European Union Aviation Safety Agency

Notice of Proposed Amendment 2025-04 (C)

in accordance with Article 6 of Management Board Decision 01-2022

NPA 2025-04 (C) — Proposed issuance of Regulation (EU) 20XX/XXXX (AsOP) and related AMC & GM

Contents

Proposed amendments and rationale

This material contains a proposal for the issuance of a new regulation and related acceptable means of compliance (AMC) and guidance material (GM). As all the material is new, there is no need to track the proposed amendments using the European Union Aviation Safety Agency (EASA) style.

Where necessary, the rationale is provided in *blue italics*.

Draft regulation on airship operations (AsOP Regulation) — articles

Article 1 — Subject matter and scope

1. This Regulation lays down detailed rules for air operations conducted below flight level 285 with manned airships, including ramp inspections of airship operators under the safety oversight of another State when landed at aerodromes or operating sites located in the territory to which the Treaties apply.
2. This Regulation also lays down detailed rules on the conditions for issuing, maintaining, amending, limiting, suspending or revoking the certificates of operators of manned airships referred to in points (b)(i) and (ii) of Article 2(1) of Regulation (EU) 2018/1139; the privileges and responsibilities of the holders of such certificates; and the conditions under which operations shall be prohibited, limited or subject to certain conditions in the interest of safety.

Rationale

This proposed article is equivalent to Article 1 of Regulation (EU) No 965/2012.

The restriction of applicability to operations conducted below flight level 285, set out in point (a), is proposed to clarify that all the additional requirements that would become applicable when aircraft operations are conducted above flight level 285 have been excluded because, considering existing manned airship designs and ongoing projects, it is not expected that any manned airship will be technically capable of flying above flight level 285.

Article 2 — Definitions

For the purposes of this Regulation, the following definitions shall apply.

1. ‘Acceptable means of compliance (AMC)’ means non-binding standards adopted by the Agency to illustrate means to establish compliance with Regulation (EU) 2018/1139 and its implementing rules.
2. ‘Adequate aerodrome or operating site’ means an aerodrome or operating site at which the airship can be operated, taking account of the applicable performance requirements and surface characteristics.
3. ‘Airship’ means a power-driven lighter-than-air aircraft. Hot-air airships where the engine does not create any amount of lift are excluded from this definition and are considered to be balloons in accordance with Article 2(7) of Commission Regulation (EU) 2018/395.

4. 'Airship ground handling' means any service or activities provided at aerodromes or operating sites to ensure the safety of the airship while it is:

   (a) operating on the ground;

   (b) airborne when the flight crew does not have full control of the airship; and

   (c) moored.

   Maintenance activities as defined in Regulation (EU) No 1321/2014 do not fall within airship ground handling.

5. 'Alternate aerodrome or operating site' means an adequate aerodrome or operating site to which an airship may proceed when it becomes either impossible or inadvisable to proceed to or land at the aerodrome or operating site of intended landing, where the necessary services and facilities are available, where airship performance requirements can be met and that is operational at the expected time of use. The definition is used in the following context:

   (a) 'take-off alternate aerodrome or operating site' – an alternate aerodrome or operating site at which an airship would be able to land if it becomes necessary shortly after take-off and it is not possible to use the aerodrome or operating site of departure;

   (b) 'destination alternate aerodrome or operating site' – an alternate aerodrome or operating site at which an airship would be able to land if it becomes either impossible or inadvisable to land at the aerodrome or operating site of intended landing.

6. 'Anti-icing' means, in the case of ground procedures, a procedure that provides protection against the formation of frost or ice and accumulation of snow on treated surfaces of the airship for a limited period (holdover time).

7. 'Commercial operation' means any operation of an airship, in return for remuneration or other valuable consideration, that is available to the public or, when not made available to the public, that is performed under a contract between an operator and a customer, where the latter has no control over the operator.

8. 'Competency' means a dimension of human performance that is used to reliably predict successful performance on the job and that is manifested and observed through behaviours that mobilise the relevant knowledge, skills and attitudes to carry out activities or tasks under specified conditions.

9. 'Contingency fuel/energy' means the fuel/energy required to compensate for unforeseen factors that could have an influence on the fuel/energy consumption en route to the destination aerodrome or operating site.

10. 'Crew member' means a person assigned by an operator to perform duties on board an airship.

11. 'Critical phases of flight' means taxiing, hovering, take-off, final approach, missed approach, landing, on and off the mooring system and any other phases of flight as determined by the pilot-in-command.

12. 'Dangerous goods' means articles or substances capable of posing a risk to health, safety, property or the environment and that appear in the list of dangerous goods in the Technical

Instructions For The Safe Transport of Dangerous Goods by Air (Doc 9284) or that are classified in accordance with those instructions.

13. 'Dangerous goods accident' means an occurrence associated with and related to the transport of dangerous goods by air that results in fatal or serious injury to a person or major property damage.

14. 'Dangerous goods incident' means:

    (a) an occurrence other than a dangerous goods accident associated with and related to the transport of dangerous goods by air, not necessarily occurring on board an airship, that results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained;

    (b) any occurrence relating to the transport of dangerous goods that seriously jeopardises an airship or its occupants.

15. 'De-icing', in the case of ground procedures, means a procedure by which frost, ice, snow or slush is removed from an airship in order to provide uncontaminated surfaces.

16. 'Dry lease agreement' means an agreement between undertakings pursuant to which the aircraft is operated under the air operator certificate (AOC) of the lessee.

17. 'Electronic flight bag (EFB)' means an electronic information system, comprising equipment and applications for flight crew, that allows for the storing, updating, displaying and processing of EFB functions to support flight operations or duties.

18. 'EFB application' means a software application installed on an EFB host platform that provides one or more specific operational functions that support flight operations.

19. 'EFB host platform' means the hardware equipment in which the computing capabilities and basic software reside, including the operating system and the input/output software.

20. 'EFB system' means the hardware equipment (including any battery, connectivity provisions and input/output components) and software (including databases and the operating system) needed to support the intended EFB application(s).

21. 'Emergency exit' means an installed exit-type egress point from the airship that allows maximum opportunity for cabin and flight crew compartment evacuation within an appropriate time period and includes floor-level door and window exits or any other type of exit, for instance a hatch in the flight crew compartment or tail cone exit.

22. 'Flight monitoring' means, in addition to the requirements defined for flight following:

    (a) operational monitoring of flights by suitably qualified operational control personnel from departure throughout all phases of the flight;

    (b) communication of all available and relevant safety information between the operational control personnel on the ground and the flight crew; and

    (c) critical assistance to the flight crew in the event of an in-flight emergency or security issue, or at the request of the flight crew.

23. 'Flight recorder' means any type of recorder that is installed on the airship for the purpose of facilitating accident or incident safety investigations.

24. 'Flight watch' means, in addition to all elements defined for 'flight monitoring', the active tracking of a flight by suitably qualified operational control personnel throughout all phases of the flight to ensure that the flight is following its prescribed route without unplanned deviations, diversions or delays.

25. 'Ground crew member' means a crew member in airship operations other than a flight or cabin crew member, assigned by the operator to perform duties on the ground for the purpose of assisting the pilot during operations on or close to the surface that may require use of specific equipment.

26. 'Introductory flight' means any operation involving remuneration or other valuable consideration consisting of an air tour of short duration for the purpose of attracting new trainees or new members, performed either by a training organisation referred to in Article 10a of Commission Regulation (EU) No 1178/2011[1] or by an organisation created with the aim of promoting aerial sport or leisure aviation.

27. 'Large airship' means a multi-engine-driven airship that:

    (a) has a capacity of 20 or more passengers, excluding crew; or

    (b) is designed to have a lifting gas volume of 20000 m^3 or more

28. 'Maximum operational passenger seating configuration (MOPSC)' means the maximum passenger seating capacity of an individual airship, excluding crew seats, established for operational purposes and specified in the operations manual. Taking as a baseline the maximum passenger seating configuration established during the certification process conducted for the type certificate (TC), supplemental type certificate (STC) or change to the TC or STC as relevant to the individual airship, the MOPSC may establish an equal or lower number of seats, depending on the operational constraints.

29. 'Operating minima' means the limits of usability of an aerodrome or operating site for:

    (a) take-off, expressed in terms of runway visual range (RVR) and/or visibility and, if necessary, ceiling;

    (b) landing in 2D instrument approach operations, expressed in terms of visibility and/or RVR, minimum descent altitude/height (MDA/H) and, if necessary, ceiling;

    (c) landing in 3D instrument approach operations, expressed in terms of visibility and/or RVR and decision altitude/height (DA/H) as appropriate to the type and/or category of the operation.

30. 'Operating site' means a site, other than an aerodrome, selected by the operator or pilot-in-command for landing, take-off and/or external load operations.

31. 'Operational control' means the responsibility for the initiation, continuation, termination or diversion of a flight in the interest of safety.

32. For the purpose of 'Passenger classification' :

[1] Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 311, 2.11.2011, p. 1).

(a) 'adult' means a person aged 12 years or above;

(b) 'child' means a person aged 2 years or above but less than 12 years of age;

(c) 'infant' means a person under the age of 2 years.

33. 'Passenger compartment' means an independent cabin, or section of a cabin, designed to accommodate passengers.

34. 'Personnel-carrying device system' means a system including one or more devices that are either attached to a hoist or cargo hook or mounted to the airship hosting point during human external cargo or airship hoist operations. The devices have the structural capability and features needed to transport occupants external to the airship (e.g. a life safety harness with or without a quick release and a strop with a connector ring, a rigid basket or a cage).

35. 'Pilot-in-command' means the pilot designated as being in command and charged with the safe conduct of the flight.

36. 'Portable EFB' means a portable EFB host platform, used on the flight deck, that is not part of the configuration of the certified airship.

37. 'Psychoactive substances' means alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens and volatile solvents, with the exception of caffeine and tobacco.

38. 'Ramp inspection' means the inspection of the airship, of flight and cabin crew qualifications and of flight documentation in order to verify compliance with the applicable requirements.

39. 'Rules of the air' means the rules established in Commission Implementing Regulation (EU) No 923/2012.

40. 'Safe forced landing' means an unavoidable landing or ditching with a reasonable expectancy of no injuries to persons in the airship or on the surface.

41. 'Specialised operations' means any of the following types of operation conducted with airships:

(a) external sling load operations,

(b) hoist operations,

(c) survey operations,

(d) observation and patrol flights,

(e) aerial photography flights,

(f) agricultural flights,

(g) aerial advertisement flights,

(h) scientific research flights,

(i) special events flights, including flying displays and competition flights,

(j) parachute dropping,

(k) construction work flights,

(l) hang-gliding dropping.

42. 'Task specialist' means a person assigned by the operator or a third party, or acting as an undertaking, who performs tasks directly associated with a specialised task on board or from the airship.

43. 'Type A EFB application' means an EFB application whose malfunction or misuse has no safety effect.

44. 'Type B EFB application' means an EFB application:

    (a) whose malfunction or misuse is classified as minor failure condition or below; and

    (b) that neither replaces nor duplicates any system or functionality required by airworthiness regulations, airspace requirements or operational rules.

45. 'Weather-permissible aerodrome or operating site' means an adequate aerodrome or operating site where, for the anticipated time of use, meteorological reports, or forecasts, or any combination thereof, indicate that the meteorological conditions will be at or above the required aerodrome or operating site operating minima, and the surface condition reports indicate that a safe landing will be possible.

46. 'Wet lease agreement' means an agreement:

    (a) in the case of commercial air transport (CAT) operations, between air carriers pursuant to which the airship is operated under the AOC of the lessor; or

    (b) in the case of commercial operations other than CAT, between operators pursuant to which the airship is operated under the responsibility of the lessor.

Rationale

The vast majority of the terminology used in the proposed Regulation is derived from the definitions in Article 2 of, and Annex I to, Regulation (EU) No 965/2012.

These definitions are complemented in this Regulation by a set of definitions that either are specific to airships or have been significantly adapted.

The proposed definition of specialised operations is tailored for airship operations.

The definition of an alternate aerodrome is merged with the definition of an alternate operating site because with respect to airship operations these terms can be used interchangeably.

The proposed definition of a large airship is derived from Appendix C to CS 30T (in which large airships were called 'transport airships').

The definition of a ground crew member is similar to the definition of a technical crew member used in rotorcraft.

With respect to the proposed definition of an airship, the first part has been copied from Regulation (EU) No 1178/2011, normally referred to as the Aircrew Regulation, and it is consistent with the International Civil Aviation Organization (ICAO) definition of airships, while the second part serves to prevent misunderstanding and unwanted overlapping with respect to the applicability of this proposed AsOP Regulation and the existing Balloon Regulation (Regulation (EU) 2018/395).

GM1 Article 2 — Definitions

AIRSHIP GROUND HANDLING

Below is a non-exhaustive list of examples of activities that may be part of airship ground handling:

(a) entering and exiting the hangar (i.e. not under the airship's own power),

(b) moving around the aerodrome or operating site while moored (i.e. not under the airship's own power),

(c) launch and recovery of a flight (covering mooring),

(d) passenger embarkation and disembarkation,

(e) cargo loading/unloading,

(f) servicing (including refuelling, recharging and catering),

(g) sanitisation, and

(h) ballast, pressure and trim adjustments.

Rationale

This GM provides examples of activities that may be part of airship ground handling.

GM2 Article 2 — Definitions

AIRSHIP DEFINITION

Lighter than air means having the ability to achieve zero static heaviness / equilibrium under specific circumstances.

Rationale

The scope of this proposed GM is to explain the meaning of lighter than air. While the ICAO definition of airships includes this characteristic, it is to be noted that during normal operations the heaviness is frequently slightly positive to facilitate manoeuvrability.

GM3 Article 2 — Definitions

FLIGHT MONITORING AND FLIGHT WATCH — RELEVANT SAFETY INFORMATION

Relevant safety information is any element that may affect the safety of the flight, such as:

(a) an airship technical failure (e.g. failures where flight operations personnel can help to recalculate the fuel needed or to update the aerodrome or operating site minima);

(b) unforeseen hazards:

  (1) air traffic (e.g. delays and/or long distance to complete the approach, extensive use of radar vectoring);

  (2) meteorological conditions (e.g. decision height (DH) and aerodrome operating minima, adverse or extreme meteorological conditions);

(3) aerodrome or operating site status (e.g. surface contamination, failure or malfunction caused by on-ground navigation or approach equipment);

(4) navigation aid status (e.g. failure of the navigation aids);

(5) availability of communications (e.g. failure of communications capabilities, interruptions, interferences or change of frequency channels); and

(6) terrain and obstacles (e.g. geophysical phenomena (volcanic eruptions, earthquakes, tsunami) or difficult terrain at an unplanned aerodrome or operating site (large bodies of water, mountains);

(c) updates of the operational flight plan when they affect the fuel reserves:

(1) diversion to an en route alternate (ERA) aerodrome, a destination alternate aerodrome or a take-off alternate aerodrome;

(2) location of the decision point due to, for instance, change in altitude or wind data;

(3) significant in-flight change of the flight route compared with the route in the flight planning; or

(4) significant deviation from the planned fuel consumption; and

(d) position reporting:

(1) flight-monitoring personnel should report in every phase of the flight: taxi, take-off, climb, cruise, cruise steep climb, descent, approach, landing;

(2) flight watch provides active tracking; and

(3) where no real-time automatic position reporting is possible, the operator should have an acceptable alternative to ensure in-flight reporting at least every hour.

Rationale

This proposed GM is the equivalent of GM28 to Annex I in Regulation (EU) No 965/2012.

GM4 Article 2 — Definitions

FUEL/ENERGY

The energy used for airship propulsion comes from various sources and is of various types.

A frequently used type of energy in aviation is derived from processing (in a piston or turbine engine) hydrocarbon-based fuels that include gasoline (leaded or unleaded), diesel, avgas, JET A-1 and JET B. Hydrogen may also be used as fuel for fuel cell applications, which generate electricity that is used for propulsion. However, as current technologies already use other sources of energy for aircraft propulsion, such as stored electrical energy, the typical term ‘fuel’ has become restrictive and no longer covers emerging technologies.

Therefore, a broader, combined term is introduced to accommodate new types of energy, other than fuel, used for aircraft propulsion purposes.

The term ‘fuel/energy’ should cater for both typical fuel and any other type or source of energy used for aircraft propulsion, including but not limited to electrical energy stored in batteries.

When used in the combination 'fuel/energy', the term 'energy' only refers to the electrical energy used for aircraft propulsion purposes. It does not include any other form of stored electrical energy that is used on board an aircraft (e.g. batteries of EFBs, automatic external defibrillators or backup energy sources).

Rationale

This proposed GM is equivalent to GM29 of Annex I to Regulation (EU) No 965/2012.

GM5 Article 2 — Definitions

SPECIALISED OPERATIONS

The following operations are not considered specialised operations:

(a) aerial advertising flights, and

(b) news media, television and movie flights.

Rationale

Operations detailed here do not require specific procedures, as advertising is simply performed by covering the envelope. News media, television and movie flights are common missions for any airship, and do not require any specific additional procedures or material.

GM6 Article 2 — Definitions

TASK SPECIALIST

Task specialists are persons who:

— use a system or special equipment that is directly linked with the airship to serve a mission purpose;

— are necessary for a mission for which special equipment or a system that can affect the manoeuvrability of the airship is necessary to fulfil the mission.

The task specialist can be on board or directly connected to the airship.

There can be a large number of activities (and associated equipment) for which task specialists are required, including but not limited to:

— hoisting and external load operations (the task specialist in charge would use the system to hoist loads in-flight);

— hoisting with external load on the ground and directly handling cables from the airship itself;

— scientific research flights (the task specialist in charge would use specific equipment fitted on the airship);

— survey, surveillance or possibly calibration flights (the task specialist in charge would use an imagery system or radars fitted on the airship);

— news media, television or movie flights (a task specialist may be involved in addition to flight crew to operate the camera or any broadcast system).

Rationale

The definition of a task specialist has been developed considering the operations that can actually be performed by a task specialist in airships.

Article 3 — Air operations

1. Operators shall only operate airships in accordance with Annex I.
2. In addition, the requirements specified in Annex II shall apply to operators of airships conducting any of the following operations:
   (a) commercial operations,
   (b) specialised operations,
   (c) operations with one or more large airships.
3. Operators referred to in point (b) shall comply with the relevant provisions of Subpart M of Annex V to Regulation (EU) No 965/2012 when using a type B EFB application.

Rationale

This proposed article summarises the proposed regulatory framework for airship operations clarifying that the provisions contained in Annex I are to be met by any manned airship operator. In addition, when the operator intends to conduct commercial operations or any kind of specialised operations, additional requirements apply, and an AOC is necessary.

The concept of airship 'specialised operations' is very similar to the same concept addressed in Annex VIII to Regulation (EU) No 965/2012. However, in contrast to that Regulation, such operations are not proposed to be covered by a 'declarative regime'.

Similarly, it is proposed that an AOC be required for operations with large airships.

It is to be noted that the proposed requirements in Annex II (Part-AsOP.AOC) complement the proposed requirements contained in Annex I (Part-AsOP.BAS).

Article 4 — Derogations

1. By way of derogation from Article 3 and without prejudice to point (b) of Article 18(2) of Regulation (EU) 2018/1139 or to Subpart P of Annex I to Commission Regulation (EU) No 748/2012 concerning the permit to fly, the following flights shall continue to be operated under the requirements specified in the national law of the Member State in which the operator has its principal place of business or, where the operator has no principal place of business, the place where the operator is established or resides:
   (a) flights related to the introduction or modification of airship types conducted by design or production organisations within the scope of their privileges;
   (b) flights carrying no passengers or cargo, where the airship is ferried for refurbishment, repair, inspections, delivery, export or similar purposes, provided that the airship is not listed on an AOC.
2. By way of derogation from Article 3(b), the following operations with other-than-large airships

may be conducted in accordance with Annex I only:

(a) flying displays, on the condition that the remuneration or any valuable consideration given for such flights is limited to recovery of direct costs and a proportionate contribution to annual costs, as well as prizes of no more than a value specified by the competent authority;

(b) introductory flights performed either by a training organisation with its principal place of business in a Member State and referred to in Article 10a of Regulation (EU) No 1178/2011 or by an organisation created with the aim of promoting aerial sport or leisure aviation, on the condition that the airship is operated by the organisation on the basis of ownership or dry lease, that the flight does not generate profits distributed outside the organisation and that, whenever non-members of the organisation are involved, such flights represent only a marginal activity of the organisation;

(c) cost-shared flights by private individuals, on the condition that the direct cost is shared by all the occupants of the airship, pilot included, and the number of persons sharing the direct costs is limited to six.

