, full mission simulation of scenarios that are representative of line operations;
- (76b) ‘manoeuvres training phase (MT)’ means one of the phases of an EBT module. During this phase, according to aircraft generation, crews have time to practise and improve performance in largely psychomotor skill-based exercises by achieving a prescribed flight path or performing a prescribed event to a prescribed outcome. These exercises or events should place a significant demand on a proficient pilot. Flight path control may be accomplished by a variety of means including manual aircraft control and the use of auto flight systems;
- (76c) ‘mixed EBT programme’ means an operator’s recurrent training and checking programme as per ORO.FC.230, a portion of which is dedicated to the application of EBT but which does not replace proficiency checks as per Appendix 9 to Annex I (Part-FCL) to Regulation (EU) No 1178/2011;
- (98a) ‘proficient’ means the demonstration of the necessary skills, knowledge and attitudes that are required to perform any defined tasks to the prescribed standard;
- (105b) ‘scenario-based training phase (SBT)’ means one of the phases of an EBT module. This phase is designed to focus on the development of competencies, whilst the pilot is trained to mitigate the most critical risks identified for the aircraft generation. It should include the management of specific operator’s threats and errors in a real-time line-orientated environment;

Annex II (Part-ARO) to Commission Regulation (EU) No 965/2012 is amended as follows:

(2) the following point ARO.OPS.226 is inserted:

‘ARO.OPS.226 Approval and oversight of evidence-based training programmes

- (a) Where a competent authority grants an approval for EBT programmes, inspectors must receive qualification and training in EBT principles, application, approval processes and continuing oversight.
- (b) The competent authority shall assess and oversee the EBT programme, together with the processes that support the implementation of the EBT programme and its effectiveness.
- (c) Upon receiving an application for the approval of an EBT programme, the competent authority shall:
  - (1) ensure the resolution of level 1 findings in the areas that will support the application of the EBT programme;
  - (2) assess the capability of the operator to support the implementation of the EBT programme. The following elements shall be considered as a minimum:
    - (i) the maturity and capability of the operator’s management system in the areas that will support the application of the EBT programme — in particular, flight crew training;
    - (ii) the operator’s EBT programme suitability — the EBT programme shall correspond to the size of the operator, and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in those activities;
    - (iii) the adequacy of the operator’s record-keeping system, in particular with regard to flight crew training, checking and qualifications records in particular ORO.GEN.220 and ORO.MLR.115 points (c) and (d);
    - (iv) the suitability of the operator’s grading system to assess the pilot competencies;
    - (v) the competence and the experience of the instructors and other personnel involved in the EBT programme in the use of the processes and procedures that support the implementation of the EBT programme; and
    - (vi) the operator’s EBT implementation plan and a safety risk assessment supporting the EBT programme in order to demonstrate how an equivalent level of safety to that of the current training programme can be achieved.
- (d) The competent authority shall grant an EBT programme approval when the assessment concludes that the compliance with at least ORO.FC.146, ORO.FC.231, and ORO.FC.232 is ensured.

- (e) Without prejudice to ARO.GEN.120 (d) and (e), the competent authority shall notify the Agency when it starts the evaluation of an alternative means of compliance related to EBT.

Annex III (Part-ORO) to Commission Regulation (EU) No 965/2012 is amended as follows:

(3) point ORO.FC.145 is replaced by the following:

‘ORO.FC.145 Provision of training, checking and assessment

- (a) All the training, checking and assessment required in this Subpart shall be conducted in accordance with the training programmes and syllabi established by the operator in the operations manual;
- (b) When establishing the training programmes and syllabi, the operator shall include the relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012.
- (c) In the case of CAT operations, training and checking programmes, including syllabi and use of individual flight simulation training devices (FSTDs), shall be approved by the competent authority.
- (d) The FSTD shall replicate the aircraft used by the operator, as far as practicable. Differences between the FSTD and the aircraft shall be described and addressed through a briefing or training, as appropriate.
- (e) The operator shall establish a system to adequately monitor changes to the FSTD and to ensure that those changes do not affect the adequacy of the training programmes.’

