

Comments on “Psychology” sections of the proposed EASA FCL by

EAAP, the European Association for Aviation Psychology

The EAAP association is the European platform for psychologists, human factors specialists and students working and researching in all areas of aviation, i.e. Safety, Training, Selection, Accident investigation, Human engineering and Psychological assessments and treatments. Its membership is close to 350 members working in airlines, ANSP's, MRO's, Defence, authorities and research establishments. EAAP operates an active certification and quality system for aviation psychologists and human factor specialists. The association is in existence for 51 years.

In regard to Flight safety it is well known that human performance is the key determinant for operational flexibility and performance.

Aviation psychology has worked hard to ensure:

- a) high standards for workers that enter the professional aviation business (selection procedures and training methods)
- b) good tools for workers by improved design of equipment and working procedures (flight deck and ATC design, maintenance & support equipment)
- c) adequate instruments, tools and tests for objective measurements, monitoring and predicting human performance as well as possible human performance decrements (aptitude tests, objective tests for perceptual and motor functions, selective attention, time sharing skills, situational awareness, stress and strain tolerance etc.)
- d) a wide application of such objective tools to document the effects of stress and strain on human performance, time on task effects, duty time and fatigue as well as the verifiable effects of aging on the various human functions.

Some of the current JAA Regulations already appreciated the development of Aviation Psychology as a profession and a science, as for example in JAR-FCL 1 “Human Performance and Limitations”, JAR-FCL 3 “Psychological Requirements” and the JAR-OPS. JAR-FCL 3 has even defined criteria for a “psychological evaluation” and it requires a psychologist accepted by the aviation authority.

In summary, Aviation Psychology and therefore also Aviation Psychologists have been an important partner for safety in aviation for a long time. Since the implementation of the JAA-Regulations, Aviation Psychology and Aviation Psychologists have also been recognized by the national Aviation Laws.

Unfortunately, the current draft for EASA FCL (NPA 2008-17c, MED.B.055 Psychology) interferes with that important improvement in recognition. The main concerns are:

- 1) this draft only mentions that a “Psychological Evaluation” or “Psychological opinion and advice” may be required, without assuring that Psychologists with relevant training and a background in aviation will be used to perform it.

- 2) The trigger for a psychological evaluation seems to be exclusively related to the judgment of a psychiatrist or neurologist during the medical examination. There are many more safety related triggers such as incidents, operational deviations, training problems, teaming issues, poor risk management, poor coping with stress, substance abuse etc. The JAR as well as related EUROCONTROL regulation did recognize the existence of such trigger(s).

The wording used in this NPA therefore seems undeveloped and incomplete in the psychological area and is almost exclusively using medical language.

What is needed in flight crew licensing now is a more comprehensive approach, which takes into account most up to date scientific facts both in Aviation Medicine as well as in Aviation Psychology. If one of the two is neglected, the chance for achieving the optimal safety in air transport is not taken on board, especially in cases of amendments of existing or future (long lasting) rulemaking

The basic regulation 216/2008 actually states that two factors comprise Medical fitness (a physical and a mental factor):

Medical fitness, comprising physical and mental fitness, means not suffering

from any disease or disability, which makes the pilot unable:

(i) to execute the tasks necessary to operate an aircraft; or

(ii) to perform assigned duties at any time; or

(iii) to perceive correctly his/her environment.

Aviation psychology is internationally known to be specialized in the objective assessment of mental fitness, perceptual factors, impaired mental information processing and their risk effects on task performance and is therefore a quite relevant domain for further FCL development.

For these reasons we recommend in general to include aviation psychology specialists in the EASA rule drafting process and specifically for this NPA to maintain at least the formulation that had been used in JAR-FCL 3.

Appendix 1 provides an overview of the main comments

Appendix 2 provides a possible alternative phrasing based on the JAR.

Appendix 3 contains an example of EUROCONTROL psychology regulation.