3. By way of derogation from Article 3(b), training organisations referred to in Article 10a of Regulation (EU) No 1178/2011 and with their principal place of business in a Member State shall, when conducting flight training into, within or out of the Union, operate airships in accordance with the provisions specified in Annex I only.

Rationale

This proposed article includes derogations from the provisions of Article 3, similar to some of the derogations included in Article 6 of Regulation (EU) No 965/2012.

GM1 Article 4(b) — Derogations

DIRECT COST

'Direct cost' means the cost directly incurred in relation to a flight (e.g. fuel, aerodrome or operating site charges and the rental fee for an airship). There is no element of profit.

ANNUAL COST

'Annual cost' means the cost of keeping, maintaining and operating the airship over a period of one calendar year. There is no element of profit.

ORGANISATION CREATED WITH THE AIM OF PROMOTING AERIAL SPORT OR LEISURE AVIATION

An 'organisation created with the aim of promoting aerial sport or leisure aviation' means a non-profit organisation established under applicable national law for the sole purpose of gathering persons sharing the same interest in general aviation to fly for pleasure. The organisation should have aircraft available.

MARGINAL ACTIVITY

The term 'marginal activity' should be understood as representing a very minor part of the overall activity of an organisation, mainly for the purpose of promoting itself or attracting new trainees or members. An organisation intending to offer such flights as a regular business activity is not

considered to meet the condition of marginal activity. Also, flights organised with the sole intent to generate income for the organisation are not considered to be a marginal activity.

Rationale

This proposed GM is equivalent to GM2 and GM3 Article 6.4a(a);(b) and GM1 and GM2 Article 6.4a of Regulation (EU) No 965/2012.

Article 5 — Transitional provisions

Certificates, authorisations and approvals issued to airship operators by Member States before DDMMYY (=> entry into force of this Regulation) in accordance with provisions of national law shall be deemed to have been issued in accordance with this Regulation.

However, no later than DDMMYY (=> 2 years after the entry into force of this Regulation):

1. airship operators shall adapt their management system, training programmes, procedures and manuals to be compliant with this Regulation;
2. certificates, authorisations and approvals issued by Member States to airship operators before the entry into force of this Regulation shall be replaced by certificates issued in accordance with this Regulation.

Rationale

These transitional provisions are proposed to reduce the burden on airship operators already certified by national competent authorities in the EU.

Article 6 — Entry into force

1. This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.
2. Point AsOP.AOC.020(d) shall apply from DD MM YY (=> 2 years after the entry into force of this Regulation).

Rationale

It is proposed that the Regulation become applicable immediately upon entry into force. However, it is proposed that the applicability of Part-IS to airship operations be delayed by two years, considering the novelty of Part-IS and the limited available experience with its implementation, as well as the fact that airship operations are most likely less relevant with respect to information security than others. This is mainly because the speed and kinetic energy of airships are much lower than those of aeroplanes or rotorcraft.

Annex I (Part-AsOP.BAS)

Section 1 — General requirements

AsOP.BAS.001 Scope

This Annex establishes common requirements to be met by all operators of airships.

Rationale

With the exception of operations referred to in Article 4(a), Part-AsOP.BAS is applicable to commercial and non-commercial operations conducted with airships.

GM1 AsOP.BAS.001 Scope

OPERATORS OF AIRSHIPS

The use of the term 'operator' in this Annex does not imply that the organisation has been certified.

For airship operators that are required to comply with Annex I (Part-AsOP.BAS) and Annex II (Part-AsOP.AOC), the responsibilities assigned to the operator are to be discharged by the AOC holder.

For the operators that are not required to comply with Annex II (Part-AsOP.AOC), the responsibilities assigned to the operator in this Annex are to be discharged by the owner of the airship.

The owner of the airship can further delegate these responsibilities to a person or organisation that is responsible for the airship operation.

Rationale

The use of the term 'operator' in Part-AsOP.BAS is used to identify those requirements that need to be addressed by the person or organisation responsible for the airship operations and not specifically by the pilot-in-command of a flight. This approach is necessary in order to prevent ambiguity for the airship operators that also have to comply with Annex II (Part-AsOP.AOC).

AsOP.BAS.005 Competent authority

In the case of operations conducted under the provisions of this Annex only, the competent authority shall be either:

(a) the authority designated by the Member State where the airship is registered; or

(b) if the airship is registered in a third country, the authority designated by the Member State where the operator has its principal place of business, is established or resides.

Rationale

This proposed requirement for operations conducted only under Annex I is equivalent to point NCO.GEN.100. Point (b) applies to all other operations conducted under the scope of Annex II and is equivalent to point ORO.GEN.105, and other similar requirements, of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.005 Competent authority

DETERMINING THE PLACE WHERE AN OPERATOR RESIDES

For the purpose of this Regulation, the concept of the place where the operator resides is mainly addressed to natural persons .

The place where the operator resides is the place where the operator complies with their tax obligations.

Several criteria can be used to help determine a person's place of residence. These include, for example:

(a) the duration of a person's presence on the territory of the countries concerned;

(b) the person's family status and ties;

(c) the person's housing situation and how permanent it is;

(d) the place where the person pursues professional or non-profit activities;

(e) the characteristics of the person's professional activity; and

(f) the Member State where the person resides for taxation purposes.

Rationale

This proposed GM is equivalent to GM1 NCC.GEN.100 of Regulation (EU) No 965/2012.

AsOP.BAS.010 Demonstration of compliance, access and findings

(a) An operator shall, when so requested by the competent authority, demonstrate compliance with the essential requirements set out in Annex V to Regulation (EU) 2018/1139 and with the requirements of this Regulation.

(b) The operator shall use either of the following means to demonstrate such compliance:

(1) AMC,

(2) alternative means of compliance.

(c) For the purpose of determining compliance with the relevant requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts, the operator shall grant access at any time to facilities, airships, documents, records, data, procedures or any other material relevant to its activity, whether it is contracted or not, to any person authorised by one of the following authorities:

(1) the competent authority defined in point AsOP.BAS.005 of this Annex or in point AsOP.AOC.002 of Annex II (Part-AsOP.AOC) as applicable,

(2) the authority acting under the provisions of point ARO.GEN.300(d) or point ARO.GEN.300(e) or Subpart ARO.RAMP of Annex II to Regulation (EU) No 965/2012.

(d) In the case of operations conducted in accordance with Annex II (Part-AsOP.AOC) to this Regulation, access to the airship shall include the possibility of entering and remaining in the airship during flight operations, unless to do so would endanger the flight.

(e) After receipt of the notification of findings raised by the competent authority in accordance with points ARO.GEN.350, ARO.GEN.355 and ARO.GEN.360 of Annex II (Part-ARO) to Regulation

(EU) No 965/2012, the operator shall do all of the following:

(1) identify the root cause of the non-compliance;

(2) define a corrective action plan;

(3) demonstrate implementation of the corrective action plan to the satisfaction of the competent authority within the time period specified by that authority in accordance with point ARO.GEN.350 of Annex II (Part-ARO) to Regulation (EU) No 965/2012.

Rationale

This proposed requirement is equivalent to points ORO.GEN.120, ORO.GEN.140 and ORO.GEN.150 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.010(e) Demonstration of compliance, access and findings

CORRECTIVE ACTION PLAN

The corrective action plan defined by the operator should address the effects of non-compliance, as well as its root cause.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.150(b) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.010(e) Demonstration of compliance, access and findings

DEFINITIONS

(a) 'Preventive action' is action to eliminate the cause of potential non-compliance or another undesirable potential situation.

(b) 'Corrective action' means action to eliminate or mitigate the root cause(s) and prevent reoccurrence of existing detected non-compliance or another undesirable condition or situation. Proper determination of the root cause(s) is crucial for defining effective corrective actions to prevent reoccurrence.

(c) 'Correction' is action to eliminate detected non-compliance.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.150(b) of Regulation (EU) No 965/2012.

AsOP.BAS.015 Introductory flights

Introductory flights referred to in Article 4(b)(2) of this Regulation, when conducted in accordance with this Annex, shall:

(a) start and end at the same aerodrome or operating site;

(b) be operated under visual flight rules (VFR) by day;

(c) be overseen by a nominated person responsible for their safety; and

(d) comply with any other conditions stipulated by the competent authority.

Rationale

This proposed requirement replicates the provisions included in point NCO.GEN.103 of Regulation (EU) No 965/2012 with respect to introductory flights.

AsOP.BAS.018 Occurrence reporting

(a) The operator shall report to the competent authority, and to any other organisation required to be informed by the State of the operator, any accident, serious incident or occurrence as defined in Regulation (EU) No 996/2010 and Regulation (EU) No 376/2014.

(b) Without prejudice to point (a), the operator shall report to the competent authority and to the organisation responsible for the design of the aircraft any incident, malfunction, technical defect, exceedance of technical limitations or occurrence that would highlight inaccurate, incomplete or ambiguous information contained in the operational suitability data established in accordance with Regulation (EU) No 748/2012 or other irregular circumstance that has or may have endangered the safe operation of the aircraft and that has not resulted in an accident or serious incident.

(c) Without prejudice to Regulation (EU) No 996/2010 and Regulation (EU) No 376/2014, the reports referred to in points (a) and (b) shall be made in a form and manner established by the competent authority and shall contain all pertinent information about the conditions known to the operator.

(d) Reports shall be made as soon as practicable, but in any case within 72 hours of the operator identifying the condition to which the report relates, unless exceptional circumstances prevent this.

(e) Where relevant, the operator shall produce a follow-up report to provide details of actions that it intends to take to prevent similar occurrences in the future, as soon as these actions have been identified. This report shall be produced in a form and manner established by the competent authority.

Rationale

This proposed requirement is equivalent to point ORO.GEN.160 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.018 Occurrence reporting

(a) The operator or the pilot-in-command, as applicable, should report all occurrences defined in AMC 20-8[2] and as required by the applicable national rules implementing Regulation (EU) No 376/2014 on occurrence reporting in civil aviation.

(b) In addition to the reports required by AMC 20-8 and Regulation (EU) No 376/2014, the operator should report volcanic ash clouds encountered during flight.

[2] https://www.easa.europa.eu/en/document-library/certification-specifications/amc-20-amendment-8

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.160 of Regulation (EU) No 965/2012.

AMC2 AsOP.BAS.018 Occurrence reporting

REPORTABLE EVENTS OF PERFORMANCE-BASED NAVIGATION OPERATIONS

(a) A reportable event should be an event that adversely affects the safety of the operation and may be caused by actions or events external to the functioning of the airship navigation system.

(b) Technical defects and the exceedance of technical limitations, including the following, should be considered reportable events:

(1) significant navigation errors attributed to incorrect data or a database coding error,

(2) unexpected deviations from the lateral/vertical flight path not caused by flight crew input or erroneous operation of equipment,

(3) significant misleading information without a failure warning,

(4) total loss of navigation equipment or multiple navigation equipment failure, and

(5) loss of integrity (e.g. receiver autonomous integrity monitoring function) when integrity was predicted to be available during pre-flight planning.

(c) The operator or the pilot-in-command, as applicable, should have in place a system for investigating a reportable event to determine whether it is due to an improperly coded procedure or a navigation database error. The operator or the pilot-in-command, as applicable, should initiate corrective actions for such an event.

Rationale

This proposed AMC is equivalent to AMC2 ORO.GEN.160 of Regulation (EU) No 965/2012.

AsOP.BAS.020 Immediate reaction to a safety problem

The operator shall implement:

(a) any safety measures mandated by the competent authority in accordance with point ARO.GEN.135(c) of Annex II (Part-ARO) to Regulation (EU) No 965/2012; and

(b) any relevant mandatory safety information issued by the Agency, including airworthiness directives.

Rationale

This proposed requirement is equivalent to point ORO.GEN.155 of Regulation (EU) No 965/2012.

AsOP.BAS.030 Responsibilities of the pilot-in-command

(a) The pilot-in-command shall be responsible for:

(1) the safety of the airship and of any person or property carried therein during airship operations;

(2) the initiation, continuation or termination of a flight in the interest of safety;

(3) ensuring that all applicable operational procedures and checklists are complied with;

(4) only commencing a flight if satisfied that all operational limitations referred to in Annex V to Regulation (EU) 2018/1139 are complied with, as follows:

(i) the airship is airworthy;

(ii) the airship is duly registered;

(iii) instruments and equipment required for the execution of the flight are carried on board the airship and are operative, unless operation with inoperative equipment is permitted by the minimum equipment list (MEL) or equivalent document;

(iv) the heaviness of the airship is such that the flight can be conducted within the limits defined by the aircraft flight manual (AFM);

(v) all equipment, baggage and cargo are properly loaded and secured so as to prevent movement and to avoid injury, damage or obstruction of aisles and exits if displaced; and

(vi) the operating limitations of the airship as specified in the AFM will not be exceeded at any time during the flight;

(5) ensuring that the pre-flight inspection has been carried out as required by point M.A.301 of Annex I (Part-M) or point ML.A.301 of Annex Vb (Part-ML) to Commission Regulation (EU) No 1321/2014, as applicable;

(6) ensuring that relevant emergency equipment remains easily accessible for immediate use;

(7) ensuring that no person is smoking on board or within the direct vicinity of the airship;

(8) not allowing any person to be carried in the airship who appears to be under the influence of psychoactive substances to the extent that the safety of the airship or of any person or property carried therein is likely to be endangered;

(9) remaining at the controls of the airship at all times during flight except if another pilot takes control;

(10) taking any action in an emergency situation that requires an immediate decision and any action that they consider necessary under the circumstances (in such cases, the pilot-in-command may deviate from rules, operational procedures and methods to the extent necessary in the interest of safety);

(11) not continuing a flight beyond the nearest weather-permissible operating site or adequate aerodrome when their capacity to perform their duties is significantly reduced because of sickness, fatigue, lack of oxygen or any other cause;

(12) recording utilisation data and all known or suspected defects in the airship at the termination of the flight, or series of flights, in the airship journey log;

(13) in the event of any serious incident, accident or occurrence involving the airship, applying the reporting scheme described in point AsOP.BAS.018;

(14) submitting a report of any act of unlawful interference without delay to the competent

authority and informing the local authority designated by the State in the territory of which the unlawful interference took place;

(15) reporting to the appropriate air traffic services (ATS) unit, without delay, any hazardous weather or flight conditions encountered that are likely to affect the safety of other aircraft; and

(16) only commencing a flight, or continuing it in the event of in-flight replanning, when satisfied that the airship carries at least the planned amounts of usable fuel/energy, ballast, lifting gas and oil to safely complete the flight, taking into account the expected operating conditions.

(b) The pilot-in-command shall not perform duties on an airship:

(1) when incapacitated from performing duties by any cause, including injury, sickness, medication, fatigue or the effects of any psychoactive substance, or feeling otherwise unfit;

(2) if applicable medical requirements are not fulfilled.

(c) Whenever crew members are involved in the operation of the airship, the pilot-in-command shall:

(1) ensure that during critical phases of flight, or whenever deemed necessary in the interest of safety, all crew members are at their assigned stations and do not perform any activities other than those required for the safe operation of the airship;

(2) not commence a flight if any crew member is incapacitated from performing their duties by any cause, including injury, sickness, medication, fatigue or the effects of any psychoactive substance, or feeling otherwise unfit;

(3) not continue a flight beyond the nearest weather-permissible aerodrome or operating site when any crew member's capacity to perform duties is significantly reduced because of sickness, fatigue, lack of oxygen or any other cause;

(4) ensure that all crew members can communicate with each other in a common language.

Rationale

This proposed requirement is equivalent to point BOP.BAS.030 of Regulation (EU) 2018/395 and to point NCC.GEN.106 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.030 Responsibilities of the pilot-in-command

In accordance with the essential requirements for air operations, which are laid down in Annex V to Regulation (EU) 2018/1139, the pilot-in-command is responsible for the operation and safety of the airship and for the safety of all passengers on board. Regarding the latter, the pilot-in-command is responsible from as soon as they arrive on board until they leave the airship at the end of the flight.

Rationale

This proposed GM is equivalent to GM1 NCC.GEN.106 and GM1 NCO.GEN.105 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.030(a)(3) Responsibilities of the pilot-in-command

CHECKLISTS

(a) The pilot-in-command should use the latest checklists provided by the operator, if available. As an alternative, the latest checklists provided by the manufacturer should be used.

(b) If checks conducted before take-off are suspended at any point, the pilot-in-command should restart them from a safe point prior to the interruption.

Rationale

This proposed AMC is equivalent to AMC1 NCO.GEN.105 of Regulation (EU) No 965/2012. Some adaptations have been made to include checklists provided by the airship operator.

GM1 AsOP.BAS.030(a)(12) Responsibilities of the pilot-in-command

RECORDING UTILISATION DATA

Where an airship conducts a series of flights of short duration and is operated by the same pilot-in-command, the utilisation data for the series of flights may be recorded in the airship journey log as a single entry.

Rationale

This proposed GM is equivalent to GM1 NCO.GEN.105(a)(8) of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.030(a)(15) Responsibilities of the pilot-in-command

REPORTING OF HAZARDOUS FLIGHT CONDITIONS

(a) These reports should include any detail that may be pertinent to the safety of other aircraft.

(b) When unexpected meteorological conditions are encountered that, in the opinion of the pilot-in-command, may affect the safety of the operations of other aircraft, they should advise the appropriate ATS unit as soon as practicable.

Rationale

This proposed AMC is equivalent to AMC1 BOP.BAS.030(a)(17) of Regulation (EU) 2018/395.

AMC1 AsOP.BAS.030(b)(1) Responsibilities of the pilot-in-command

ALCOHOL CONSUMPTION

The operator should issue instructions concerning the consumption of alcohol by the pilot-in-command and other crew members. The instructions should not be less restrictive than the following:

(a) no alcohol should be consumed by the pilot-in-command or other crew members less than eight hours prior to an operation;

(b) the blood–alcohol level of the pilot-in-command and other crew members shall either meet the national requirements or be less than 0.2 grams of alcohol in 1 litre of blood, whichever is lower,

at the start of an operation; and

(c) no alcohol should be consumed by the pilot-in-command or other crew members during the operation.

Rationale

This proposed AMC is equivalent to AMC1 BOP.BAS.030(b)(1) of Regulation (EU) 2018/395.

GM1 AsOP.BAS.030(b) Responsibilities of the pilot-in-command

PART-MED

Information on the effects of medication, psychoactive substances and other treatments can be found in Annex IV (Part-MED) to Regulation (EU) No 1178/2011.

Rationale

This proposed GM is equivalent to GM1 BOP.BAS.030(b)(1);(2) of Regulation (EU) 2018/395.

AsOP.BAS.035 Authority of the pilot-in-command

The pilot-in-command shall have the authority to:

(a) give all commands and take any appropriate actions for the purpose of ensuring the safety of the airship and of any person or property carried therein;

(b) refuse carriage of or disembark any person, baggage or cargo that may represent a potential hazard to the safety of the airship or of any person or property carried therein.

Rationale

This proposed requirement is equivalent to point BOP.BAS.035 of Regulation (EU) 2018/395 and to CAT.GEN.MPA.110 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.035 Authority of the pilot-in-command

AUTHORITY TO REFUSE CARRIAGE OR DISEMBARK

This may include:

(a) passengers who have special needs that cannot be met on the aircraft; or

(b) persons who appear to be under the influence of alcohol or drugs.