(4) the following ORO.FC.146 is inserted:

‘ORO.FC.146 Personnel providing training, checking and assessment

- (a) All the training, checking and assessment required in this Subpart shall be conducted by appropriately qualified personnel.
- (b) In the case of flight and flight simulation training and checking, the personnel that provides the training and conducts the checks shall be qualified in accordance with Annex I (Part-FCL) to Regulation (EU) No 1178/2011.
- (c) For an EBT programme, the personnel that performs assessment and provides training shall:
  - (1) hold an Annex I (Part-FCL) instructor or examiner certificate; and
  - (2) complete the operator’s EBT instructor standardisation programme. This shall include an initial standardisation programme and a recurrent standardisation programme.

Completion of the operator’s EBT initial standardisation will qualify the instructor to perform EBT practical assessment.
- (d) Notwithstanding point (b) above, the line evaluation of competence shall be conducted by a suitably qualified commander nominated by the operator that is standardised in EBT concepts and the assessment of competencies (line evaluator).

(5) the following point ORO.FC.231 is inserted:

‘ORO.FC.231 Evidence-based training

(a) EBT PROGRAMME

- (1) The operator may substitute the requirements of ORO.FC.230 by establishing, implementing and maintaining a suitable EBT programme approved by the competent authority.

The operator shall demonstrate its capability to support the implementation of the EBT programme (including an implementation plan) and perform a safety risk assessment demonstrating how an equivalent level of safety is achieved.

- (2) The EBT programme shall:
- (i) correspond to the size of the operator, and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in those activities;
  - (ii) ensure pilot competence by assessing and developing pilot competencies required for a safe, effective and efficient operation of aircraft;
  - (iii) ensure that each pilot is exposed to the assessment and training topics derived in accordance with ORO.FC.232;
  - (iv) include at least six EBT modules distributed across a 3-year programme; each EBT module shall consist of an evaluation phase and a training phase. The validity period of a EBT module shall be 12 months;
    - (A) The evaluation phase comprises a line-orientated flight scenario (or scenarios) to assess all competencies and identify individual training needs.
    - (B) The training phase comprises:
      - (a) the manoeuvres training phase, comprising training to proficiency in certain defined manoeuvres; and
      - (b) the scenario-based training phase, comprising a line-orientated flight scenario (or scenarios) to develop competencies and address individual training needs.

The training phase shall be conducted timely after the evaluation phase.

- (3) The operator shall ensure that each pilot enrolled in the EBT programme completes:
- (i) a minimum of two EBT modules within the validity period of the type rating, separated by a period of not less than 3 months. The EBT module is completed when:

- (A) the content of the EBT programme is completed for that EBT module (exposure of the pilot to the assessment and training topics); and
  - (B) an acceptable level of performance in all observed competencies has been demonstrated;
- (ii) line evaluation(s) of competence; and
  - (iii) ground training.
- (4) The operator shall establish an EBT instructor standardisation and concordance assurance programme to ensure that the instructors involved in EBT are properly qualified to perform their tasks.
- (i) All instructors must be subject to this programme.
  - (ii) The operator shall use appropriate methods and metrics to assess concordance.
  - (iii) The operator shall demonstrate that the instructors have sufficient concordance.
- (5) The EBT programme may include contingency procedures for unforeseen circumstances that could affect the delivery of the EBT modules. The operator shall demonstrate the need for these procedures. These procedures shall ensure that a pilot does not continue line operations if the performance observed was below the minimum acceptable level. These procedures may include:
- (i) a different separation period between EBT modules; and
  - (ii) different order of the phases of the EBT module.

**(b) COMPETENCY FRAMEWORK**

The operator shall use a competency framework for all aspects of assessment and training within an EBT programme. The competency framework shall:

- (1) be comprehensive, accurate, and usable;
- (2) include observable behaviours required for safe, effective and efficient operations; and
- (3) include a defined set of competencies, their descriptions and their associated observable behaviours.

**(c) TRAINING SYSTEM PERFORMANCE**

- (1) The EBT system performance shall be measured and evaluated through a feedback process in order to:
  - (i) validate and refine the operator's EBT programme; and
  - (ii) ascertain that the operator's EBT programme develops pilot competencies.