Yours sincerely,

Prof. Peter G.A.M. Jorna
President of EAAP
Eikenlaan 8
3749AG, Lage Vuursche
Netherlands

Appendix 1 Comments overview

Comments in regard to the Psychological Part of the 2008-17 c NPA (MED.B.055 Psychology (including AMC A to MED.B.055 PSYCHOLOGY (AMC class1 medical certificates), AMC B to MED.B.055 (AMC for Class 2 medical certificates and Psychological and the “Specific requirements for LPL medical certificates - Psychology) draft

- The psychology sections are underdeveloped, lack detail and are therefore open to misinterpretation and misuse.
- The wording used is inconsistent, the terminology psychological “disorders” and/or “deficiencies” are both used but lack any definition or specification.
- The psychological evaluation is only indicated “as part of” a medical examination. There can be many other safety related indications for a psychological evaluation or treatment such as training and proficiency problems, insufficient coping with stresses of work, changes in operational risk taking behavior, recurring incidents, operational performance deviations and not at least findings in accident investigations etc. (See JAR-FCL 3 Appendix 17 to JAR-FCL 3.240 and 3.360)
- A clinical evaluation, as part of the medical evaluation differs in many aspects from a psychological performance or function evaluation of a pilot or pilot candidate. While a clinical evaluation leads to a diagnose of “healthy” or “not healthy”, the psychological performance evaluation is based on the assessment of the person’s cognitive functions, mental abilities, motivational factors and other personal factors in relation to the operational job requirements of a pilot.
- It is not specified or recommended who should perform the psychological evaluation, nor any specification of the required certification. This is in conflict with the high level safety objectives of the commission with FCL that a.o. includes: *“to require organizations, flight synthetic training devices and persons involved in the training, testing, checking and medical assessments to be certified on the basis of common rules.*
- With all respect for the medical science and the good collaboration in the clinical fields, psychology was and is an independent science focusing on the abilities and mental fitness in a specified operational, technical, organizational and cultural context. To understand the complexity and professionally assess such psychological performance factors is of the utmost relevance for safety in aviation. Not at least do the incident and accident rates provide the evidence.
- Oversight over a psychological evaluation is not within the competence of an AME who is untrained in Aviation psychology.
- It is therefore recommended that any psychological evaluation should only be performed by psychologists specialized and trained in “Aviation Psychology”. Their training will allow the timely detection and mediation of potential deviations in performance capabilities and protects the pilot community against unrealistic assessments that do not address the specific aviation working context.

- Psychological evaluation is today not always under the head of Aviation Medicine. This “independent” position has been and is supported by national authorities (example Austria) who already maintain a list of certified aviation psychologists for psychological evaluations next to a list of AeroMedical Examiners (AME).
- In order to assure a “level playing field”, the Commission is proposing that *examiners are no longer acting on a delegation from the authority, but exercising the privileges that are given to them by the certificate they hold*. Also, for approval “*instructors providing flight training and flight simulation training, as well as examiners and aeromedical examiners, shall hold a certificate attesting their compliance with the essential requirements and relating implementing rules*”.
- Consistent rulemaking would benefit from developing a certificate for an “Aero Psychological Examiner” (APE) or accept and approve the authorization set up by the EAAP, the international professional organization in the field.
- *An “Aero Psychological Examiner” or Aviation Psychologist certificate is recommended as an alternative to delegation by national authorities only and/or detailing many specific psychological requirements in the rule text and/or AMC*. A certification as an Aero Psychological Examiner or as Aviation Psychologist would assure at least a standardization of criteria and methods.
- The EAAP organization is well established for 51 years and can assist in providing adequate training for an “Aero Psychological Examiner” . In fact, such training courses have already been established by EAAP and are conducted on a regular basis since 1996. EAAP also maintains an international register of certified Aviation psychologists approved by the authorities.