Rationale

This proposed GM is equivalent to GM1 NCC.GEN.106(b) of Regulation (EU) No 965/2012.

AsOP.BAS.040 Responsibilities of crew members

(a) Crew members shall be responsible for the proper execution of their duties that are related to the safety of the airship and its occupants.

(b) Crew members shall not perform duties on an airship when incapacitated by any cause,

including injury, sickness, medication, fatigue or the effects of any psychoactive substance, or if they feel otherwise unfit.

(c) Crew members shall:

(1) report to the pilot-in-command any fault, failure, malfunction or defect that they believe that may affect the airworthiness or safe operation of the airship, including emergency systems;

(2) report to the pilot-in-command any incident that is or was endangering, or could endanger, the safety of the operation;

(3) comply with the relevant requirements of the operator's occurrence-reporting schemes, when established.

(d) Crew members who undertake duties for more than one operator shall:

(1) maintain their individual records regarding flight times and rest periods, if applicable;

(2) provide each operator with the data needed to schedule activities in accordance with the applicable flight and duty time limitations and rest requirements;

(3) provide each operator with the data needed regarding operations on more than one aircraft type or variant, if applicable.

(e) For operations conducted in accordance with Annex II (Part-AsOP.AOC) to this Regulation, crew members shall, in addition:

(1) comply with all flight and duty time limitations and rest requirements applicable to their activities as referred to in the AsOP.FTL Regulation;

(2) be responsible for the proper execution of their duties that are specified in the instructions and procedures in the operations manual, when conducting operations in accordance with Annex II (Part-AsOP.AOC) to this Regulation.

Rationale

This proposed requirement is equivalent to point BOP.BAS.040 of Regulation (EU) 2018/395 and point CAT.GEN.MPA.100 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.040(b) Responsibilities of crew members

ALCOHOL CONSUMPTION

Refer to AMC1 AsOP.BAS.030(b)(1).

GM1 AsOP.BAS.040(b) Responsibilities of crew members

PART-MED

Refer to GM1 AsOP.BAS.030(b)(1);(2).

AsOP.BAS.045 Composition of the flight crew

(a) The composition of the flight crew and the number of flight crew members at designated crew stations shall not be less than the minimum specified in the AFM or operating limitations prescribed for the airship.

(b) The flight crew shall include additional flight crew members when required by the type of operation.

(c) All flight crew members shall hold a licence and ratings issued or accepted in accordance with Regulation (EU) No 1178/2011 and appropriate to the duties assigned to them.

Rationale

This proposed requirement is equivalent to point ORO.FC.100 of Regulation (EU) No 965/2012. It is to be noted that airship operators covered by Part-AsOP.BAS are not mandated to develop an operations manual and are not subject to airship flight time limitations requirements. Therefore, these requirements are proposed in point AsOP.AOC.300 of Part-AsOP.AOC.

AsOP.BAS.055 Compliance with laws, regulations and procedures

(a) The pilot-in-command and all other crew members shall comply with the laws, regulations and procedures of those States where operations are conducted.

(b) The pilot-in-command shall be familiar with the laws, regulations and procedures pertinent to the performance of their duties, prescribed for the areas to be traversed, the operating sites or aerodromes to be used and the related air navigation facilities.

Rationale

This proposed requirement is equivalent to point NCO.GEN.110 of Regulation (EU) No 965/2012 and point BOP.BAS.045 of Regulation (EU) 2018/395.

AsOP.BAS.060 Documents, manuals and information to be carried

(a) The following documents, manuals and information shall be carried on each flight, as originals or copies, unless otherwise specified in point (c) or (d):

(1) the AFM, or equivalent document(s),

(2) the original certificate of registration,

(3) the original certificate of airworthiness (CofA) and the airworthiness review certificate or a permit to fly, if applicable,

(4) the list of specific approvals, if applicable,

(5) the aircraft radio licence, if applicable,

(6) the third-party liability insurance certificate(s),

(7) the journey log, or equivalent, for the airship,

(8) the technical log, in accordance with Regulation (EU) No 1321/2014, if applicable,

(9) details of the filed ATS flight plan, if applicable,

(10) current and suitable aeronautical charts for the route/area of the proposed flight and all routes along which it is reasonable to expect that the flight may be diverted,

(11) procedures and visual signal information for use by intercepting and intercepted aircraft,

(12) information concerning search and rescue services for the area of the intended flight,

(13) the MEL or configuration deviation list (CDL), if applicable,

(14) appropriate notices to airmen (NOTAMs) and aeronautical information services briefing documentation,

(15) appropriate meteorological information,

(16) cargo and/or passenger manifests, if applicable,

(17) mass and balance documentation,

(18) the operational flight plan, if applicable,

(19) notification of special categories of passengers and special loads, if carried on board, and

(20) any other documentation that may be pertinent to the flight or is required by the States concerned with the flight.

(b) For operations conducted in accordance with Annex II (Part-AsOP.AOC) to this Regulation, in addition to the documents, manuals and information listed under point (a), the following shall be carried on each flight, as originals or copies, unless otherwise specified in point (c) or (d):

(1) the AOC and the relevant operations specifications,

(2) the current parts of the operations manual or operating procedures that are relevant to the duties of crew members and task specialists, which shall be easily accessible to them.

(c) By way of derogation from point (a), the documents and information in (a)(2) to (a)(8) and (a)(12), (a)(14), (a)(15) and (a)(16) may be retained at the aerodrome or operating site for flights intending to take off and land at the same aerodrome or operating site.

(d) In the event of loss or theft of documents specified in (a)(2) to (a)(7), the operation may continue until the flight reaches its destination or a place where replacement documents can be provided.

Rationale

This proposed requirement is an adaptation of point CAT.GEN.MPA.180 of Regulation (EU) No 965/2012.

It is to be noted that the noise certificate is not included in this list because it is not a mandatory document for airships. There are no requirements for noise certificates for airships in EASA Special Condition for Gas Airships, in point 21.B.85 of Annex I to Regulation (EU) No 748/2012 or ICAO Annex 16.

Point (a)(3) has been drafted in agreement with the conclusions reported in EASA Comment-Response Document 2022-11; refer to EASA responses to comments #183 and #213.

AMC1 AsOP.BAS.060 Documents, manuals and information to be carried

The documents, manuals and information may be available in a form other than on printed paper. An electronic storage medium is acceptable if accessibility, usability and reliability can be assured.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.180 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.060(a)(1) Documents, manuals and information to be carried

AIRCRAFT FLIGHT MANUAL OR EQUIVALENT DOCUMENT(S)

'AFM, or equivalent document(s)' means the flight manual for the airship or other documents containing information required for the operation of the airship within the terms of its CofA, unless this information is available in the parts of the operations manual carried on board.

Rationale

This GM is equivalent to GM1 CAT.GEN.MPA.180 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.060(a)(3) Documents, manuals and information to be carried

CERTIFICATE OF AIRWORTHINESS

The CofA should be a normal CofA, a restricted CofA or a permit to fly issued in accordance with the applicable airworthiness requirements.

Rationale

This proposed AMC is equivalent to AMC1 NCC.GEN.140(a)(3) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.060(a)(7) Documents, manuals and information to be carried

JOURNEY LOG OR EQUIVALENT

'Journey log, or equivalent' means in this context that the required information may be recorded in documentation other than a log book, such as the operational flight plan or the aircraft technical log.

Rationale

This proposed GM is equivalent to GM1 CAT.GEN.MPA.180(a)(9) and GM1 NCC.GEN.140(a)(9) of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.060(a)(10) Documents, manuals and information to be carried

CURRENT AND SUITABLE AERONAUTICAL CHARTS

(a) The aeronautical charts carried should contain data appropriate to the applicable air traffic regulations, rules of the air, flight altitudes, area/route and nature of the operation. Due consideration should be given to carriage of textual and graphic representations of:

(1) aeronautical data including, as appropriate for the nature of the operation:

(i) airspace structure;

(ii) significant points, navigation aids and ATS routes;

(iii) navigation and communication frequencies;

(iv) prohibited, restricted and danger areas; and

(v) sites of other relevant activities that may hazard the flight; and

(2) topographical data, including terrain and obstacle data.

(b) A combination of different charts and textual data may be used to provide adequate and current data.

(c) The aeronautical data should be appropriate for the current aeronautical information regulation and control cycle.

(d) The topographical data should be reasonably recent, having regard to the nature of the planned operation.

Rationale

This proposed AMC is equivalent to AMC1 NCC.GEN.140(a)(11) of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.060(a)(11) Documents, manuals and information to be carried

PROCEDURES AND VISUAL SIGNAL INFORMATION FOR USE BY INTERCEPTING AND INTERCEPTED AIRCRAFT

The procedures and visual signal information for use by intercepting and intercepted aircraft should reflect that contained in ICAO Annex 2. This may be part of the operations manual.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.180(a)(13) and AMC1 NCC.GEN.140(a)(12) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.060(a)(12) Documents, manuals and information to be carried

SEARCH AND RESCUE INFORMATION

This information is found in each State's aeronautical information publication.

Rationale

This is equivalent to GM1 CAT.GEN.MPA.180(a)(14) and GM1 NCC.GEN.140(a)(13) of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.060(a)(15) Documents, manuals and information to be carried

APPROPRIATE METEOROLOGICAL INFORMATION

The appropriate meteorological information should be relevant to the planned operation, as specified in point MET.TR.215(a) of Annex V (Part-MET) to Regulation (EU) 2017/373, and comprise the following:

(a) the meteorological information that is specified in point MET.TR.215(e) of Part-MET; and

(b) supplemental meteorological information:

(1) meteorological information other than that specified in point (a), which should be based on data from certified meteorological service providers; or

(2) meteorological information from other reliable sources, which should be evaluated by the operator.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.180(a)(18) and AMC1 NCC.GEN.140(a)(17) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.060(a)(20) Documents, manuals and information to be carried

DOCUMENTATION THAT MAY BE PERTINENT TO THE FLIGHT

Any other documentation that may be pertinent to the flight or required by the States concerned with the flight may include, for example, forms used to comply with reporting requirements.

STATES CONCERNED WITH THE FLIGHT

The States concerned are those of the flight's origin, transit, overflight and destination.

Rationale

This proposed GM is equivalent to GM1 CAT.GEN.MPA.180(a)(23) and GM1 NCC.GEN.140(a)(19) of Regulation (EU) No 965/2012.

AsOP.BAS.065 Handling of flight recorder recordings

If the airship is equipped with a flight recorder, the requirements of point AsOP.AOC.210 of Annex II (Part-AsOP.AOC) to this Regulation shall apply.

Rationale

Only airships operating under Annex II (Part-AsOP.AOC) are required to install a flight recorder. However, if an airship operating under Annex I is equipped with a flight recorder, then the relevant requirements become applicable.

AsOP.BAS.070 Minimum equipment list

(a) A MEL shall be established for all airships with an individual CofA first issued after DDMMYYY [date of entry into force of this regulation].

(b) The basis for the development of the MEL shall be the relevant master minimum equipment list (MMEL), as defined in the data established in accordance with Commission Regulation (EU) No 748/2012. If an MMEL has not been established as part of the operational suitability data, the MEL may be based on the relevant MMEL accepted by the State of the operator or registry as applicable.

(c) When establishing a MEL, the operator shall consider the following:

(1) the document shall address the operation of the airship, under specified conditions, with particular instruments, items of equipment or functions inoperative at the commencement of the flight; and

(2) the document shall be prepared for each individual airship, taking account of the operator's relevant operational and maintenance conditions.

(d) The MEL and any amendment thereto shall be approved by the competent authority.

(e) The operator shall amend the MEL after any applicable change to the MMEL within the acceptable timescales.

(f) The operator shall:

(1) establish rectification intervals for each inoperative instrument, item of equipment or function listed in the MEL; the rectification interval in the MEL shall not be less restrictive than the corresponding rectification interval in the MMEL;

(2) establish an effective rectification programme;

(3) only operate the airship after expiry of the rectification interval specified in the MEL when:

(i) the defect has been rectified; or

(ii) the rectification interval has been extended in accordance with point (h).

(g) In addition to the list of items, the MEL shall contain:

(1) a preamble, including guidance and definitions for flight crews and maintenance personnel using the MEL,

(2) the revision status of the MMEL upon which the MEL is based and the revision status of the MEL, and

(3) the scope, extent and purpose of the MEL.

(h) Subject to approval by the competent authority, the operator may use a procedure for the one-time extension of category B, C and D rectification intervals, provided that:

(1) the extension of the rectification interval is within the scope of the MMEL for the airship type;

(2) the extension of the rectification interval is, as a maximum, of the same duration as the rectification interval specified in the MEL;

(3) the rectification interval extension (RIE) is not used as a normal means of conducting MEL item rectification and is used only when events beyond the control of the operator have precluded rectification;

(4) a description of specific duties and responsibilities for controlling extensions is established by the operator;

(5) the competent authority is notified of any extension of the applicable rectification interval; and

(6) a plan to accomplish the rectification at the earliest opportunity is established.

(i) The operator shall establish the operational and maintenance procedures referenced in the MEL taking into account the operational and maintenance procedures referenced in the MMEL. These procedures shall be part of the operator's manuals or the MEL.

(j) The operator shall amend the operational and maintenance procedures referenced in the MEL after any applicable change to the operational and maintenance procedures referenced in the MMEL.

(k) Unless otherwise specified in the MEL, the operator shall complete:

(1) the operational procedures referenced in the MEL when planning for and/or operating with the item listed as inoperative; and

(2) the maintenance procedures referenced in the MEL prior to operating with the item listed as inoperative.

(l) Subject to a specific case-by-case approval by the competent authority, the operator may operate an airship with inoperative instruments, items of equipment or functions outside the constraints of the MEL but within the constraints of the MMEL provided that:

(1) the instruments, items of equipment or functions concerned are within the scope of the MMEL as defined in point (b);

(2) the approval is not used as a normal means of conducting operations outside the constraints of the approved MEL and is used only when events beyond the control of the operator have precluded MEL compliance;

(3) a description of specific duties and responsibilities for controlling the operation of the aircraft under such approval is established by the operator; and

(4) a plan to rectify the inoperative instruments, items of equipment or functions or to resume operating the aircraft under the MEL constraints at the earliest opportunity is established.

Rationale

This proposed requirement is equivalent to point ORO.MLR.105 of Regulation (EU) No 965/2012. While current national rules do not mandate a MEL, EASA received a clear request from the industry to mandate it. It is to be noted that MMEL requirements were introduced in 2014 and, except for Zeppelin NT, there has been no new production of airships within the EU. It is also to be noted that Zeppelin NT has established an (M)MEL.

AMC1 AsOP.BAS.070 Minimum equipment list

CONTENT AND APPROVAL OF THE MINIMUM EQUIPMENT LIST

(a) In accordance with point AsOP.BAS.070(e), the operator needs to amend the MEL after any applicable change to the MMEL within the acceptable timescales. The following are applicable changes to the MMEL that require amendment of the MEL:

(1) a reduction of the rectification interval,

(2) change of an item, if the change is applicable to the airship or type of operations and is more restrictive,

(3) reduced timescales for the implementation of safety-related amendments, which may be required by the Agency and/or the competent authority.

(b) An acceptable timescale for notifying the competent authority of the amended MEL is 90 days from the effective date specified in the approved change to the MMEL.

(c) The preamble of the MEL, required by point AsOP.BAS.070(g)(1), should:

(1) reflect the content of the MMEL preamble as applicable to the MEL scope and extent;

(2) contain terms and definitions used in the MEL;

(3) contain any other relevant specific information about the MEL scope and use that was not originally provided in the MMEL;

(4) provide guidance on how to identify the origin of a failure or malfunction to the extent necessary for appropriate application of the MEL;

(5) provide guidance on the management of multiple unserviceabilities, based on the guidance given in the MMEL; and

(6) provide guidance on the placarding of inoperative items to inform crew members of equipment condition as appropriate; in particular, when such items are accessible to the crew during flight, the control(s) and indicator(s) related to inoperative unit(s) should be clearly placarded.

(d) In addition to the list of items and related dispatch conditions, the MEL should contain operational and maintenance procedures as part of the MEL or by means of reference to another appropriate document, based on the operational and maintenance procedures

referenced in the MMEL.

Rationale

This proposed AMC is equivalent to AMC1 NCO.GEN.155 of Regulation (EU) No 965/2012.

AMC2 AsOP.BAS.070 Minimum equipment list

FORMAT OF THE MINIMUM EQUIPMENT LIST

(a) The MEL format, the presentation of MEL items and dispatch conditions should:

(1) reflect those of the MMEL;

(2) follow the Air Transport Association of America (ATA) Spec 100 / iSpec 2200 numbering system for MEL items;

(b) As an alternative to (a), other formats and item numbering systems may be used provided they are clear and unambiguous.

Rationale

This proposed AMC is equivalent to AMC1 ORO.MLR.105(d) of Regulation (EU) No 965/2012.

AMC3 AsOP.BAS.070 Minimum equipment list

EXTENT OF THE MINIMUM EQUIPMENT LIST

The operator should include guidance in the MEL on how to deal with any failures that occur between the commencement of the flight and the start of the take-off. If a failure occurs between the commencement of the flight and the start of the take-off, any decision to continue the flight should be subject to pilot judgement and good airmanship. The pilot-in-command may refer to the MEL before any decision to continue the flight is taken.

Rationale

This proposed AMC is equivalent to AMC2 ORO.MLR.105(d)(3) of Regulation (EU) No 965/2012.

AMC4 AsOP.BAS.070 Minimum equipment list

OPERATIONAL AND MAINTENANCE PROCEDURES

(a) The operational and maintenance procedures referenced in the MEL need to be based on the operational and maintenance procedures referenced in the MMEL, in accordance with AsOP.BAS.070(i). Modified procedures may, however, be developed by the operator when they provide the same level of safety as required by the MMEL. Modified maintenance procedures should be developed in accordance with the applicable airworthiness requirements.

(b) Providing appropriate operational and maintenance procedures referenced in the MEL, regardless of who developed them, is the responsibility of the operator.

(c) Any item in the MEL requiring an operational or maintenance procedure to ensure an acceptable level of safety should be so identified in the ‘remarks’ or ‘exceptions’

column/part/section of the MEL. This will normally be done through the placement of an '(O)' for an operational procedure or an '(M)' for a maintenance procedure. '(O)(M)' means both operational and maintenance procedures are required.

(d) The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator.

Rationale

This proposed AMC is equivalent to AMC1 ORO.MLR.105(g) of Regulation (EU) No 965/2012.

AMC5 AsOP.BAS.070 Minimum equipment list

OPERATIONAL AND MAINTENANCE PROCEDURES – APPLICABLE CHANGES

(a) Changes to the operational and maintenance procedures referenced in the MMEL are considered applicable and require the amendment of the maintenance and operating procedures referenced in the MEL when:

(1) the modified procedure is applicable to the operator's MEL; and

(2) the purpose of this change is to improve compliance with the intent of the associated MMEL dispatch condition.

(b) An acceptable timescale for the amendments of maintenance and operating procedures, as defined in point (a), should be 90 days from the date when the amended procedures referenced in the MMEL are made available. Reduced timescales for the implementation of safety-related amendments may be required if the competent authority considers them necessary.

Rationale

This proposed AMC is equivalent to AMC1 ORO.MLR.105(h) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.070 Minimum equipment list

(a) The MEL is a document that lists the equipment that may be temporarily inoperative, subject to certain conditions, at the commencement of a flight. This document is prepared by the operator for their own particular airship, taking account of their airship configuration and all those individual variables that cannot be addressed at the MMEL level, such as operating environment, route structure, geographical location and aerodromes where spare parts and maintenance capabilities are available.

(b) The operator may refer to the MMEL, as defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012, as applicable, to develop the relevant MEL content for such items.

Rationale

This proposed GM is equivalent to GM1 ORO.MLR.105(a) of Regulation (EU) No 965/2012. Here there is no reference to CS-MMEL, as this is not applicable to airships.

