

Appendix II

- Areas of Expertise -

1. Area 1: Aircraft

1.1. Aircraft Design:

Flight test, operational suitability (OSD), human factors, structures, hydro-mechanical and electrical systems, avionics, power plant/fuel installations, cabin safety, environmental control system and ice protection, environmental protection, software and airborne electric hardware, rotor/transmission systems, rotor drive systems, propulsion,-electric propulsion (including electric motors, converters, batteries, fuel cells), aviation fuels (including SAF and hydrogen),- safety analysis and safety assessment, CSs (23-25-29 etc.), part and appliances (ETSO) certification, organisations (design organisations, production organisations including additive Manufacturing)

1.2. Aircraft Production

Flight test, operational suitability (OSD), human factors, structures, hydro-mechanical and electrical systems, avionics, power plant/fuel installations, cabin safety, environmental control system and ice protection, environmental protection, software and airborne electric hardware, rotor/transmission systems, rotor drive systems, propulsion,-electric propulsion (including electric motors, converters, batteries, fuel cells), aviation fuels (including SAF and hydrogen),- safety analysis and safety assessment, CSs (23-25-29 etc.), part and appliances (ETSO) certification, organisations (design organisations, production organisations including additive Manufacturing)

1.3. Continued airworthiness of type design:

Aircraft type-related post-TC activities, airworthiness directive, occurrence reporting

1.4. Aircraft continuing airworthiness:

Continuing airworthiness management of individual aircraft (e.g. development of aircraft maintenance programme, Predictive maintenance, health monitoring, airworthiness review, CAMO). Maintenance of individual aircraft, maintenance process and technique (e.g. NDT, remote maintenance, aircraft inspections by UAS), maintenance training and licencing (e.g. new training methods and teaching technologies)

1.5. Unmanned Aircraft Systems/ Electric Vertical and Take-off Aircraft:

Command and Control Systems-Flight Controls-Detect and Avoid-altitude limiters-E-identification-Geo Awareness/ fencing-Autonomy-electric propulsion

1.6. Sub-orbital aircraft:

Micro-gravity, rocket propulsion

2. Area 2: Air Operations:

2.1. Operational procedures, cabin operations and cabin and passenger safety aspects, performance, mass and balance, instruments, data and equipment, minimum equipment list (MEL), extended range operations, low visibility operations, performance-based navigation, electronic flight bags, environmental protection

2.2. Flight and duty time limitations and rest requirements, Fatigue Risk Management (FRM) and FRM also for Air Traffic Controllers

2.3. Security - Cybersecurity

2.4. Organisation and management of an AOC holder, oversight and certification activities as regards to AOC, declaration, non-commercial operations, ramp inspections, OPS inspector qualifications.

2.5. Specific operations:

Remotely piloted aircraft operations including Specific Operation Risk Assessment, airship operations, commercial balloon operations, sailplane operations, helicopter operations, gyroplane operations, reduced crew operations

2.6. Specialised operations:

aerial work (helicopter external loads, helicopter survey operations, human external cargo operations, parachute operations and skydiving, agricultural flights, aerial photography flights, glider towing, aerial advertising flights, calibration flights, construction work flights, oil spill work, avalanche mining operations, survey operations, news media flights, television and movie flights, special events flights, animal herding and rescue flights, maritime funeral operations, scientific research flights, cloud seeding)

2.7. Operational flight data monitoring (OFDM) and analysis, health and usage monitoring system (HUMS) etc.

3. Area 3: Aviation Personnel:

3.1. Flight Crew Licensing and Cabin Crew in the Scope of the Aircrew Regulation:

Flight crew, ICAO Annex 1 licences, sub-ICAO licences LAPL (light aircraft pilot licence), private pilot licences (PPL), sailplane pilot licences (SPL), balloon pilot licences (BPL), commercial pilot licences (CPL), multi-crew pilot licences (MPL), airline transport pilot licences (ATPL), attributes to licences (language proficiency assessment, type ratings, class ratings, instrument ratings, additional ratings), instructors, examiners, flight simulation training devices (FSTD), approved training organisations (ATO), declared training organisations (DTO), organisations operating FSTDs, flight test training organisations, ATO flight operations, cabin crew (attestations, training and qualifications, organisations approved to provide initial training), Competency based training-Evidence Based training, etc.

3.2. Operator flight crew training, advanced training and qualification programme (ATQP), evidence-based training

3.3. Operator related cabin crew training

3.4. Expertise in specific aircraft categories (airships, powered-lift aircraft and – relevant for the future – gyroplanes and VTOLs).

3.5. Other aviation personnel:

Technical crew (training and crew resource management), maintenance engineers (training/examination/practical assessment, licences, other training and qualifications, maintenance human factors, maintenance training organisations approvals — MTOA, training organisations) and air traffic controllers and other ATM personnel (licences, human factors and training organisations).