Appendix 2 Alternative phrasing based on JAR

MED.B.055 Psychology (for class 1 and 2, and for the Leisure Pilot License (LPL))

(a) Applicants shall have no established psychological deficiencies or mental disability, particularly in operational aptitudes or any relevant personality factor, which are likely to interfere with the safe exercise of the privileges (incl. task performance) of the applicable licence(s).

(b) When the authority receives verifiable information from an identifiable source which evokes doubts concerning the mental fitness or personality of a particular individual a psychological evaluation may be required. Sources for this information can be accidents or incidents, problems in training or proficiency checks, delinquency or knowledge relevant to the safe exercise of the privileges of the applicable licences.

(c) When a psychological evaluation is indicated, it has to be done by a psychologist who is entitled to do such evaluation through applicable European law or, in the absence of European law, the national law of such state where the authority requiring the evaluation is located. Such psychologist must have demonstrated sufficient knowledge in Aviation Psychology to the relevant authority which defines such knowledge and publishes it in an adequate way. Such psychologist will be certified by the authority as Aero Psychological Examiner (APE).

(d) The psychologist shall submit to the relevant authority a written report detailing (results and) his/her opinion and recommendation.

AMC A to MED.B.055 PSYCHOLOGY (AMC for class 1 medical certificates)

AMC B to MED.B.055 (AMC for class 2 medical certificates)

Specific requirements for LPL medical certificates

The psychological evaluation may include a collection of biographical data, the administration of aptitudes as well as personality tests and a psychological interview.

In case of an accident, psychological reasons for that accident should be evaluated also according to the human-factors criteria published by the ICAO - Human Factors Digest No. 7, ICAO-Circular 240-AN/144.

Appendix 3 Example of related EUROCONTROL regulation

Requirements for European Class 3 Medical Certification of Air Traffic Controllers

REQUIREMENTS	VARIATIONS TO REQUIREMENTS, AND GUIDANCE
EMCR(ATC) 11: Psychiatric and Psychological Requirements	EMCR(ATC) 11: Psychiatric and Psychological Requirements
11.2: Psychological requirements	11.2: Psychological requirements

11.2(a) An applicant who exhibits inability to cope with stress or stress-related problems to an extent where the symptoms are likely to interfere with an individual's ability to exercise safely the privileges of the licence / certificate of competence shall be assessed as unfit (however, see para 11.2.2 and 11.2.3).

11.2(b) An applicant for or holder of a European Class 3 Medical Certificate shall have no established psychological deficiencies which are likely to interfere with the safe exercise of the privileges of the applicable licence(s) / certificate(s) of competence (see para 11.2.2 to 11.2.4).

11.2(c) When a psychological evaluation is indicated, it shall be carried out by an aviation psychologist or a psychologist with extensive knowledge of the ATC environment acceptable to the AMS. The evaluation shall be directed by a neurologist or psychiatrist, as appropriate. (see para 11.2.2)

11.2.1 Within psychiatric management, psychological assessment may have a pivotal role in enabling the psychiatrist to make a holistic assessment.

11.2.2 If stress-related problems, which are likely to interfere with safe exercise of the privileges of the individual's licence / certificate of competence, are reported or indicated, a psychological evaluation by an appropriately qualified specialist acceptable to the AMS may be required (see para 11.2(c))

11.2.3 Coping with stress includes the following:

- (a) coping with high workload,
- (b) coping with boredom,
- (c) 'unwinding' after work,
- (d) controlling anxiety and anger,
- (e) managing critical incidents.

If there are indications of a lack of skills or of incidents relating to any of the above, the applicant should be referred to an appropriately qualified specialist acceptable to the AMS (see para 11.2(c))

11.2.4 A psychological evaluation may be required by the AMS as part of, or complementary to, a specialist psychiatric or neurological examination when the AME or the Authority receives verifiable information from an identifiable source which evokes doubts concerning the mental fitness or personality of a particular individual. Sources for this information can be accidents or incidents, problems in training or proficiency checks, delinquency or knowledge relevant to the safe exercise of the privileges of the applicable licences.