GM2 AsOP.BAS.070 Minimum equipment list

PURPOSE OF THE MINIMUM EQUIPMENT LIST

The MEL is an alleviating document with the purpose of identifying the minimum equipment and conditions to safely operate an airship with inoperative equipment. Its purpose is not, however, to encourage the operation of airships with inoperative equipment. It is undesirable for airships to be dispatched with inoperative equipment, and such operations are permitted only as a result of careful analysis of each item to ensure that the acceptable level of safety, as intended in the applicable airworthiness and operational requirements, is maintained. The continued operation of an airship in this condition should be minimised.

Rationale

This proposed GM is equivalent to GM2 ORO.MLR.105(d)(3) of Regulation (EU) No 965/2012.

GM3 AsOP.BAS.070 Minimum equipment list

OPERATIONAL AND MAINTENANCE PROCEDURES

(a) Operational and maintenance procedures are an integral part of the compensating conditions needed to maintain an acceptable level of safety, enabling the competent authority to approve the MEL.

(b) Normally, operational procedures are accomplished by the flight crew; however, other personnel may be qualified and authorised to perform certain functions.

(c) Normally, maintenance procedures are accomplished by the maintenance personnel; however, other personnel may be qualified and authorised to perform certain functions in accordance with the applicable airworthiness requirements.

(d) Operational and maintenance procedures, regardless of the document where they are contained, should be readily available for use when needed for the application of the MEL.

(e) Unless specifically permitted by a maintenance procedure, an inoperative item may not be removed from the airship.

Rationale

This proposed GM is equivalent to GM1 ORO.MLR.105(g) of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.070(h) Minimum equipment list

RECTIFICATION INTERVAL EXTENSION — OPERATOR PROCEDURES FOR THE APPROVAL BY THE COMPETENT AUTHORITY AND NOTIFICATION TO THE COMPETENT AUTHORITY

(a) The operator’s procedures to address the extension of rectification intervals and ongoing surveillance to ensure compliance should provide the competent authority with details of the name(s) and position(s) of the nominated personnel responsible for the control of the operator’s RIE procedures and details of the specific duties and responsibilities established to control the use of RIEs.

(b) Personnel authorising RIEs should be adequately trained in technical and/or operational

disciplines to accomplish their duties. They should have the necessary operational knowledge in terms of operational use of the MEL by flight crew and maintenance personnel, and engineering competence. The authorising personnel should be listed by position and name.

(c) The operator should notify the competent authority within one month of the extension of the applicable rectification interval or within the appropriate timescales specified by the approved procedure for the RIE.

(d) The notification should be made in a form determined by the competent authority and should specify the original defect, all such uses, the reason for the RIE and the reasons why rectification was not carried out within the original rectification interval.

Rationale

This proposed AMC is equivalent to AMC1 ORO.MLR.105(f) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.070(h) Minimum equipment list

RECTIFICATION INTERVAL EXTENSION

Procedures for the extension of rectification intervals should only be applied under certain conditions, such as a shortage of parts from manufacturers or other unforeseen situations (e.g. inability to obtain equipment necessary for proper troubleshooting and repair), in which case the operator may be unable to comply with the specified rectification intervals.

Rationale

This proposed GM is equivalent to GM1 ORO.MLR.105(f) of Regulation (EU) No 965/2012.

AsOP.BAS.075 Journey log

For each flight, or series of flights, particulars of the airship, its crew and each journey shall be retained in the form of a journey log or an equivalent document.

Rationale

This proposed requirement is equivalent to point NCO.GEN.150 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.075 Journey log

(a) The journey log, or equivalent, should include the following items, where applicable:

(1) airship nationality and registration,

(2) date,

(3) name(s) of flight crew member(s),

(4) duty assignments of crew member(s), if applicable,

(5) place of departure,

(6) place of arrival,

(7) time of departure,

(8) time of arrival,

(9) hours of flight,

(10) type of operation,

(11) incidents and observations, if any, and

(12) signature of the pilot-in-command.

(b) The information or parts thereof may be recorded in a form other than on printed paper. Accessibility, usability and reliability should be assured.

Rationale

This proposed AMC is equivalent to AMC1 NCO.GEN.150 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.075 Journey log

SERIES OF FLIGHTS

(a) 'Series of flights' means consecutive flights, which begin and end:

(1) within a 24-hour period;

(2) at the same aerodrome or operating site or remain within a local area; and

(3) with the same pilot-in-command of the airship.

(b) The term 'series of flights' is used to facilitate a single set of documentation.

Rationale

This proposed GM is equivalent to point (d) of AMC1 ORO.MLR.110 and GM1 ORO.MLR.110 of Regulation (EU) No 965/2012.

AsOP.BAS.080 Number and composition of ground crew

(a) The number and composition of ground crew shall not be less than the minimum specified by the airship manufacturer.

(b) For operations with ground crew, the operator shall designate a ground crew chief, who shall be accountable to the pilot-in-command for performing the duties in point AsOP.BAS.510.

Rationale

Airship operations normally require the availability of ground crew to safely support the flight crew before and during take-off and during landing phases. It is expected that airship manufacturers provide details in a manual that is prepared as part of the instructions for continued airworthiness.

While drafting point (b), flexibility was included to allow potential airship operations where ground crew are not required for each take-off and landing. Indeed, some airship manufacturers are currently exploring this possibility.

The ground crew chief mentioned in point (b) shall be responsible for performing the duties described in point AsOP.BAS.510.

GM1 AsOP.BAS.080(a) Number and composition of ground crew

NUMBER OF GROUND CREW

The minimum number and composition of ground crew are typically established in the airship handling manual or an equivalent document, in the AFM or in the operating limitations prescribed for the airship.

GM1 AsOP.BAS.080(b) Number and composition of ground crew

GROUND CREW CHIEF

During a flight, the operator could designate several ground crew chiefs, with different ground crew chiefs at take-off and landing and for specialised operations areas where ground crew are required.

Rationale

This proposed GM has been specifically developed to address a specificity of airship operations. Departure and destination aerodromes or operating sites could be very far from each other. This GM serves to clarify that different ground crew chiefs can be appointed for the same flight.

Section 2 — Operating procedures

AsOP.BAS.100 Use of adequate aerodromes or operating sites

(a) The operator shall only use aerodromes or operating sites that are adequate for the type of airship and operations concerned.

(b) The operator shall consider an aerodrome or operating site adequate if, at the expected time of use, the aerodrome or operating site is available and equipped with necessary ancillary services such as ATS, sufficient lighting, communications, meteorological reports, navigation aids, ground equipment and rescue and firefighting services.

Rationale

This proposed requirement is equivalent to points CAT.OP.MPA.105 and CAT.OP.MPA.107 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.100 Use of adequate aerodromes or operating sites

GENERAL

Adequate aerodromes or operating sites should respect any limitations specified in the airship manufacturer documentation such as the AFM and the ground-handling manual.

Rationale

This proposed AMC is meant to ensure that AFM and ground-handling manual contents are duly considered when selecting adequate aerodromes or operating sites.

AMC2 AsOP.BAS.100 Use of adequate aerodromes or operating sites

DEFINING OPERATING SITES

When defining operating sites (including infrequently used or temporary sites) for the type(s) of airship and operation(s) concerned, the operator should take into account the following.

(a) The operator should have in place a procedure for the survey of sites by a competent person. Such a procedure should take account of possible changes to the site characteristics since the last survey.

(b) Sites that are pre-surveyed should be specifically specified in the dedicated manual. This manual should contain diagrams or/and ground and aerial photographs, and depictions (pictorial) and descriptions of:

(1) the overall dimensions of the site;

(2) the location and height of relevant obstacles to approach and take-off profiles, and in the manoeuvring area;

(3) approach and take-off flight paths;

(4) the surface condition (blowing dust/snow/sand);

(5) airship types authorised with reference to performance requirements;

(6) provision of control of third parties on the ground (if applicable);

(7) the procedure for activating the site with the landowner or controlling authority;

(8) other useful information, for example the appropriate ATS agency and frequency; and

(9) lighting (if applicable).

(c) Operations to non-pre-surveyed sites should not be permitted for large airships.

(d) For other-than-large airships only:

(1) for sites that are not pre-surveyed, the operator should have in place a procedure that enables the pilot to make, from the air, a judgement on the suitability of a site. Points (b)(1) to (b)(6) should be considered;

(2) operations to non-pre-surveyed sites by night should not be permitted.

Rationale

This proposed GM is equivalent to AMC1 CAT.OP.MPA.105 of Regulation (EU) No 965/2012.

It is to be noted that here there is no reference to ICAO Annex 14 or other provisions. This is because airships are not covered there.

Additionally, considering the reduced risk, a specific exception is proposed for other-than-large airships.

AMC3 AsOP.BAS.100 Use of adequate aerodromes or operating sites

RESCUE AND FIREFIGHTING SERVICES

When considering the adequacy of an aerodrome's rescue and firefighting services (RFFS), the operator should:

(a) as part of its management system, assess the level of RFFS protection available at the aerodrome, which should be specified in the operational flight plan, in order to ensure that an acceptable level of protection is available for the intended operation; and

(b) include, in the operations manual, relevant information related to the RFFS protection deemed acceptable by the operator.

Rationale

This proposed AMC is equivalent to AMC1 CAT.OP.MPA.107 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.100 Use of adequate aerodromes or operating sites

RESCUE AND FIREFIGHTING SERVICES

When considering the adequacy of an aerodrome's RFFS, the operator could:

(a) as part of its management system, assess the level of RFFS protection available at the aerodrome, which should be specified in the operational flight plan, in order to ensure that an acceptable level of protection is available for the intended operation;

(b) include, in the operations manual, relevant information related to the RFFS protection deemed acceptable by the operator; and

(c) consider the following table as a minimum to perform its assessment when assessing the level of RFFS protection that is deemed acceptable, considering the need to protect the area around the crew and passenger compartment to save lives and taking into account airship-specific design (low speed, low fuel volume, passenger density).

Aggregate length of crew and passenger compartment(s)	Largest width of crew and passenger compartment(s)	Aerodrome category as defined in Regulation (EU) No 139/2014 (ADR.OPS.B.010)
0 m up to but not including 18 m	3 m	1
18 m up to but not including 24 m	4 m	2
24 m up to but not including 39 m	5 m	3
39 m up to but not including 49 m	5 m	4
49 m up to but not including 61 m	7 m	5
61 m up to but not including 76 m	7 m	6
76 m or higher	8 m	7

Table 1

The aerodrome category for rescue and firefighting should be assessed in accordance with Table 1, column 3, based on the aggregate length of the crew and passenger compartment(s) of the airship concerned and its passenger compartment(s) width. If, after selecting the category appropriate to the

aggregate length of crew and passenger compartment(s), the largest width of that airship's crew and passenger compartment is greater than the maximum width in Table 1, column 2, for that category, then the category for that airship should actually be one category higher.

Rationale

This GM has been drafted to facilitate and harmonise the identification of aerodrome category for rescue and firefighting. The current RFFS definition for aeroplanes has been used as a reference basis and adapted considering airship characteristics.

GM1 AsOP.BAS.100(b) Use of adequate aerodromes or operating sites

GROUND EQUIPMENT

Examples of ground equipment that may be required by the manufacturer's or operator's instructions are mooring systems and ballast.

Rationale

This proposed GM contains some examples of ground equipment that are typically required for airship operations. As the airship design might be very different from one model to another, it has been considered that a detailed AMC might not fit all the possible cases.

AsOP.BAS.105 Noise abatement procedures

The pilot-in-command shall consider any published noise abatement procedures that are designed for airships, to minimise the effect of airship noise, while ensuring that safety has priority over noise abatement.

Rationale

This proposed requirement is an adaptation of points NCO.OP.120 and CAT.OP.MPA.130 of Regulation (EU) No 965/2012 considering that there are no published noise abatement departure procedures (i.e. NADP1/2) for airships.

AsOP.BAS.110 Fuel/energy and ballast planning and in-flight replanning

(a) The pilot-in-command shall only commence a flight, or continue in the event of in-flight replanning, when satisfied that the aircraft carries at least the planned amounts of usable fuel/energy, ballast and oil to safely complete the flight.

(b) The operator shall ensure that the fuel/energy and ballast planning of flights is based upon at least the following elements:

(1) procedures contained in:

(i) current airship-specific data derived from a fuel-/energy-consumption-monitoring system; or, if not available,

(ii) data provided by the airship manufacturer;

(2) the operating conditions under which the flight is to be conducted, including:

(i) airship fuel/energy and ballast consumption data;

(ii) anticipated masses;

(iii) anticipated meteorological conditions;

(iv) the effects of deferred maintenance items or configuration deviations, or both;

(v) anticipated delays.

(c) The operator shall ensure that the pre-flight calculation of the usable fuel/energy that is required for a flight includes:

(1) mooring or taxi fuel/energy, which shall not be less than the amount expected to be used prior to take-off;

(2) trip fuel/energy and ballast that shall be the amount of fuel/energy required to enable the airship to fly from take-off, or from the point of in-flight replanning, to landing at the destination aerodrome or operating site;

(3) contingency fuel/energy and ballast that shall be the amount of fuel/energy required to compensate for unforeseen factors;

(4) destination alternate fuel/energy:

(i) when a flight is operated with at least one destination alternate aerodrome or operating site, it shall be the amount of fuel/energy required to fly from the destination aerodrome or operating site to the destination alternate aerodrome or operating site;

(ii) when a flight is operated with no destination alternate aerodrome or operating site, it shall be the amount of fuel/energy required to hold at the destination operating site to compensate for the lack of a destination alternate aerodrome or operating site;

(5) final reserve fuel/energy that shall not be less than the required fuel/energy to fly for:

(i) 30 minutes at holding speed, taking off and landing at the same aerodrome or operating site and always remaining within sight of that aerodrome or operating landing site; or

(ii) 60 minutes at holding speed, taking off and landing at the same aerodrome / landing site and always remaining within 50 NM from that aerodrome / landing site; or

(iii) 90 minutes at holding speed for other types of flights.

(6) additional fuel/energy if the minimum amount of fuel/energy that is calculated in accordance with points (c)(2) to (c)(5) is not sufficient in the event of a failure, or combination of failures, increasing the fuel consumption and occurring at the most critical point along the route;

(7) extra fuel/energy, to take into account anticipated delays or specific operational constraints;

(8) discretionary fuel/energy, if required by the pilot-in-command.

(d) The operator shall develop procedures for re-ballasting to maintain static heaviness within limits.

(e) The operator shall ensure that, if a flight has to proceed to a destination other than the one originally planned, in-flight replanning procedures for calculating the required usable fuel/energy and ballast are available and comply with points (c)(2) to (c)(7) and (d).

Rationale

This proposed requirement is equivalent to point CAT.OP.MPA.181 of Regulation (EU) No 965/2012; however, some simplifications and adjustments to better fit airship operations have been introduced.

It should be noted that it has been decided not to implement the possibility of creating individual fuel schemes or basic fuel schemes with variations, as for aeroplanes and helicopters, because this does not fit the expected type of airship operations.

It is to be noted that the final reserve fuel is calculated considering the high probability of several landing attempts, not only one go-around. The proposed values are based on experience gained from past airship operations.

AMC1 AsOP.BAS.110(c) Fuel/energy and ballast planning and in-flight replanning

FUEL/ENERGY PLANNING

The pre-flight calculation of the usable fuel/energy required for the flight should consider the following elements.

(a) Mooring or taxi fuel/energy should take into account the local conditions at the departure operating site and the auxiliary power unit fuel consumption.

(b) Trip fuel/energy should include:

(1) fuel/energy for take-off and climb from the operating site elevation to the initial cruising level/altitude, taking into account the expected departure routing;

(2) fuel/energy from the top of climb to the top of descent, including any step climb/descent;

(3) fuel/energy from the top of descent to the point where the approach procedure is initiated, taking into account the expected arrival routing; and

(4) fuel/energy for making an approach and landing at the destination aerodrome / operating site.

(c) Contingency fuel/energy should be whichever of the following is highest:

(1) 5 % of the planned trip fuel/energy or, in the event of in-flight replanning, 5 % of the trip fuel/energy for the remainder of the flight;

(2) fuel/energy to ensure at least 30 minutes of operations at holding speed.

(d) Destination alternate fuel/energy should be:

(1) when the airship is operated with one destination alternate operating site:

(i) fuel/energy for a missed approach from the applicable DA/H or MDA/H at the destination aerodrome or operating site to the missed-approach altitude, taking into account the complete missed-approach procedure;

(ii) fuel/energy for climb from the missed-approach altitude to the cruising level/altitude, taking into account the expected departure routing;

(iii) fuel/energy for cruising from the top of climb to the top of descent, taking into account the expected routing;

(iv) fuel/energy for descent from the top of descent to the point where the approach is initiated, taking into account the expected arrival routing; and

(v) fuel/energy for making an approach and landing at the destination alternate operating site;

(2) when the airship is operated with no destination alternate operating site, the amount of fuel/energy needed to leave a decision point above the destination operating site and come back 15 minutes later to that decision point.

Rationale

This proposed AMC is equivalent to AMC1 NCC.OP.131 of Regulation (EU) No 965/2012.

Some adaptations have been made to address airship specificities such as the higher probability of go-arounds being necessary before mooring the airship.

AsOP.BAS.111 Destination alternate aerodromes / operating sites

For instrument flight rules (IFR) flights, the operator shall specify at least one weather-permissible destination alternate aerodrome or operating site in the flight plan, unless:

(a) the available current meteorological information indicates that, for the period from one hour before until one hour after the estimated time of arrival, or from the actual time of departure until one hour after the estimated time of arrival, whichever is the shorter period, the approach and landing may be made under visual meteorological conditions; or

(b) the place of intended landing is designated as an isolated aerodrome or operating site and:

(1) an instrument approach procedure is prescribed for the aerodrome or operating site of intended landing; and

(2) available current meteorological information indicates that the following meteorological conditions will exist from two hours before to two hours after the estimated time of arrival:

(i) a cloud base of at least 300 m (1 000 ft) above the minimum associated with the instrument approach procedure, and

(ii) visibility of at least 5.5 km or of 4 km more than the minimum associated with the procedure.

Rationale

This proposed requirement is equivalent to points NCC.OP.151 and SPO.OP.150 of Regulation (EU) No 965/2012, which, based on knowledge of past and current airship IFR operations, are considered to be appropriate for airship operations.

AsOP.BAS.115 Passenger briefing

The pilot-in-command shall ensure that before and, when appropriate, during the flight passengers are given a briefing on normal, abnormal and emergency procedures.

Rationale

This proposed requirement is equivalent to point NCO.OP.130 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.115 Passenger briefing

(a) Passengers should be given a verbal briefing and demonstration about safety matters in such a way that the information is easily retained and applied during the landing and in the event of an emergency situation.

(b) The briefing/demonstration should include the following items:

(1) seat safety belts,

(2) emergency exits,

(3) smoking regulations,

(4) in-flight use and stowage of personal belongings and baggage,

(5) safe manoeuvring of the airship on the ground after landing,

(6) life jackets, if applicable,

(7) life rafts, if applicable,

(8) oxygen-dispensing equipment, if applicable, and

(9) other emergency equipment provided for individual passenger use, if applicable.

(c) Part or all of the verbal briefing may additionally be provided by a safety briefing card on which pictorial instructions indicate the correct landing position.

(d) The passenger briefing should be carried out by the pilot-in-command or a person designated by the operator.

Rationale

This proposed AMC is equivalent to AMC1 BOP.BAS.115 and GM1 BOP.BAS.115 of Regulation (EU) 2018/395.

AsOP.BAS.120 Carriage of passengers

The pilot-in-command shall ensure that, prior to and during taxiing, take-off and landing, and whenever deemed necessary in the interest of safety, each passenger on board occupies a seat or berth and has their safety belt or restraint device properly secured.

Rationale

This proposed requirement is equivalent to point NCO.OP.150 of Regulation (EU) No 965/2012.