3.6. Development of questions for the European Central Question Bank (ECQB) for the theoretical knowledge examinations:

Theoretical knowledge subjects air law, aircraft general knowledge, mass and balance/ performance/ flight planning and monitoring, human performance, meteorology, general navigation/ radio navigation, operational procedures, principles of flight, VFR/ IFR communications for aeroplane and/or helicopter and/or airship categories of aircraft. As regards Remote Pilot Licensing and eVertical Take-Off and Landing (eVTOL) aircraft, in case the Regulator establishes an ECQB to be managed by EASA, this sub-area would also apply to the relevant theoretical knowledge subjects

3.7. Medical certifications:

Aircrew (commercial pilots, private pilots, LAPL, other (ICAO compliant and sub-ICAO) and cabin crew), Air Traffic Control (ATCO) medical certification and other technical crew medical fitness. Sub-orbital pilots and passenger medical certification. Aero-medical centre (AeMC) aero-medical examiner (AME), general medical practitioner (GMP), Occupational health medical practitioner (OHMP) certification, AME training organisation

4. Area 4: Aerodromes & Ground handling:

4.1 Aerodrome operations:

Certification of aerodromes, Aerodrome safety management, compliance monitoring, safety reporting, personnel training, language proficiency of vehicle drivers, local runway safety teams, aerodrome data, aerodrome emergency planning, rescue and firefighting services, monitoring and inspections of the movement area, runway safety, foreign object debris control programme, wildlife management, authorisation of vehicle drivers, surface movement guidance and control system, runway surface classification, operation of vehicles, control of pedestrians, operations in winter conditions, night operations, low visibility procedures, aerodrome works safety, obstacle limitation surfaces, obstacle clearance, safeguarding of aerodrome surroundings, marking and lighting of vehicles.

4.2 Aerodrome maintenance

Maintenance of vehicles, maintenance of pavements, other ground surfaces and drainage, maintenance of visual aids and electrical systems.

4.3 Aerodrome equipment

Visual aids and aerodrome electrical systems, other aerodrome equipment, certification/declaration of aerodrome equipment

4.4 Apron Management services

Declaration of apron management service providers, Aircraft parking and stand allocation, management of aircraft movements, start-up clearances

4.5 Aerodrome design and infrastructure

Aerodrome certification specifications, heliport certification specifications

4.6 Ground handling

anti-ice/de-icing, ground handling, personnel training, safety management, , compliance monitoring, aerodrome manual).Cooperative oversight, declaration system.

5. Area 5: Air Traffic Management:

Design of technical means (systems, systems safety analysis, airspace design, procedure design), SAR — search and rescue, ATS — air traffic services, CNS — communications/navigation/surveillance, AIS — aeronautical information services, MET — meteorological services providers, ASM — airspace management, ATFM — air traffic flow management, air traffic control officer (ATCO) training, SERA — standardised European rules of the air, AIM — aeronautical information management, airspace design including procedures design, aeronautical data, safety assessment, safety performance, safety management, environmental protection, Unmanned Aircraft Traffic Management including Very Low level Operations and Very High level Operations, Remote ATS; EGNOS, ATM ground equipment (GE), SESAR, SESAR Deployment Manager, Network Functions.

6. Area 6: Horizontal Disciplines:

6.1. Safety Management:

- Aviation safety, safety management system, state safety program, validation and verification techniques applied to aviation systems or operations, aviation regulatory impact assessments.
- Safety planning, risk analysis and assessment, statistical analysis, modelling.
- Reporting systems, taxonomy, integrated data systems.
- Human factors, human performance, ergonomics.

6.2. Authority management system, oversight and certification in general, inspector qualifications

6.3. Event Response:

Accident investigation (flight data recovery, forensic science), hazardous substances, crisis management, disaster recovery, emergency response planning, simulations and exercises.

6.4. Foresight:

Knowledge development and transfer applied to aviation safety and development of aviation (new technologies, new vehicles), futurology, forecasting.

6.5. International & Institutional Relations:

Aviation security, public health, third country operators, military or civil interface, governance.

6.6. Economic, Management & Organisations:

Aviation auditing and oversight, organisations approvals, development of aviation (new business models, new concepts of operation), regulatory/rulemaking processes and techniques, impact assessments, socio-economic analysis, product certification processes and techniques, training techniques, project management (engineering project management), operational research in aviation and air transport. Aviation competition market, Market access integration (EU & other world regions: South-East Asia, Africa etc).

6.7. Environmental:

Aviation environmental protection, aviation environmental regulatory impact assessments, meteorology, sustainable aviation fuels (SAF).

6.8. Aviation medicine:

Medical expertise in aviation medicine including, but is not limited to, following fields: aviation physiology, internal medicine, cardiology, otorhinolaryngology, endocrinology, ophthalmology, neurology, psychiatry, infectious diseases & travel medicine, occupational health in aviation, toxicity; disinfection and disinfection; medical statistics.

6.9. Legal:

Legal advice in the areas of the Agency's technical competencies as well as in other fields of relevant law such as aviation law, public international law (incl. treaties and agreements), civil/private law (incl. Intellectual property law), IT law, administrative law, EU staff regulations, debts recovery, EU law, court litigation (national & ECJ), privacy (e.g. General Data Protection Regulation), Aviation competition market, Market access integration (EU & other world regions: South-East Asia, Africa etc), Legal advice in EU aviation regulation (not only the ones in EASA's technical competencies areas), Legal advice on EU regulation implementation Draft Regulation (civil aviation acts) expertise, Comparative analysis of EU Regulatory framework vs third country legal system, Legal assessment.

6.10 New and emerging technologies

Artificial Intelligence, Digitalisation, Internet of Things, Nanotechnologies, Blockchain, 5G communication systems, Augmented Reality/ Virtual reality/ Mixed Reality applied to FSTD's and Pilot Training, Quantum computing.

6.11 Information Security management

7. Area 7: Business & Support Disciplines:

Quality Process and Change Management, ICT -Information and Communication Technology (e.g. Data Centre, IT Strategy, Enterprise Architecture), Travel (Employer's duty of care for travellers, travel security, field support for travellers), Corporate Services & Facility Management, Information & Records Management, Communication and Safety Promotion (writers, editors, web designers, event support, etc.), Finance & Cost Accounting, Human Resources (HR) and competency management, Procurement, Safety Leadership, Diversity, Equity and Inclusion and Next Generation Aviation Professionals, etc.