- (2) The feedback process shall be included in the operator's management system.
  - (3) The operator shall develop procedures governing the protection of EBT data.
- (d) GRADING SYSTEM
- (1) The operator shall use a grading system to assess the pilot competencies. The grading system shall ensure:
    - (i) a sufficient level of detail to enable accurate and useful measurements of individual performance;
    - (ii) a performance criterion and a scale for each competency, with a point on the scale which determines the minimum acceptable level to be achieved for the conduct of line operations. The operator shall develop procedures to address low performance of the pilot;
    - (iii) data integrity; and
    - (iv) data security.
  - (2) The operator shall verify at regular intervals the accuracy of the grading system against a criterion-referenced system.
- (e) SUITABLE TRAINING DEVICES AND VOLUME OF HOURS TO COMPLETE THE OPERATOR'S EBT PROGRAMME
- (1) Each EBT module shall be conducted in an FSTD with a qualification level adequate to ensure the correct delivery of the assessment and training topics.
  - (2) The operator shall provide a sufficient volume of hours in the suitable training device for the pilot to complete the operator's EBT programme. The criteria to determine the volume of the EBT programme are as follows:
    - (i) The volume corresponds to the size and complexity of the EBT programme.
    - (ii) The volume is sufficient to complete the EBT programme.
    - (iii) The volume ensures an effective EBT programme taking into account the recommendations provided by ICAO, the Agency, and the competent authority.
    - (iv) The volume corresponds to the technology of the training devices used.
- (f) EQUIVALENCY OF MALFUNCTIONS
- (1) Each pilot shall receive assessment and training in the management of aircraft system malfunctions.
  - (2) Aircraft system malfunctions that place a significant demand on a proficient crew shall be organised by reference to the following characteristics:
    - (i) immediacy;
    - (ii) complexity;

- (iii) degradation of aircraft control;
  - (iv) loss of instrumentation; and
  - (v) management of consequences.
- (3) Each pilot shall be exposed to at least one malfunction for each characteristic at the frequency determined by the table of assessment and training topics.
- (4) Demonstrated proficiency in the management of one malfunction is considered equivalent to demonstrated proficiency in the management of other malfunctions with the same characteristics.
- (g) **EQUIVALENCY OF APPROACHES RELEVANT TO OPERATIONS**
- (1) The operator shall ensure that each pilot receives regular training in the conduct of approach types and approach methods relevant to operations.
- (2) This training shall include approaches that place an additional demand on a proficient crew.
- (3) This training shall include the approaches that require specific approval in accordance with Annex V (Part- SPA) to this Regulation.
- (h) **LINE EVALUATION OF COMPETENCE**
- (1) Each pilot shall periodically undertake a line evaluation of competence in an aircraft to demonstrate the safe, effective and efficient conduct of normal line operations described in the operations manual.
- (2) The validity period of a line evaluation of competence shall be 12 months.
- (3) The operator approved for EBT may, with the approval of the competent authority, extend the validity of the line evaluation of competence to:
- (i) 2 years, subject to a risk assessment; or
  - (ii) 3 years, subject to a line-orientated safety audit programme which identifies threats to the operations, minimises the risks of such threats, and implements measures to manage human error in the operations.
- (4) For successful completion of the line evaluation of competence, the pilot shall demonstrate an acceptable level of performance in all observed competencies.
- (i) **GROUND TRAINING**
- (1) Every 12 calendar months, each pilot shall undergo:
- (i) technical ground training; and
  - (ii) assessment and training on the location and use of all emergency and safety equipment carried on the aircraft.

- (2) The operator may, with the approval of the competent authority and subject to a risk assessment, extend the period of assessment and training on the location and use of all emergency and safety equipment carried on the aircraft to 24 months.’;

(6) the following point ORO.FC.232 is inserted:

‘ORO.FC.232 EBT programme assessment and training topics

- (a) The operator shall ensure that each pilot is exposed to the assessment and training topics.
- (b) The assessment and training topics shall be:
  - (1) derived from safety and operational data that are used to identify the areas for improvement and prioritisation of pilot training to guide in the construction of suitable EBT programmes;
  - (2) distributed across a 3-year period at a defined frequency; and
  - (3) relevant to the type or variant of aircraft on which the pilot operates.