AsOP.BAS.125 Submission of the air traffic services flight plan

(a) If an ATS flight plan is not submitted because it is not required by the rules of the air, adequate information shall be deposited in order to permit alerting services to be activated if required.

(b) When operating from a site where it is impossible to submit an ATS flight plan, the ATS flight plan shall be transmitted as soon as possible after take-off by the pilot-in-command or the operator.

Rationale

This proposed requirement is equivalent to point CAT.OP.MPA.177 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.125 Submission of the air traffic services flight plan

FLIGHTS WITHOUT AN AIR TRAFFIC SERVICES FLIGHT PLAN

(a) When unable to submit or close the ATS flight plan due to lack of ATS facilities or of any other means of communicating with ATS, the operator should establish procedures, instructions and a list of nominated persons to be responsible for alerting search and rescue services.

(b) To ensure that the location of each flight is known at all times, the above-mentioned procedures and instructions should:

(1) provide the nominated person with at least the information required to be included in a VFR flight plan, and the location, date and estimated time for re-establishing communications;

(2) if an airship is overdue or missing, ensure that the appropriate ATS or search and rescue service is notified; and

(3) ensure that the information will be retained at a designated place until the completion of the flight.

Rationale

This proposed AMC is equivalent to AMC1 CAT.OP.MPA.177 of Regulation (EU) No 965/2012.

AsOP.BAS.130 Flight plan preparation

(a) Before commencing the flight, the pilot-in-command shall be familiar with the available meteorological and aeronautical information appropriate to the intended flight. This information includes:

(1) an analysis of available current weather reports and forecasts; and

(2) the plans for an alternative course of action to provide for the eventuality that the flight cannot be completed as planned.

(b) For IFR flights, the operator shall specify at least one weather-permissible and adequate alternate operating site for take-off and landing in the flight plan depending on weather operating minima in accordance with point AsOP.BAS.111.

(c) The operator shall ensure that operations under IFR are only conducted:

(1) along routes, or within areas, for which space-based facilities, ground facilities and services, including meteorological services, adequate for the planned operation are provided for IFR operations;

(2) if the performance of the airship is adequate to comply with minimum flight altitude requirements;

(3) if the equipment of the airship meets the minimum requirements for the planned operation; and

(4) if appropriate maps and charts are available.

Rationale

This proposed requirement is based on point NCO.OP.135(b) of Regulation (EU) No 965/2012. Points (b) and (c) have been introduced to address IFR operations and are derived from other provisions of the same Regulation (points NCC.OP.150 and CAT.OP.MPA.135).

AsOP.BAS.135 Use of headsets

(a) Each flight crew member required to be on duty in the flight crew compartment shall wear a headset with a boom microphone or equivalent:

(1) during take-off and landing phases;

(2) when operating within Class A–D airspace;

(3) whenever deemed necessary by the pilot-in-command.

(b) The boom microphone or equivalent shall be in a position that permits its use for two-way radio communications.

Rationale

This proposed requirement is equivalent to point NCC.OP.160 of Regulation (EU) No 965/2012. It should be noted that here the provisions are rather simplified, since airships are naturally much quieter than aeroplanes or helicopters. For this reason, in point (a) it is proposed that the phases of the flight during which the headset shall be worn be reduced for airships.

AsOP.BAS.140 Securing of passenger compartment and galley(s)

The pilot-in-command shall ensure that:

(a) before take-off and landing, all exits and escape paths are unobstructed; and

(b) before take-off and landing, and whenever deemed necessary in the interest of safety, all equipment and baggage are properly secured.

Rationale

This proposed requirement is equivalent to point CAT.OP.MPA.230 of Regulation (EU) No 965/2012.

AsOP.BAS.145 Smoking on board

The pilot-in-command shall not allow smoking on board.

Rationale

This proposed requirement is equivalent to point NCC.OP.175 of Regulation (EU) No 965/2012 but more stringent because it is considered that the buoyant gas might be flammable.

AsOP.BAS.150 Carriage and use of weapons

(a) The pilot-in-command shall ensure that, when weapons are carried on a flight for the purpose of a specialised task, these are secured when not in use.

(b) The task specialist using the weapon shall take all necessary measures to prevent the airship and persons on board or on the ground from being endangered.

Rationale

This proposed requirement is equivalent to point NCO.SPEC.165 and other provisions of Regulation (EU) No 965/2012.

AsOP.BAS.155 Meteorological conditions

(a) The pilot-in-command shall only commence or continue a VFR flight if the latest available meteorological information indicates that the weather conditions along the route and at the intended destination at the estimated time of use will be at or above the applicable VFR operating minima.

(b) The pilot-in-command shall only commence or continue an IFR flight towards the planned destination aerodrome or operating site if the latest available meteorological information indicates that, at the estimated time of arrival, the weather conditions at the destination or at least one destination alternate aerodrome or operating site are at or above the applicable aerodrome or operating site operating minima.

(c) If a flight contains VFR and IFR segments, the meteorological information referred to in (a) and (b) shall be applicable as far as relevant.

Rationale

This proposed requirement is equivalent to points NCC.OP.180 and NCO.OP.160 of Regulation (EU)

No 965/2012.

AMC1 AsOP.BAS.155 Meteorological conditions

EVALUATION OF METEOROLOGICAL CONDITIONS

Pilots should carefully evaluate the available meteorological information relevant to the proposed flight, such as applicable surface observations, winds and temperatures aloft, terminal and area forecasts, air meteorological information reports, significant meteorological information and pilot reports. The ultimate decisions on whether, when and where to make the flight rest with the pilot-in-command. Pilots should continue to re-evaluate changing weather conditions.

Rationale

This proposed AMC is equivalent to AMC1 NCC.OP.180 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.155 Meteorological conditions

CONTINUATION OF A FLIGHT

In the case of in-flight replanning, continuation of a flight refers to the point from which a revised flight plan applies.

Rationale

This GM is equivalent to GM1 NCC.OP.180 of Regulation (EU) No 965/2012.

AsOP.BAS.165 Take-off

Before commencing take-off, the pilot-in-command shall be satisfied of the following.

(a) According to the latest available information, the weather at the aerodrome or operating site permits a safe take-off and departure.

(b) The selected aerodrome or operating site operating minima are consistent with all of the following:

(1) operative ground equipment,

(2) operative airship systems,

(3) airship performance,

(4) flight crew qualifications.

(c) At any operating site or aerodrome, the airship is able to be unmoored in the safe area designated for it, and take off by clearing all obstacles in the climb path by a safe margin as defined in point AsOP.BAS.225. Allowances shall be made for expected variations in the unmooring and take-off phase if such allowances are expected to be required considering local weather phenomena or have not been made in the scheduling of performance data.

(d) Facilities for mooring the airship at the destination or alternate aerodrome or operating site will be in place at the estimated time of use.

(e) For IFR flights, the operating minima at the departure aerodrome or operating site are not less than those established in point AsOP.BAS.220.

Rationale

This proposed requirement is equivalent to points NCO.OP.175 and SPO.OP.180, as well as other provisions of Regulation (EU) No 965/2012.

Airship operations require a mooring system, so it is proposed that points (c) and (d) be added.

Point (e) uses a conservative approach for operating minima for IFR flights due to limited experience. These are the same minima as used in point AsOP.BAS.220.

AsOP.BAS.180 Simulated situations in-flight

(a) The pilot-in-command shall, when carrying passengers or cargo, not simulate:

(1) situations that require the application of abnormal or emergency procedures; or

(2) flight in instrument meteorological conditions (IMC).

(b) Notwithstanding (a), when training flights are conducted by a training organisation referred to in Article 10a of Regulation (EU) No 1178/2011, such situations may be simulated with student pilots on board.

Rationale

This proposed requirement is equivalent to points NCC.OP.200 and NCO.OP.180 of Regulation (EU) No 965/2012.

AsOP.BAS.185 In-flight fuel/energy and ballast management

(a) The pilot-in-command shall check at regular intervals during the flight that the amounts of usable fuel/energy, oil, ballast and lifting gas remaining in-flight are not less than the amounts of usable fuel/energy, oil, ballast and lifting gas needed to complete the intended flight and the reserves planned for landing.

(b) The pilot-in-command of a controlled flight shall advise air traffic control (ATC) of a minimum fuel/energy state by declaring 'MINIMUM FUEL' when the pilot-in-command has:

(1) committed to land at a specific aerodrome or operating site; and

(2) calculated that any change to the existing clearance to that aerodrome or operating site, or other air traffic delays, may result in landing with less than the planned final reserve fuel/energy.

(c) The pilot-in-command of a controlled flight shall declare a situation of fuel/energy emergency by broadcasting 'MAYDAY MAYDAY MAYDAY FUEL' when the usable fuel/energy estimated to be available upon landing at the nearest aerodrome or operating site where a safe landing can be made is less than the planned final reserve fuel/energy.

Rationale

This proposed requirement is equivalent to points CAT.OP.MPA.195, NCC.OP.205, SPO.OP.190 and

NCO.OP.185 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.185 In-flight fuel/energy and ballast management

'MINIMUM FUEL' DECLARATION

(a) The pilot-in-command may consider reporting the remaining fuel/energy endurance after a 'MINIMUM FUEL' or 'MAYDAY MAYDAY MAYDAY FUEL' declaration.

(b) The 'MINIMUM FUEL' declaration informs the ATC that all planned landing options have been reduced to a specific aerodrome or operating site and no other options are available. It also informs the ATC that any change to the existing clearance may result in landing with less than the planned final reserve fuel/energy. This is not an emergency situation but an indication that an emergency situation is possible, should any additional delay occur.

The pilot should not expect any form of priority handling as a result of a 'MINIMUM FUEL' declaration. However, the ATC should advise the flight crew of any additional expected delays and should coordinate with other ATC units when transferring the control of the airship to ensure that the other ATC units are aware of the flight's fuel/energy state.

(c) The requirement for declaring 'MINIMUM FUEL' or 'MAYDAY MAYDAY MAYDAY FUEL' applies only to controlled flights; however, these declarations may also be made during uncontrolled flights if the pilot-in-command considers this advisable.

Rationale

This proposed GM is equivalent to GM1 NCO.OP.185(b)&(c) of Regulation (EU) No 965/2012.

AsOP.BAS.190 Refuelling and recharging or replacing of batteries with persons on board

(a) Refuelling or recharging of the airship shall be conducted only when:

(1) the airship is moored; and

(2) no passengers are embarking on board or disembarking.

(b) The replacement of airship batteries may be conducted when necessary safety precautions have been taken and the airship is being manned by qualified personnel ready to initiate and direct an evacuation of the airship by the most practical and expeditious means available.

Rationale

This proposed requirement is based on point NCC.OP.155 of Regulation (EU) No 965/2012. Some adaptations have been made in consideration of airship mooring requirements. Refuelling and recharging with passengers on board is not permitted in consideration of the fact that the airship can move subject to weather conditions.

AsOP.BAS.195 Passenger seating and use of restraint systems

(a) The operator shall establish procedures to ensure that passengers are seated where, in the event of an emergency evacuation, they are able to assist and not hinder evacuation of the airship.

(b) The following requirements concern the use of restraint systems.

(1) Crew members

(i) During take-off and landing, and whenever decided by the pilot-in-command in the interest of safety, each crew member shall be properly secured by all safety belts and restraint systems provided.

(ii) During other phases of the flight, each flight crew member in the flight crew compartment shall keep the assigned station safety belt fastened while at their station.

(2) Passengers

(i) Before take-off and landing, and whenever deemed necessary in the interest of safety, the pilot-in-command shall be satisfied that each passenger on board occupies a seat or berth with their safety belt or restraint system properly secured.

(ii) The operator shall make provisions for multiple occupancy of airship seats, which is allowed only on specified seats. The pilot-in-command shall be satisfied that multiple occupancy does not occur other than by one adult and one infant who is properly secured by a supplementary loop belt or other restraint device.

Rationale

This proposed requirement is equivalent to points CAT.OP.MPA.165 and CAT.OP.MPA.225 of Regulation (EU) No 965/2012. Some adaptations have been made in consideration of airship mooring requirements.

AsOP.BAS.200 Portable electronic devices

The pilot-in-command shall not permit the use of portable electronic devices on board an airship, including an electronic flight bag (EFB):

(a) if the AFM, or equivalent document(s), restricts the use of portable electronic devices on board;

(b) whenever such use could adversely affect the performance of the airship systems and equipment or the ability of the flight crew member to operate the airship.

Rationale

This proposed AMC is an adaptation of points NCC.GEN.130 and NCO.GEN.125 of Regulation (EU) No 965/2012 to allow the airship manufacturer to establish a suitable policy with respect to the use of portable electronic devices.

AMC1 AsOP.BAS.200 Portable electronic devices

ELECTRONIC FLIGHT BAGS — HARDWARE

(a) EFB viewable stowage

When a viewable stowage device is used, the pilot-in-command should ensure that, if the EFB moves or is separated from its stowage, or if the viewable stowage is unsecured from the airship (as a result of turbulence or manoeuvring or other action), it will not jam flight controls, damage flight deck equipment or injure any person on board.

The viewable stowage device should not be positioned in such a way that it obstructs visual or physical access to airship controls and/or displays, flight crew ingress or egress, or external vision. The design of the viewable stowage device should allow the user easy access to any item of the EFB system, notably the EFB controls, and a clear view of the EFB display while in use.

(b) Cables

If cables are used to connect an EFB to an airship system, power source or any other equipment:

(1) the cables should not hang loosely in a way that compromises task performance and/or safety; flight crew should be able to easily secure the cables out of the way during operations (e.g. by using cable tether straps); and

(2) the cables should be of sufficient length so that they do not obstruct the use of any movable device on the flight deck.

Rationale

This proposed AMC is equivalent to AMC1 NCO.GEN.125 of Regulation (EU) No 965/2012.

AMC2 AsOP.BAS.200 Portable electronic devices

ELECTRONIC FLIGHT BAGS — FUNCTIONS

(a) Familiarisation

The pilot-in-command should familiarise themselves with the use of the EFB hardware and its applications on the ground before using them in-flight for the first time.

A user guide should be available for the pilot-in-command.

(b) Pre-flight checks

Before each flight, the pilot-in-command should perform the following checks to ensure the continued safe operation of the EFB during the flight:

(1) a general check of the EFB operation by switching it ON and checking that the applications they intend to use in-flight are adequately operative;

(2) a check of the remaining available battery power, if applicable, to ensure the availability of the EFB during the planned flight;

(3) a check of the version effectivity of the EFB databases, if applicable (e.g. for charts, performance calculation, and weight and balance applications); and

(4) a check that an appropriate backup is available when a chart application or an application displaying airship checklists is used.

(c) Chart applications

The navigation charts that are depicted should contain the necessary information in an appropriate format to perform the operation safely. Consideration should be given to the size of the display to ensure legibility.

(d) Performance calculation and weight and balance functions or applications

Prior to the first use of a performance calculation or weight and balance function or application, and following any update of the database supporting the function or the application, a check should be performed on the ground to verify that the output of the application corresponds to the data derived from the AFM (or other appropriate sources).

(e) Airport moving map display application

An airport moving map display application should be used not as a primary means of navigation for taxiing, but as a confirmation of outside visual references.

(f) Other functions

If advanced functions on non-certified devices that display information related to the airship position in-flight, navigation, surroundings (e.g. in terms of terrain or traffic) or attitude are used, the pilot-in-command should be aware of the potential for misleading or erroneous information displayed and should use these functions only as an advisory or supplementary means.

Rationale

This proposed AMC is equivalent to AMC2 NCO.GEN.125 of Regulation (EU) No 965/2012.

AsOP.BAS.210 Ground proximity detection

When undue proximity to the ground is detected, the pilot-in-command shall take corrective action immediately in order to establish safe flight conditions.

Rationale

This proposed requirement is equivalent to points CAT.OP.MPA.290, NCC.OP.215 and NCO.OP.195 of Regulation (EU) No 965/2012.

AsOP.BAS.220 Aerodrome or operating site operating minima

(a) The operator shall establish operating minima for each departure, destination, alternate aerodrome or operating site that is planned to be used in order to ensure separation of the airship from terrain and obstacles and to mitigate the risk of loss of visual references during the visual flight segment of instrument approach operations.

(b) The method used to establish operating minima shall take all the following into account:

(1) the type, performance and handling characteristics of the airship;

(2) the equipment available on the aircraft for the purpose of navigation, acquisition of visual references and/or control of the flight path during take-off, approach, missed approach and landing;

(3) any conditions or limitations stated in the AFM;

(4) the relevant operational experience of the operator;

(5) the dimensions and characteristics of the ground operating area and of the final approach and take-off areas that may be selected for use;

(6) the adequacy and performance of the available visual and non-visual aids and infrastructure;

(7) the obstacle clearance altitude/height for the instrument approach procedures;

(8) the obstacles in the climb-out areas and necessary clearance margins;

(9) the composition of the flight crew, their competence and experience;

(10) the instrument approach procedure;

(11) the aerodrome or operating site characteristics and the available air navigation services;

(12) any minima that may be promulgated by the State of the aerodrome or operating site; and

(13) any non-standard characteristics of the aerodrome or operating site, the instrument approach procedure or the environment.

(c) The operator shall document the method used for determining operating minima.

(d) For operations conducted in accordance with Annex II (Part-AsOP.AOC) of this Regulation, in addition to points (a) to (c) above, the following apply:

(1) the operator shall specify in the operations manual a method of determining operating minima;

(2) the method used by the operator to establish site operating minima and any change to that method shall be approved by the competent authority.

Rationale

This proposed requirement is equivalent to point CAT.OP.MPA.110 of Regulation (EU) No 965/2012. It is to be noted that low-visibility operation provisions have not been included here because low-visibility operations are not applicable to airships.

AMC1 AsOP.BAS.220 Aerodrome or operating site operating minima

CRITERIA FOR THE ESTABLISHMENT OF OPERATING MINIMA

The operating minima should not be less than:

— 800 m RVR for take-off;

— 200 ft DH for landing and 800 m of horizontal visibility.

Rationale

This proposed AMC has been developed based on historical experience and expertise in airship operations. The operating minima values proposed here are more conservative than those used for helicopters.

AsOP.BAS.225 Performance-based navigation

The operator shall ensure that, when performance-based navigation (PBN) is required for the route or procedure to be flown:

(a) the relevant PBN specification is stated in the AFM or other document that has been approved by the certifying authority as part of an airworthiness assessment or is based on such approval;

(b) the airship is operated in conformance with the relevant navigation specification and limitations in the AFM or other document as mentioned above; and

(c) required navigation performance — authorisation required (RNP AR) approaches are never selected.

Rationale

This proposed requirement is equivalent to point CAT.OP.MPA.126 of Regulation (EU) No 965/2012. Point (c) has been added because, considering the current and expected technology, airships are not expected to be capable of performing RNP AR approaches. This clarification is important, as that kind of approach is subject to a PBN certification process.

AMC1 AsOP.BAS.225 Performance-based navigation

PERFORMANCE-BASED NAVIGATION OPERATIONS

For operations where a navigation specification for PBN has been prescribed, the airship operator should:

(a) establish operating procedures specifying:

(1) normal, abnormal and contingency procedures;

(2) electronic navigation database management; and

(3) relevant entries in the MEL;

(b) specify the flight crew qualification and proficiency constraints and ensure that the training programme for relevant personnel is consistent with the intended operation; and

(c) ensure continued airworthiness of the area navigation system.

Rationale

This proposed AMC is equivalent to AMC1 CAT.OP.MPA.126 of Regulation (EU) No 965/2012.

AMC2 AsOP.BAS.225 Performance-based navigation

MONITORING AND VERIFICATION

(a) Pre-flight and general considerations

(1) Upon navigation system initialisation, the flight crew should confirm that the navigation database is current and verify that the airship position has been entered correctly, if required.

(2) The active flight plan, if applicable, should be checked by comparing the charts or other relevant documents with navigation equipment and displays. This verification includes confirmation of the departure aerodrome or operating site and the waypoint sequence, reasonableness of track angles and distances, any altitude or speed constraints, and, where possible, which waypoints are fly-by and which are fly-over. Where relevant, the radius-to-fix leg arc radii should be confirmed.

(3) The flight crew should check that the navigation aids critical to the operation of the intended PBN procedure are available.

(4) The flight crew should confirm the navigation aids that should be excluded from the operation, if any.

(5) An arrival, approach or departure procedure should not be used if the validity of the procedure in the navigation database has expired.

(6) The flight crew should verify that the navigation systems required for the intended operation are operational.

(b) Departure

(1) Prior to commencing a take-off on a PBN procedure, the flight crew should check that the indicated airship position is consistent with the actual airship position at the start of lift-off.

(2) Where a global navigation satellite system (GNSS) is used, the signal should be acquired before the lift-off commences.

(3) Unless automatic updating of the actual departure point is provided, the flight crew should ensure initialisation on the lift-off point. This is to preclude any inappropriate or inadvertent position shift after take-off.

(c) Arrival and approach

(1) The flight crew should verify that the navigation system is operating correctly and the correct arrival procedure and landing position (including any applicable transition) are entered and properly depicted.

(2) Any published altitude and speed constraints should be observed.

(3) The flight crew should check approach procedures (including alternate aerodromes or operating sites if needed) as extracted by the system (e.g. control display unit flight plan page) or presented graphically on the moving map, in order to confirm the correct loading and the reasonableness of the procedure content.

(4) Prior to commencing the approach operation (before the initial approach fix (IAF)), the flight crew should verify the correctness of the loaded procedure by comparison with the appropriate approach charts. This check should include:

(i) the waypoint sequence;

(ii) reasonableness of the tracks and distances of the approach legs and the accuracy of the inbound course; and

(iii) the vertical path angle, if applicable.

(d) Altimetry settings for required navigation performance – approach (RNP APCH) operations using barometric vertical navigation

(1) Barometric settings

(i) The flight crew should set and confirm the correct altimeter setting and check that the two altimeters provide altitude values that do not differ by more than 100 ft at or before the final approach fix (FAF).

(ii) The flight crew should fly the procedure with:

(A) a current local altimeter setting source available — a remote or regional altimeter setting source should not be used; and

(B) the QNH/QFE, as appropriate, set on the aircraft's altimeters.

(2) Temperature compensation

(i) For RNP APCH operations with lateral navigation / vertical navigation minima using barometric vertical navigation:

(A) the flight crew should not commence the approach when the aerodrome temperature is outside the promulgated aerodrome temperature limits for the procedure unless the area navigation system is equipped with approved temperature compensation for the final approach;

(B) when the temperature is within promulgated limits, the flight crew should not make compensation to the altitude at the FAF;

(C) since only the final approach segment is protected by the promulgated aerodrome temperature limits, the flight crew should consider the effect of temperature on terrain and obstacle clearance in other phases of flight.

(ii) For RNP APCH operations with lateral navigation minima, the flight crew should consider the effect of temperature on terrain and obstacle clearance in all phases of flight, in particular on any step-down fix.

(e) Sensor and lateral navigation accuracy selection

(1) For multisensor systems, the flight crew should verify, prior to approach, that the GNSS sensor is being used for position computation.

(2) Flight crew of airships with required navigation performance (RNP) input selection capability should confirm that the indicated RNP value is appropriate for the PBN operation.

Rationale

This proposed AMC is equivalent to AMC2 CAT.OP.MPA.126 of Regulation (EU) No 965/2012.

AMC3 AsOP.BAS.225 Performance-based navigation

MANAGEMENT OF THE NAVIGATION DATABASE

(a) For area navigation (RNAV) 1, RNAV 2, RNP 1, RNP 2 and RNP APCH, the flight crew should neither insert nor modify waypoints by manual entry into a procedure (departure, arrival or approach) that has been retrieved from the database. User-defined data may be entered and used for waypoint altitude/speed constraints on a procedure where those constraints are not included in the navigation database coding.

(b) For RNP 4 operations, the flight crew should not modify waypoints that have been retrieved from the database. User-defined data (e.g. for flex-track routes) may be entered and used.

(c) The lateral and vertical definition of the flight path between the FAF and the missed approach point retrieved from the database should not be revised by the flight crew.

Rationale

This proposed AMC is equivalent to AMC3 CAT.OP.MPA.126 of Regulation (EU) No 965/2012.

AMC4 AsOP.BAS.225 Performance-based navigation

DISPLAYS AND AUTOMATION

(a) For RNAV 1, RNP 1 and RNP APCH operations, the flight crew should use a lateral deviation indicator and, where available, flight director and/or autopilot in lateral navigation mode.

(b) The appropriate displays should be selected so that the following information can be monitored:

(1) the computed desired path,

(2) aircraft position relative to the lateral path (cross-track deviation) for flight technical error monitoring,

(3) aircraft position relative to the vertical path (for a 3D operation).

(c) The flight crew of an aircraft with a lateral deviation indicator (e.g. course deviation indicator) should ensure that lateral deviation indicator scaling (full-scale deflection) is suitable for the navigation accuracy associated with the various segments of the procedure.

(d) The flight crew should maintain procedure centrelines unless authorised to deviate by ATC or demanded by emergency conditions.

(e) Cross-track error/deviation (the difference between the area-navigation-system-computed path and the aircraft-computed position) should normally be limited to ± 0.5 × the RNAV/RNP value associated with the procedure. Brief deviations from this standard (e.g. overshoots or undershoots during and immediately after turns) up to a maximum of 1 × the RNAV/RNP value should be allowable.

(f) For a 3D approach operation, the flight crew should use a vertical deviation indicator and, where required by AFM limitations, a flight director or autopilot in vertical navigation mode.

(g) Deviations below the vertical path should not exceed 75 ft at any time, or half-scale deflection where angular deviation is indicated, and not more than 75 ft above the vertical profile, or half-scale deflection where angular deviation is indicated, at or below 1 000 ft above aerodrome level. The flight crew should execute a missed approach if the vertical deviation exceeds this criterion, unless the flight crew has in sight the visual references required to continue the approach.

Rationale

This proposed AMC is equivalent to AMC4 CAT.OP.MPA.126 of Regulation (EU) No 965/2012.

AMC5 AsOP.BAS.225 Performance-based navigation

VECTORING AND POSITIONING

(a) ATC tactical interventions in the terminal area may include radar headings, 'direct to' clearances that bypass the initial legs of an approach procedure, interceptions of an initial or intermediate segments of an approach procedure or the insertion of additional waypoints loaded from the database.

(b) In complying with ATC instructions, the flight crew should be aware of the implications for the navigation system.

(c) 'Direct to' clearances to the initial fix (IF) may be accepted provided that it is clear to the flight crew that the aircraft will be established on the final approach track at least 2 NM before the FAF.

(d) 'Direct to' clearance to the FAF should not be acceptable. Modifying the procedure to intercept the final approach track prior to the FAF should be acceptable for radar-vectored arrivals or otherwise only with ATC approval.

(e) The final approach trajectory should be intercepted no later than the FAF in order for the aircraft to be correctly established on the final approach track before starting the descent (to ensure terrain and obstacle clearance).

(f) 'Direct to' clearances to a fix that immediately precede a radius-to-fix leg should not be permitted.

(g) For parallel offset operations en route in RNP 4 and advanced required navigation performance (A-RNP), transitions to and from the offset track should maintain an intercept angle of no more than 45° unless specified otherwise by ATC.

Rationale

This proposed AMC is equivalent to AMC5 CAT.OP.MPA.126 of Regulation (EU) No 965/2012.

AMC6 AsOP.BAS.225 Performance-based navigation

ALERT AND ABORT

(a) Unless the flight crew has sufficient visual reference to continue the approach operation to a safe landing, an RNP APCH operation should be discontinued if:

(1) navigation system failure is annunciated (e.g. via a warning flag);

(2) lateral or vertical deviations exceed the tolerances;

(3) loss of the on-board monitoring and alerting system.

(b) Discontinuing the approach operation may not be necessary for a multisensor navigation system that includes demonstrated RNP capability without GNSS in accordance with the AFM.

(c) Where vertical guidance is lost while the aircraft is still above 1 000 ft above ground level, the flight crew may decide to continue the approach to lateral navigation minima, when supported by the navigation system.

Rationale

This proposed AMC is equivalent to AMC6 CAT.OP.MPA.126 of Regulation (EU) No 965/2012.

AMC7 AsOP.BAS.225 Performance-based navigation

CONTINGENCY PROCEDURES

(a) The flight crew should make the necessary preparation to revert to a conventional arrival procedure where appropriate. The following conditions should be considered:

(1) failure of the navigation system components including navigation sensors, and a failure-effecting flight technical error (e.g. failures of the flight director or autopilot);

(2) multiple system failures affecting airship performance;

(3) coasting on inertial sensors beyond a specified time limit; and

(4) receiver autonomous integrity monitoring (or equivalent) alert or loss of integrity function.

(b) In the event of loss of PBN capability, the flight crew should invoke contingency procedures and navigate using an alternative means of navigation.

(c) The flight crew should notify ATC of any problem with PBN capability.

(d) In the event of communication failure, the flight crew should continue with the operation in accordance with published lost communication procedures.

Rationale

This proposed AMC is equivalent to AMC7 CAT.OP.MPA.126 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.225 Performance-based navigation

DESCRIPTION

(a) For both RNP X and RNAV X designations, the 'X' (where stated) refers to the lateral navigation accuracy (total system error) in nautical miles, which is expected to be achieved at least 95 % of the flight time by the population of aircraft operating within the airspace, route or procedure. For RNP APCH and A-RNP, the lateral navigation accuracy depends on the segment.

(b) PBN may be required on notified routes, for notified procedures and in notified airspace.

RNAV 10

(c) For the purposes of consistency with the PBN concept, this Regulation uses the designation 'RNAV 10' because this specification does not include on-board performance monitoring and alerting.

(d) However, it should be noted that many routes still use the designation 'RNP 10' instead of 'RNAV 10'. 'RNP 10' was used as a designation before the publication of the fourth edition of ICAO Doc 9613 in 2013. The terms 'RNP 10' and 'RNAV 10' should be considered equivalent.

Rationale

This proposed GM is equivalent to GM1 CAT.OP.MPA.126 of Regulation (EU) No 965/2012.

AsOP.BAS.230 Approach and landing

(a) Except in emergency situations, the pilot-in-command shall be satisfied before commencing an approach to land that, according to the latest available information, the conditions at the intended aerodrome or operating site permit a safe approach and landing.

(b) If the reported RVR is less than 550 m and the controlling RVR for the runway to be used for landing is less than the applicable minimum, then an instrument approach operation shall not be continued:

(1) past a point at which the airship is 1 000 ft above the aerodrome or operating site elevation; or

(2) into the final approach segment if the DH or minimum DH is higher than 1 000 ft.

(c) If the required visual reference is not established, then a missed approach shall be executed at or before the DA/H or the MDA/H.

(d) If the required visual reference is not maintained after the DA/H or MDA/H, then a go-around shall be executed promptly.

Rationale

The proposed point (a) is in line with the considerations included in point BOP.BAS.155 of Regulation (EU) 2018/395 and it is deemed necessary considering the few operating sites or aerodromes suitable for airship operations. Points (b), (c) and (d) have been adapted from point CAT.OP.MPA.305, as it is necessary to have such procedures in the case of IFR operations. It is to be noted that instrument approach with airships is only envisaged on runways with a published instrument approach procedure. This requires that the minima for aeroplanes are used for airships too.

AMC1 AsOP.BAS.230(b) Approach and landing

MINIMUM RUNWAY VISUAL RANGE FOR CONTINUATION OF APPROACH

(a) The touchdown RVR should be the controlling RVR.

(b) If the touchdown RVR is not reported, then the midpoint RVR should be the controlling RVR.

Rationale

This proposed AMC is equivalent to AMC1 CAT.OP.MPA.305 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.230(b) Approach and landing

APPLICATION OF RUNWAY VISUAL RANGE OR VISIBILITY REPORTS

(a) There is no prohibition of the commencement of an approach based on the reported RVR. The restriction in point AsOP.BAS.230(b) applies to the continuation of the approach past a point where the airship is 1 000 ft above the aerodrome or operating site elevation or in the final approach segment, as applicable.

The prohibition of continuing the approach applies only if the RVR is reported and is below 550 m and below the operating minima. There is no prohibition based on visibility.

(b) If the reported RVR is 550 m or greater, but it is less than the RVR calculated in accordance with AMC1 AsOP.BAS.220, a go-around is likely to be necessary, since visual reference may not be established at the DH or minimum DH.

Rationale

This proposed GM is equivalent to GM1 CAT.OP.MPA.305 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.230(c) Approach and landing

VISUAL REFERENCES FOR INSTRUMENT APPROACH OPERATIONS

For instrument approach operations, at least one of the visual references specified below should be distinctly visible and identifiable to the pilot at the MDA/H or the DA/H:

(a) elements of the approach lighting system,

(b) the threshold,

(c) the threshold markings,

(d) the threshold lights,

(e) the threshold identification lights,

(f) the visual glide path indicator,

(g) the touchdown zone (TDZ) or TDZ markings,

(h) the TDZ lights,

(i) other visual references specified in the operations manual.

Rationale

This proposed AMC is an adaptation of AMC1 CAT.OP.MPA.305 of Regulation (EU) No 965/2012.

Section 3 — Performance and operating limitations

AsOP.BAS.300 Operating limitations

(a) During any phase of operation, the loading, the heaviness and the centre-of-gravity position of the airship shall comply with any limitation specified in the AFM, or the operations manual if applicable and more restrictive.

(b) Placards, listings or instrument markings, or combinations thereof, containing those operating limitations prescribed by the AFM for visual presentation, shall be displayed in the airship.

Rationale

This proposed requirement is equivalent to point NCC.POL.100 of Regulation (EU) No 965/2012. Some adaptations, such as the use of heaviness in point (a), have been introduced to better fit airship operations.

AsOP.BAS.305 Centre-of-gravity calculation

(a) The operator shall ensure that the heaviness of the airship and its centre of gravity have been established by actual weighing prior to its initial entry into service. The accumulated effects of modifications and repairs on the mass and balance shall be accounted for and properly documented. Such information shall be made available to the pilot-in-command. The airship shall be reweighed if the effects of modifications or repairs on the mass and balance are not known.

(b) The weighing of the airship shall be accomplished by the manufacturer of the airship or in accordance with Annex I to Regulation (EU) No 1321/2014.

(c) The operator shall determine the mass of all operating items and crew members included in the airship dry operating mass by actual weighing, including any crew baggage, or by using standard masses. The influence of their position on the aircraft's centre of gravity shall be determined. When using standard masses, the following mass values for crew members shall be used to determine the dry operating mass:

(1) 85 kg, including hand baggage, for flight crew / technical crew members, and

(2) 75 kg for cabin crew members.

(d) The operator shall establish procedures to enable the pilot-in-command to determine the mass of the traffic load, including any ballast, by:

(1) actual weighing;

(2) determining the mass of the traffic load in accordance with standard passenger and baggage masses; or

(3) calculating passenger mass on the basis of a statement by, or on behalf of, each passenger and adding to it a predetermined mass to account for hand baggage and clothing, when

the number of passenger seats available on the airship is less than 20.

(e) When using standard masses, the following mass values shall be used:

(1) for passengers, those in Tables 1 and 2, where hand baggage and the mass of any infant carried by an adult on one passenger seat are included:

Table 1 — Standard masses for passengers — airships with a total number of passenger seats of 20 or more

	Passenger seats		
	20 or more		30 or more
	Male	Female	All adults
Adults	88 kg	70 kg	84 kg
Children	35 kg	35 kg	35 kg

Table 2 — Standard masses for passengers — airships with a total number of passenger seats of 19 or less

	Passenger seats		
	1–5	6–9	10–19
Male	104 kg	96 kg	92 kg
Female	86 kg	78 kg	74 kg

(2) for baggage:

(i) for airships with 20 passenger seats or more, the standard mass value for checked baggage of 13 kg;

(ii) for airships with 19 passenger seats or less, the actual mass of checked baggage, determined:

(A) by weighing; or

(B) by calculation on the basis of a statement by, or on behalf of, each passenger (where this is impractical, a minimum standard mass of 13 kg shall be used).

(f) The operator shall establish procedures to enable the pilot-in-command to determine the mass of the fuel load by using the actual density or, if not known, the density calculated in accordance with a method specified in the operations manual.

(g) The pilot-in-command shall ensure that:

(1) the loading of the aircraft is performed under the supervision of qualified personnel; and

(2) traffic load is consistent with the data used for the calculation of the aircraft mass and balance.

(h) The operator shall establish procedures to enable the pilot-in-command to comply with additional structural limits such as the floor strength limitations, the maximum load per running metre, the maximum mass per cargo compartment and the maximum seating limit.

(i) The operator shall specify the principles and methods involved in the loading and in the mass and balance system that meet the requirements contained in (a) to (h). This system shall cover all types of intended operations.

Rationale

This proposed requirement is essentially equivalent to point NCC.POL.105. Some adaptations have been made to reflect airship operations.

AMC1 AsOP.BAS.305 Centre-of-gravity calculation

CENTRE-OF-GRAVITY LIMITS — OPERATIONAL CENTRE-OF-GRAVITY ENVELOPE AND IN-FLIGHT CENTRE OF GRAVITY

In the certificate limitations section of the AFM, forward and aft centre-of-gravity limits are specified. These limits ensure that the certification stability and control criteria are met throughout the whole flight and allow the proper trim setting for take-off. The operator should ensure that these limits are respected by taking the following action.

(a) The operator should define and apply operational margins to the certified centre-of-gravity envelope in order to compensate for the following deviations and errors.

(1) Deviations of the actual centre of gravity at empty or operating mass from published values due to, for example, weighing errors, unaccounted modifications and/or equipment variations.

(2) Deviations in fuel distribution in tanks from the applicable schedule.

(3) Deviations in the distribution of baggage and cargo in the various compartments compared with the assumed load distribution, and inaccuracies in the actual mass of baggage and cargo.

(4) Deviations in the distribution of ballast in the various compartments compared with the assumed load distribution, and inaccuracies in the actual mass of ballast.

(5) Deviations in actual passenger seating from the seating distribution assumed when preparing the mass and balance documentation. Large centre-of-gravity errors may occur when ‘free seating’ (i.e. passengers selecting any seat when entering the airship) is permitted. Although in most cases longitudinal passenger seating can be expected to be

reasonably even, there is a risk of an extreme forward or aft seat selection causing very large and unacceptable centre-of-gravity errors, assuming that the balance calculation is done on the basis of an assumed even distribution. The largest errors may occur at a load factor of approximately 50 % if all passengers are seated in either the forward half or the aft half of the cabin.

(6) Deviations of the actual centre of gravity of cargo and passenger load within individual cargo compartments or cabin sections from the normally assumed mid position.

(7) Deviations of the centre of gravity caused by gear and flap positions and by application of the prescribed fuel usage procedure, unless already covered by the certified limits.

(8) Deviations caused by in-flight movement of crew, galley equipment and passengers.

(b) The operator should define and apply operational procedures in order to:

(1) ensure an even distribution of passengers in the cabin;

(2) take into account any unwanted centre-of-gravity travel during flight caused by passenger/crew movement;

(3) take into account any unwanted centre-of-gravity travel during flight caused by fuel consumption/transfer;

(4) take into account any unwanted centre-of-gravity travel during flight caused by ballast transfer; and

(5) take into account any unwanted centre-of-gravity travel during flight caused by use of ballonets.

Rationale

This proposed AMC is equivalent to AMC1 NCC.POL.105(a) of Regulation (EU) No 965/2012. The necessity of establishing procedures for ballast transfer and use of ballonets has been introduced here.

AMC2 AsOP.BAS.305 Centre-of-gravity calculation

DRY OPERATING MASS

(a) The dry operating mass should include:

(1) crew and crew baggage;

(2) catering and removable passenger service equipment; and

(3) tank water and lavatory chemicals; and

(4) removable task specialist equipment, if applicable.

(b) The operator should correct the dry operating mass to account for any additional crew baggage. The position of this additional baggage should be accounted for when establishing the centre of gravity of the airship.

(c) The operator should establish a procedure in the operations manual to determine when to select actual or standard mass for crew members.

(d) When determining the actual mass by weighing, crew members' personal belongings and hand baggage should be included. Such weighing should be conducted immediately prior to boarding the airship.

Rationale

This proposed AMC is equivalent to AMC1 NCC.POL.105(c) of Regulation (EU) No 965/2012.

Point (a)(4) has been added to consider the removable task specialist equipment as in AMC1 SPO.POL.110(a)(1) of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.305(a);(b) Centre-of-gravity calculation

WEIGHING OF AN AIRSHIP

(a) New airships that have been weighed at the final assembly line may be placed into operation without reweighing if the weight and balance records have been adjusted for alterations or modifications to the airship. Airships transferred from one EU operator to another EU operator do not have to be weighed prior to use by the receiving operator unless more than four years have elapsed since the last weighing.

(b) The weight and centre-of-gravity position of an airship should be revised whenever the cumulative changes to the dry operating weight exceed ± 0.5 % of the maximum gross weight for take-off/landing or the cumulative change in centre-of-gravity position exceeds 0.5 % of the total centre-of-gravity range. This should be done either by weighing the airship or through a calculation.

(c) When weighing an airship, normal precautions consistent with good practices such as the following should be taken:

(1) checking for completeness of the airship and equipment;

(2) determining that fluids are properly accounted for;

(3) determining that lifting gas (e.g. purity, quantity, temperature) is properly accounted for;

(4) ensuring that the airship is clean; and

(5) ensuring that weighing is accomplished in an enclosed building.

(d) Any equipment used for weighing should be properly calibrated, zeroed and used in accordance with the manufacturer's instructions. Each scale should be calibrated by the manufacturer, by a civil department of weights and measures or by an appropriately authorised organisation within two years or within a time period defined by the manufacturer of the weighing equipment, whichever is less. The equipment should enable the mass of the airship to be established accurately.

Rationale

This proposed AMC is equivalent to AMC1 NCC.POL.105(b) of Regulation (EU) No 965/2012.

It is to be noted that the mean aerodynamic chord concept is not applicable to airships; therefore, the centre-of-gravity range is used.

Additionally, some precautions have been added with respect to the assessment of the lifting gas.

AMC1 AsOP.BAS.305(d) Centre-of-gravity calculation

MASS VALUES FOR PASSENGERS AND BAGGAGE

(a) The predetermined mass for hand baggage and clothing should be established by the operator on the basis of studies relevant to its particular operation. In any case, the predetermined mass should not be less than:

(1) 4 kg for clothing; and

(2) 6 kg for hand baggage.

(b) The passengers' stated mass and the mass of passengers' clothing and hand baggage should be checked prior to boarding and adjusted if necessary. The operator should establish a procedure in the operations manual for when to select actual or standard masses and the procedure to be followed when using verbal statements.

(c) When determining the actual mass by weighing, passengers' personal belongings and hand baggage should be included. Such weighing should be conducted immediately prior to boarding the airship.

(d) When determining the mass of passengers by using standard mass values, provided in Tables 1 and 2 of point AsOP.BAS.305(e), infants occupying separate passenger seats should be considered children for the purpose of this AMC. When the total number of passenger seats available on an airship is 20 or more, the standard masses for males and females in Table 1 of point AsOP.BAS.305(e) should be used. As an alternative, in cases where the total number of passenger seats available is 30 or more, the 'All adults' mass values in Table 1 of point AsOP.BAS.305(e) may be used.

(e) On airship flights with 19 passenger seats or fewer where no hand baggage is carried in the cabin or where hand baggage is accounted for separately, 6 kg may be deducted from male and female masses in Table 2 of point AsOP.BAS.305(e). Articles such as an overcoat, an umbrella, a small handbag or purse, reading material or a small camera are not considered hand baggage.

(f) The mass of checked baggage should be checked prior to loading and the value increased, if necessary.

(g) On any flight identified as carrying a significant number of passengers whose masses, including hand baggage, are expected to significantly deviate from the standard passenger masses, the operator should determine the actual mass of such passengers by weighing or by adding an adequate mass increment.

(h) If standard mass values for checked baggage are used and a significant amount of passengers' checked baggage is expected to significantly deviate from the standard baggage mass, the operator should determine the actual mass of such baggage by weighing or by adding an adequate mass increment.

Rationale

This proposed AMC is equivalent to AMC1 NCC.POL.105(d) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.305(e) Centre-of-gravity calculation

ADJUSTMENT OF STANDARD MASSES

Point (h) of AMC1 AsOP.BAS.305(d) states that, when standard mass values are used, the operator should identify and adjust the passenger and checked baggage masses in cases where significant numbers of passengers or quantities of baggage are expected to significantly deviate from the standard values.

Therefore, the operations manual should contain instructions to ensure that:

(a) check-in, operations and loading personnel, as well as cabin and flight crew, report or take appropriate action when a flight is identified as carrying a significant number of passengers whose masses, including hand baggage, are expected to significantly deviate from the standard passenger mass, and/or groups of passengers carrying exceptionally heavy baggage; and

(b) for other-than-large airships, operating procedures require that pilots pay special attention to the load and its distribution and make proper adjustments.

Rationale

This proposed GM is equivalent to GM1 NCC.POL.105(d) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.305(f) Centre-of-gravity calculation

FUEL DENSITY

(a) If the actual fuel density is not known, the operator may use standard fuel density values for determining the mass of the fuel load. Such standard values should be based on current fuel density measurements for the aerodromes or areas concerned.

(b) Typical fuel density values are as follows:

(1) gasoline (reciprocating engine fuel) – 0.71 kg/l,

(2) Jet A-1 (jet fuel JP-1) – 0.79 g/cm^3,

(3) Jet B (jet fuel JP-4) – 0.76 g/cm^3,

(4) oil – 0.88 g/cm^3.

Rationale

This proposed GM is equivalent to GM1 NCC.POL.105(g) of Regulation (EU) No 965/2012.

AsOP.BAS.310 Mass, heaviness and centre-of-gravity management

The pilot-in-command shall manage the mass and balance of the airship before unmooring and during the whole flight so that:

(a) the static heaviness or lightness remains within AFM limitations;

(b) the centre of gravity remains within the AFM-defined range during any mass changes in-flight.

Rationale

This proposed requirement is equivalent to point NCO.POL.100 of Regulation (EU) No 965/2012. It is to be noted that a reference to heaviness has been introduced, as it is specific to airships.

GM1 AsOP.BAS.310 Mass, heaviness and centre-of-gravity management

STATIC HEAVINESS

Static heaviness, positive downwards and negative upwards, is the difference between static lift and mass.

This difference is influenced by many factors, such as the difference between the outside temperature and the temperature of the lifting gas, the temperature and purity of the lifting gas, the surrounding air pressure and the humidity and/or density of the outside air.

Rationale

This proposed GM is specific to airships. The definition of static heaviness has been drafted considering current practice in the airship domain.

AsOP.BAS.315 Performance and operating criteria

(a) The pilot-in-command shall only operate the airship if its performance is adequate to comply with the requirements set out in Implementing Regulation (EU) No 923/2012 and any other restrictions applicable to the flight, the airspace and aerodromes or operating sites used, ensuring that any charts or maps used are the latest available editions.

(b) When operating an airship at a height of less than 150 m (500 ft) above a non-congested area, for operations of airships that are not able to sustain level flight in the event of a critical failure for performance (CFP), the pilot-in-command shall have:

(1) established operational procedures to minimise the consequences of a CFP; and

(2) briefed all crew members and task specialists on board on the procedures to be carried out in the event of a safe forced landing.

Rationale

Point (a) of this proposed requirement is equivalent to point NCC.POL.115 of Regulation (EU) No 965/2012 and point (b) is equivalent to point NCO.SPEC.170 of the same regulation and to point BOP.BAS.210 of Regulation (EU) 2018/395. Furthermore, the explanation of CFP is added as GM.

GM1 AsOP.BAS.315 Performance and operating criteria

CRITICAL FAILURE FOR PERFORMANCE

CFP is understood as a failure or a combination of failures, not classified as extremely improbable, that result in the maximum degradation for a given flight phase and performance parameter.

Should CFP not be defined in the airship operating instructions, it can be assumed that this term is the equivalent of critical engine failure.

Rationale

This proposed GM is specific to airships. The term 'CFP' has previously been used in relation to vertical-take-off-capable aircraft. This concept is also applicable to airships, which derive their lift from aerostatic means and therefore propulsion solely contributes to airship performance.

One should, however, consider that CFP is a new concept; therefore, it may be interpreted as critical engine failure in legacy products.

Section 4 — Instruments and equipment

AsOP.BAS.400 Instruments and equipment — general

(a) Instruments and equipment required by this Regulation shall be approved in accordance with the applicable airworthiness requirements if one of the following conditions is met:

(1) they are used by the flight crew to control the flight path;

(2) they are used to comply with points AsOP.BAS.485 and AsOP.BAS.486;

(3) they are installed in the airship.

(b) By way of derogation from point (a), the following instruments or equipment shall not need approval:

(1) spare fuses,

(2) independent portable lights,

(3) accurate timepieces,

(4) chart holders,

(5) first aid kits,

(6) survival and signalling equipment,

(7) equipment for mooring,

(8) child restraint devices (CRDs),

(9) simple personnel-carrying device systems used by task specialists as restraint devices.

(c) Instruments and equipment that are not required to be carried on board an airship by this Regulation but that are carried on board an airship during a flight shall comply with the following two conditions:

(1) the information provided by those instruments or equipment shall not be used by the flight crew to comply with the essential requirements for airworthiness set out in Annex II to Regulation (EU) 2018/1139;

(2) the instruments and equipment shall not affect the airworthiness of the airship, even in the event of failures or malfunction.

(d) Instruments and equipment shall be readily operable or accessible from the station to which

the flight crew member who needs to use them is assigned.

(e) All required emergency equipment shall be easily accessible for immediate use.

Rationale

This proposed requirement is equivalent to point NCO.IDE.A.100 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.400(a) Instruments and equipment — general

APPLICABLE AIRWORTHINESS REQUIREMENTS

The applicable airworthiness requirements for the approval of instruments and equipment required by this Annex are:

(a) Annex I (Part 21) to Regulation (EU) No 748/2012 for airships registered in the EU; and

(b) airworthiness requirements of the State of registry for airships registered outside the EU.

Rationale

This proposed GM is equivalent to GM1 NCO.IDE.A.100(a) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.400(b) Instruments and equipment — general

REQUIRED INSTRUMENTS AND EQUIPMENT THAT DO NOT NEED TO BE APPROVED

The functionality of non-installed instruments and equipment that are required by this Section and that do not need equipment approval should be checked against recognised industry standards appropriate to the intended purpose. The operator is responsible for ensuring the maintenance of these instruments and equipment.

Rationale

This proposed GM is equivalent to GM1 NCO.IDE.A.100(b) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.400(c) Instruments and equipment — general

NON-REQUIRED INSTRUMENTS AND EQUIPMENT THAT DO NOT NEED TO BE APPROVED

(a) The provision in point (c) does not exempt any installed instrument or item of equipment from complying with the applicable airworthiness requirements. For such items, the installation should be approved as required by the applicable airworthiness requirements and should comply with the applicable certification specifications.

(b) The failure of additional, non-installed instruments or equipment not required by this Annex or by the applicable airworthiness requirements or any applicable airspace requirements should not adversely affect the airworthiness or the safe operation of the airship.

Rationale

This proposed GM is equivalent to GM1 NCO.IDE.A.100(c) of Regulation (EU) No 965/2012.

AsOP.BAS.405 Minimum instruments and equipment

A flight shall not be commenced when any of the instruments and equipment required for the intended flight with the airship are missing or inoperative or do not fulfil the required functions, unless:

(a) the airship is operated in accordance with the MEL, if established; or

(b) the airship is subject to a permit to fly issued in accordance with the applicable airworthiness requirements.

Rationale

This proposed requirement is equivalent to point NCO.IDE.A.105 of Regulation (EU) No 965/2012.

While it is expected that all new airships will have a MEL in accordance with point AsOP.BAS.070, airships with a CofA first issued before the entry into force of this Regulation are not required to have a MEL.

AMC1 AsOP.BAS.405(a) Minimum instruments and equipment

Instruments and equipment that must be operative for all flights should be identified in a list. These instruments and equipment are:

(a) included in the type certification data sheet or the AFM; and

(b) required by the applicable implementing rules, such as operational and airspace requirements, and any other applicable requirements for the intended operation.

Rationale

This proposed AMC is equivalent to AMC BOP.BAS.305 of Regulation (EU) 2018/395.

AsOP.BAS.410 Spare electrical fuses

Airships shall be equipped with spare electrical fuses, of the ratings required for complete circuit protection, for replacement of those fuses that are allowed to be replaced in-flight.

Rationale

This proposed requirement is equivalent to point NCO.IDE.A.110 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.410 Spare electrical fuses

FUSES

A spare electrical fuse is a replaceable fuse in the flight crew compartment, not an automatic circuit breaker or circuit breakers in the electric compartments.

Rationale

This proposed GM is equivalent to GM1 NCO.IDE.A.110 of Regulation (EU) No 965/2012.

AsOP.BAS.415 Operating lights

(a) Airships shall be equipped with:

(1) an anti-collision light system;

(2) lighting supplied from the airship's electrical system to provide adequate illumination for all instruments and equipment essential to the safe operation of the airship;

(3) lighting supplied from the airship's electrical system to provide illumination in all passenger compartments; and

(4) an independent portable light for each required crew member readily accessible to crew members when seated at their designated stations.

(b) In addition to (a), airships operated at night shall be equipped with:

(1) navigation/position lights;

(2) a light that permits a safe landing and mooring of the airship.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.115 of Regulation (EU) No 965/2012 and SC GAS.2530 'External and Flight Deck Lighting'.

AsOP.BAS.420 Instruments and equipment required for operations conducted under visual flight rules

(a) An airship operated under VFR shall be equipped with the following at each pilot's station:

(1) a means of measuring and displaying:

(i) magnetic heading;

(ii) time in hours, minutes and seconds;

(iii) barometric pressure altitude;

(iv) indicated airspeed;

(v) barometric vertical speed;

(vi) outside air temperature;

(vii) temperature of the lifting gas;

(viii) pressure of the lifting gas.

(2) a means of indicating when the supply of power to the required flight instruments is not adequate.

(b) In addition to (a), when operating at night, airships shall be equipped with:

(1) an additional means of measuring and displaying stabilised heading;

(2) a holder in an easily readable position for either:

(i) a paper chart (the holder shall be able to be illuminated for night operations); or

(ii) an EFB;

(3) an appropriate illumination of the means of measuring and displaying parameters from (a)(1));

(4) a means of measuring and displaying airship attitude.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.125 of Regulation (EU) No 965/2012. Specific instruments have been added to better accommodate airship operations.

AMC1 AsOP.BAS.420 Instruments and equipment required for operations conducted under visual flight rules

INTEGRATED INSTRUMENTS

Individual equipment requirements may be met by combinations of instruments, by integrated flight systems or by a combination of parameters on electronic displays. The information they make available to each required pilot should not be less than that set out in the applicable operational requirements, and the equivalent safety of the installation should be approved during type certification of the airship for the intended type of operation.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.125(a) of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.420(a)(1) Instruments and equipment required for operations conducted under visual flight rules

MEANS OF MEASURING AND DISPLAYING MAGNETIC HEADING

The means of measuring and displaying magnetic direction should be a magnetic compass or equivalent.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.125(a)(1)(i) and AMC1 CAT.IDE.A.130(a)(1) of Regulation (EU) No 965/2012.

AMC2 AsOP.BAS.420(a)(1) Instruments and equipment required for operations conducted under visual flight rules

MEANS OF MEASURING AND DISPLAYING THE TIME

A means of measuring and displaying the time in hours, minutes and seconds may be a wristwatch capable of the same functions.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.125(a)(1)(ii) and AMC1 CAT.IDE.A.130(a)(2) of

Regulation (EU) No 965/2012.

AMC3 AsOP.BAS.420(a)(1) Instruments and equipment required for operations conducted under visual flight rules

CALIBRATION OF THE MEANS OF MEASURING AND DISPLAYING PRESSURE ALTITUDE

The instrument measuring and displaying pressure altitude should be of a sensitive type calibrated in feet, with a subscale setting calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.125(a)(1)(iii) and AMC1 CAT.IDE.A.130(b) of Regulation (EU) No 965/2012.

AsOP.BAS.425 Instruments and equipment for instrument flight rules

In addition to the instruments and equipment required by point AsOP.BAS.420, an airship operated under IFR shall be equipped with the following items, which shall be capable of being used from either pilot's station:

(a) a second independent means of measuring and displaying barometric pressure altitude;

(b) a means of announcing to the flight crew the failure of the means required for preventing malfunction of the airspeed indicating systems due to condensation or icing;

(c) one static pressure system and one alternative source of static pressure;

(d) means for preventing malfunction of the airspeed indicating systems due to condensation or icing;

(e) a standby means of measuring and displaying attitude that:

(1) is powered continuously during normal operations and, in the event of a total failure of the normal electrical generating system, is powered from a source independent of the normal electrical generating system;

(2) provides reliable operation for a minimum of 30 minutes after total failure of the normal electrical generating system, taking into account other loads on the emergency power supply and operational procedures;

(3) operates independently of any other means of measuring and displaying attitude;

(4) is operative automatically after total failure of the normal electrical generating system;

(5) is appropriately illuminated during all phases of operation;

(6) makes evident to the flight crew when the standby attitude indicator is being operated by emergency power; and

(7) where the standby attitude indicator has its own dedicated power supply, displays when

this supply is in use, either on the instrument or on the instrument panel;

(f) an autopilot with at least altitude hold and heading mode, in the case of airships certified for single-pilot IFR operations, when the operation is conducted by a single pilot.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.130 of Regulation (EU) No 965/2012.

AsOP.BAS.430 Additional equipment for operations in icing conditions at night

(a) An airship operated in expected or actual icing conditions at night shall be equipped with a means to illuminate or detect the formation of ice.

(b) The means to illuminate the formation of ice shall not cause glare or reflection that would handicap crew members in the performance of their duties.

Rationale

This proposed requirement is equivalent to point NCC.IDE.A.150 of Regulation (EU) No 965/2012.

AsOP.BAS.435 Pilot compartment view

An airship intended for operation where precipitation is expected shall be equipped, at each pilot station, with a means of keeping a portion of the windshield clear, either through the use of equipment or by design.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.120 of Regulation (EU) No 965/2012. It is to be noted that, considering the specificities of airships and the location of the cabin, the installation of a wiper is not always necessary to achieve the objective described in this proposed requirement.

AsOP.BAS.440 Altitude alerting system

(a) Large airships, when certified for IFR operations, shall be equipped with an altitude alerting system.

(b) The altitude alerting system shall be capable of:

(1) alerting the flight crew when approaching a preselected altitude; and

(2) alerting the flight crew by at least an aural signal when deviating from a preselected altitude.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.140 of Regulation (EU) No 965/2012.

AsOP.BAS.450 Weather-detecting system

Airships shall have either means for airborne weather detection or means to obtain periodically updated, externally provided weather information — both of which shall be adequate to provide the flight crew with weather information to support the safe conduct of the flight — when operations are conducted:

(a) at night or in IMC; or

(b) in areas where thunderstorms or other potentially hazardous and detectable weather conditions may be expected to exist.

Rationale

This proposed requirement is equivalent to point NCC.IDE.A.145 of Regulation (EU) No 965/2012.

It is to be noted that this proposal introduces the possibility of relying on the availability of reliable weather information instead of relying solely on the installation of a weather radar.

The main reason for this proposal is that generally airships are operated at low altitude, where weather radars are possibly less reliable. On the other hand, weather information provided by weather stations is sufficiently accurate to prevent flying into thunderstorms or other adverse conditions when the operations are conducted at low altitude.

AMC1 AsOP.BAS.450 Weather-detecting system

GENERAL

If the airship operator chooses to comply with point AsOP.BAS.450 by installing a means for airborne weather detection, the installed equipment should be an airborne weather radar.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.160 of Regulation (EU) No 965/2012.

AMC2 AsOP.BAS.450 Weather-detecting system

PERIODICALLY UPDATED

Weather information should be updated at a frequency that ensures that, between two consecutive sets of weather data, there is no risk of encountering unexpected thunderstorms or other potentially hazardous and detectable weather conditions.

Rationale

This proposed AMC has been developed to properly take into account the expected operative conditions of airships.

AsOP.BAS.455 Seats, seat safety belts, restraint systems and child restraint devices

(a) Airships shall be equipped with:

(1) a seat or berth for each person on board who is aged 24 months or more;

(2) a CRD for each person on board younger than 24 months;

(3) a seat or station for each crew member or task specialist on board;

(4) a seat belt on each seat, and restraint devices for each station;

(b) In addition to the equipment in (a), large airships shall be equipped with a seat belt with an upper-torso restraint system, incorporating a device that will automatically restrain the occupant's torso in the event of rapid deceleration:

(1) on each flight crew seat and on any seat alongside a pilot's seat; and

(2) on each task specialist's seat.

(c) The seat belt with an upper-torso restraint system required under point (b)shall have:

(1) a single-point release;

(2) on flight crew members' seats and on any seat alongside a pilot's seat, either of the following:

(i) two shoulder straps and a seat belt that may be used independently,

(ii) a diagonal shoulder strap and a seat belt that may be used independently.

Rationale

This proposed requirement is equivalent to points CAT.IDE.A.205, NCC.IDE.A.180 and NCO.IDE.A.140 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.455 Seats, seat safety belts, restraint systems and child restraint devices

CHILD RESTRAINT DEVICES

(a) A CRD is considered to be acceptable if:

(1) it is a supplementary loop belt manufactured with the same techniques and the same materials as the approved safety belts; or

(2) it complies with (b).

(b) Provided the CRD can be installed properly on the respective aircraft seat, the following CRDs are considered acceptable.

(1) CRDs approved for use in aircraft in accordance with European Technical Standard Order (ETSO)-C100c, or a later version, on Aviation Child Safety Devices.

(2) CRDs approved by EASA through a TC or STC.

(3) Child seats approved for use in motor vehicles on the basis of the technical standard specified in (i). The child seat must also be approved for use in aircraft on the basis of the technical standard specified in either point (ii) or point (iii).

(i) UN Standard ECE R44-04 (or R44-03) or ECE R129, bearing the respective 'ECE R' label; and

(ii) German 'Qualification Procedure for Child Restraint Systems for Use in Aircraft' (TÜV/958-01/2001), bearing the label 'For Use in Aircraft'; or

(iii) Another technical standard acceptable to the competent authority. The child seat should bear a qualification sign that it can be used in aircraft.

(4) Child seats approved for use in motor vehicles and aircraft in accordance with Canadian CMVSS 213/213.1, bearing the respective label.

(5) Child seats approved for use in motor vehicles and aircraft according to US FMVSS No 213 and bearing one or two labels displaying the following sentences:

(i) 'THIS CHILD RESTRAINT SYSTEM CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS'; and

(ii) 'THIS RESTRAINT IS CERTIFIED FOR USE IN MOTOR VEHICLES AND AIRCRAFT' in red letters.

(6) Child seats approved for use in motor vehicles and aircraft in accordance with Australia's and New Zealand's technical standard AS/NZS 1754:2013, bearing the green part on the label displaying 'For Use in Aircraft'.

(7) CRDs manufactured and tested in accordance with other technical standards equivalent to those listed above. The devices should be marked with an associated qualification sign, which shows the name of the qualification organisation and a specific identification number related to the associated qualification project. The qualifying organisation should be a competent and independent organisation that is acceptable to the competent authority.

(c) The following location requirements apply.

(1) Forward-facing child seats may be installed on both forward- and rearward-facing passenger seats, but only when fitted in the same direction as the passenger seat on which they are positioned. Rearward-facing child seats should only be installed on forward-facing passenger seats. A child seat may not be installed within the radius of action of an airbag unless it is obvious that the airbag is deactivated or it can be demonstrated that there is no negative impact from the airbag.

(2) An infant/child in a CRD should be located in the vicinity of a floor-level exit.

(3) An infant/child in a CRD should not hinder evacuation for any passenger.

(d) The following installation requirements apply.

(1) CRDs tested and approved for use in aircraft should only be installed on a suitable passenger seat by the method shown in the manufacturer's instructions provided with each CRD and with the type of connecting device approved for the installation in aircraft.

CRDs designed to be installed only by means of rigid-bar lower anchorages (Isofix or equivalent) should only be used on passenger seats equipped with such connecting devices and should not be secured by passenger seat lap belts.

(2) All safety and installation instructions should be followed carefully by the responsible adult accompanying the infant/child. Operators should prohibit the use of a CRD not installed on the passenger seat according to the manufacturer's instructions or not approved for use in aircraft.

(3) If a forward-facing child seat with a rigid backrest is to be fastened by a seat lap belt, the restraint device should be fastened when the backrest of the passenger seat on which it rests is in a reclined position. Thereafter, the backrest is to be positioned upright. This procedure ensures better tightening of the child seat on the aircraft seat if the aircraft seat is reclinable.

(4) The buckle of the adult safety belt should be easily accessible for both opening and closing and should be in line with the seat belt halves (not canted) after tightening.

(5) Forward-facing restraint devices with an integral harness must not be installed such that the adult safety belt is secured over the infant.

(e) Regarding operation:

(1) each CRD should remain secured to a passenger seat during all phases of flight unless it is properly stowed when not in use;

(2) where a child seat is adjustable in recline, it should be in an upright position for all occasions when passenger restraint devices are required.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.205 of Regulation (EU) No 965/2012.

AMC2 AsOP.BAS.455 Seats, seat safety belts, restraint systems and child restraint devices

UPPER-TORSO RESTRAINT SYSTEM

(a) The following systems are deemed to be compliant with the requirement for an upper-torso restraint system:

(1) a seat safety belt with a diagonal shoulder strap;

(2) a restraint system with a seat safety belt and two shoulder straps that may be used independently;

(3) a restraint system with a safety seat belt, two shoulder straps and additional straps that may be used independently.

(b) The use of the upper-torso restraint independently of the use of the seat safety belt is intended as an option for the comfort of the occupant of the seat in those phases of flight where only the seat safety belt is required to be fastened. A restraint system including a seat safety belt and an upper-torso restraint that both remain permanently fastened is also acceptable.

SEAT SAFETY BELT

A seat safety belt with a diagonal shoulder strap (three anchorage points) is deemed to be compliant with the requirement for a seat safety belt (two anchorage points).

Rationale

This proposed AMC is equivalent to AMC2 CAT.IDE.A.205 of Regulation (EU) No 965/2012.

AsOP.BAS.460 Supplemental oxygen

(a) Non-pressurised crew or passenger compartments in airships operated at pressure altitudes above 10 000 ft shall be equipped with supplemental oxygen equipment capable of storing and dispensing oxygen supplies in accordance with Table 1.

Table 1 — Oxygen minimum requirements for non-pressurised crew or passenger compartments

Supply for	Duration and cabin pressure altitude
1. Occupants of flight crew compartment seats on flight crew compartment duty and crew members assisting the flight crew in their duties	The entire flying time at pressure altitudes above 10 000 ft
2. Required cabin crew members	The entire flying time at pressure altitudes above 13 000 ft and for any period exceeding 30 minutes at pressure altitudes above 10 000 ft but not exceeding 13 000 ft
3. Additional crew members and 100 % of passengers (*)	The entire flying time at pressure altitudes above 13 000 ft
4. 10 % of passengers (*)	The entire flying time after 30 minutes at pressure altitudes above 10 000 ft but not exceeding 13 000 ft
(*) Proportions of passengers in this table refer to passengers actually carried on board, including persons younger than 24 months.	

(b) When an oxygen supply is required in accordance with point (a) above, airships shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the required oxygen supplies.

Rationale

This proposed requirement is equivalent to points CAT.IDE.A.240, NCC.IDE.A.200(a) and NCO.IDE.A.155 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.460(a) Supplemental oxygen

AMOUNT OF SUPPLEMENTAL OXYGEN

The amount of supplemental oxygen for sustenance for a particular operation should be determined on the basis of flight altitudes and flight duration, consistent with the operating procedures, including emergency procedures, established for each operation and the routes to be flown, as specified in the operations manual.

AsOP.BAS.461 'Fasten seat belt' and 'no smoking' signs

Airships in which not all passenger seats are visible from the flight crew seat(s) shall be equipped with a means of indicating to all passengers and cabin crew when seat safety belts shall be fastened.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.210 of Regulation (EU) No 965/2012.

AsOP.BAS.465 First aid kit

(a) Airships shall be equipped with a sufficient number of first aid kits, in accordance with Table 1, and with appropriate and sufficient medications and instrumentation.

Table 1 — Number of first aid kits required

Number of passenger seats installed	Number of first aid kits required
0–100	1
101–200	2
201–300	3
301–400	4
401–500	5
501 or more	6

(b) The first aid kit shall be:

(1) readily accessible for use; and

(2) kept up to date.

Rationale

This requirement is equivalent to point CAT.IDE.A.220 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.465 First aid kit

CONTENT OF THE FIRST AID KIT

(a) First aid kits need to be equipped with appropriate and sufficient medications and instrumentation. They should be supplemented by the operator according to the characteristics of the operation (scope of operation, flight duration, number and demographics of passengers, number of decks, etc.).

(b) The following should be included in the first aid kit.

(1) Equipment:

(i) bandages (assorted sizes, including a triangular bandage),

(ii) burns dressings (unspecified),

(iii) wound dressings (large and small),

(iv) adhesive dressings (assorted sizes),

(v) adhesive tape,

(vi) adhesive wound closures,

(vii) safety pins,

(viii) safety scissors,

(ix) antiseptic wound cleaner,

(x) a disposable resuscitation aid,

(xi) disposable gloves,

(xii) tweezers for the removal of splinters,

(xiii) thermometers (non-mercury), and

(xiv) surgical masks.

(2) Medications

(i) simple analgesics (including a paediatric form),

(ii) antiemetics – non-injectable (including a paediatric form),

(iii) a nasal decongestant,

(iv) gastrointestinal antacids, in the case of airships carrying more than nine passengers,

(v) antidiarrhoeal medication, in the case of airships carrying more than nine passengers, and

(vi) antihistamines (including a paediatric form).

(3) Other content. The operator should make the instructions readily available. If an electronic format is available, then all instructions should be kept on the same device. If a paper format is used, then the instructions should be kept in the same kit as the

applicable equipment and medication. The instructions should include, as a minimum, the following:

(i) a list of contents in at least two languages (English and one other), which should include information on the effects and side effects of medications carried;

(ii) a first aid handbook (current edition);

(iii) basic life support instruction cards (summarising and depicting the current algorithm for basic life support); and

(iv) a medical incident report form.

(4) Additional equipment. The following additional equipment should be carried on board each airship equipped with a first aid kit, though not necessarily in the first aid kit. When operating multideck aircraft, operators should assess if the additional equipment is needed on each deck. The additional equipment should include, as a minimum:

(i) an automated external defibrillator on all airships required to carry at least one member of cabin crew;

(ii) bag-valve masks (masks in three sizes: one for adults, one for children and one for infants);

(iii) suitable airway management devices (e.g. supraglottic, oropharyngeal or nasopharyngeal airway devices);

(iv) an eye irrigator;

(v) biohazard disposal bags; and

(vi) a basic delivery kit (including sterile umbilical cord scissors and a pair of cord clamps) on all airships required to carry at least one member of cabin crew.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.220 of Regulation (EU) No 965/2012.

Although the provisions on the content of the first aid kit for airships could have been less demanding than those for aeroplanes, it is proposed that the same content as for aeroplanes is used so as to facilitate the procurement of a first aid kit. Considering the relatively small market, EASA considered that creating a specific content for airships only would be more expensive for operators.

AMC2 AsOP.BAS.465 First aid kit

MAINTENANCE OF THE FIRST AID KIT

To be kept up to date, the first aid kit should be:

(a) inspected periodically to confirm, to the extent possible, that contents are maintained in the condition necessary for their intended use;

(b) replenished at regular intervals, in accordance with the instructions contained on their labels, or as circumstances warrant; and

(c) replenished after use in-flight at the first opportunity when replacement items are available.

Rationale

This proposed AMC is equivalent to AMC2 CAT.IDE.A.220 of Regulation (EU) No 965/2012.

AsOP.BAS.470 Handheld fire extinguishers

(a) Airships shall be equipped with at least one handheld fire extinguisher:

(1) in the flight crew compartment; and

(2) in each passenger compartment that is separate from the flight crew compartment, except if the compartment is readily accessible to the flight crew.

(b) The type and quantity of extinguishing agent for the required fire extinguishers shall be suitable for the type of fire likely to occur in the compartment where the extinguisher is intended to be used and to minimise the hazard of toxic gas concentration in compartments occupied by persons.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.250 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.470 Handheld fire extinguishers

NUMBER, LOCATION AND TYPE

(a) The number and location of handheld fire extinguishers should provide adequate availability for use, with account being taken of the number and sizes of the passenger compartments, the need to minimise the hazard of toxic gas concentrations and the location of toilets, galleys, etc. These considerations may result in the number of fire extinguishers being greater than the minimum required.

(b) There should be at least one handheld fire extinguisher installed in the flight crew compartment and this should be suitable for fighting both flammable fluid and electrical equipment fires. Additional handheld fire extinguishers may be required for the protection of other compartments accessible to the crew in-flight. Dry chemical fire extinguishers should not be used in the flight crew compartment, or in any compartment not separated by a partition from the flight crew compartment, because of the adverse effect on vision during discharge and interference of chemical residues with conductive electrical equipment.

(c) Where only one handheld fire extinguisher is required in the passenger compartments, it should be located near the cabin crew station.

(d) Where two or more handheld fire extinguishers are required in the passenger compartments and their location is not otherwise dictated by consideration of (a), an extinguisher should be located near each end of the cabin, with the remainder distributed throughout the cabin as evenly as is practicable.

(e) Unless an extinguisher is clearly visible, its location should be indicated by a placard or sign. Appropriate symbols may also be used to supplement such a placard or sign.

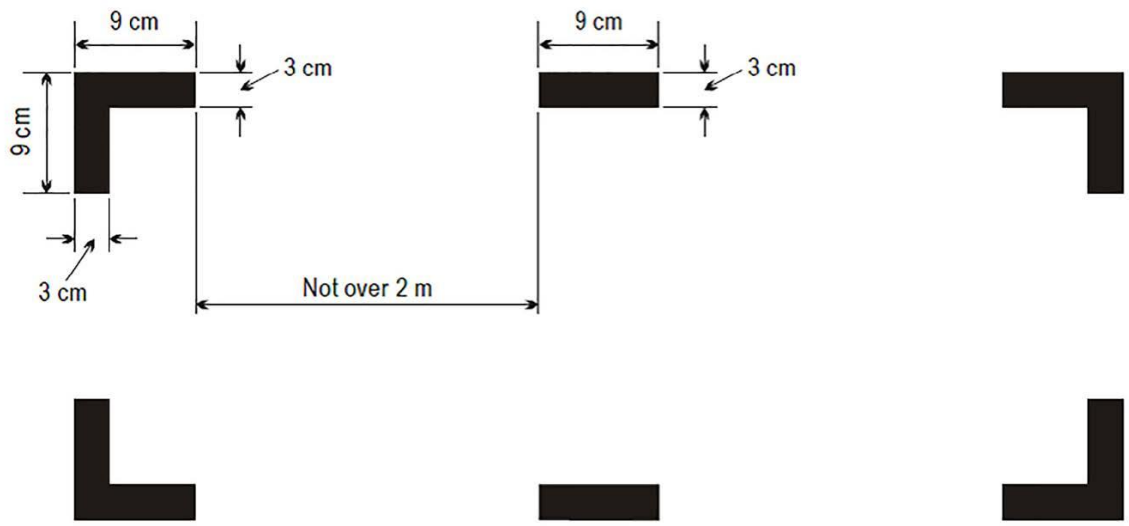
Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.250 of Regulation (EU) No 965/2012.

AsOP.BAS.471 Marking of break-in points

If areas of the airship crew and passenger compartments are suitable for break-in by rescue crews in an emergency, they shall be marked as shown in Figure 1.

Figure 1 — Marking of break-in points



Rationale

This requirement is equivalent to point NCO.IDE.A.260 of Regulation (EU) No 965/2012.

AsOP.BAS.472 Crash axe and crowbar

(a) Airships with an MOPSC of more than nine shall be equipped with at least one crash axe or crowbar located in the flight crew compartment.

(b) Crash axes and crowbars located in the passenger compartment shall not be visible to passengers.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.255 of Regulation (EU) No 965/2012.

AsOP.BAS.475 Headset

Whenever a radio communication and/or radio navigation system is required, airships shall be equipped with a headset with a boom microphone or equivalent and a transmit button on the flight controls for each required pilot, crew member and/or task specialist at their assigned stations.

Rationale

This proposed requirement is equivalent to point CAT.IDE.H.325 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.475 Headset

GENERAL

(a) A headset consists of a communication device that includes two earphones to receive and a microphone to transmit audio signals to the airship's communication system. To comply with the minimum performance requirements, the earphones and microphone should match the communication system's characteristics and the flight crew compartment environment. The headset should be adequately adjustable in order to fit the flight crew members' heads. Headset boom microphones should be of the noise-cancelling type.

(b) If the intention is to utilise noise-cancelling earphones, the operator should ensure that the earphones do not attenuate any aural warnings or sounds necessary for alerting the flight crew on matters related to the safe operation of the airship.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.325 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.475 Headset

GENERAL

The term 'headset' includes any aviation helmet incorporating headphones and microphone that is worn by a flight crew member.

Rationale

This proposed GM is equivalent to GM1 CAT.IDE.A.325 of Regulation (EU) No 965/2012.

AsOP.BAS.480 Flight crew interphone system

Airships operated by more than one flight crew member shall be equipped with a flight crew interphone system, including headsets and microphones for use by all flight crew members.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.170 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.480 Flight crew interphone system

TYPE OF FLIGHT CREW INTERPHONE SYSTEM

The flight crew interphone system should not be of a handheld type.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.170 of Regulation (EU) No 965/2012.

AsOP.BAS.481 Life-saving and signalling equipment — flights over water

The operator of an airship operated over water shall determine, before commencing the flight, the risks to survival of the persons carried in the airship in the event of ditching. In light of those risks, the pilot-in-command shall determine whether there is a need to carry life-saving and signalling equipment.

Rationale

This proposed requirement is equivalent to point BOP.BAS.340 of Regulation (EU) 2018/395.

AMC1 AsOP.BAS.481 Life-saving and signalling equipment — flights over water

RISK ASSESSMENT

In order to determine the risk, the pilot-in-command should take the following aspects of the operating environment and conditions into account:

(a) water state,

(b) water and air temperatures,

(c) the distance from land suitable for making an emergency landing, and

(d) the availability of search and rescue facilities.

Rationale

This proposed AMC is equivalent to AMC1 BOP.BAS.340 of Regulation (EU) 2018/395.

AMC2 AsOP.BAS.481 Life-saving and signalling equipment — flights over water

EQUIPMENT

Based on the risk assessment, the pilot-in-command should determine whether the following items should be carried on board:

(a) a life jacket or equivalent individual flotation device, for each person on board, that should:

  (1) be worn or be stowed in a position that is readily accessible from the station of the person for whose use it is provided; and

  (2) be equipped with a means of electric illumination for the purpose of facilitating the location of the person using it;

(b) signalling equipment for making distress signals.

Rationale

This proposed AMC is equivalent to AMC2 BOP.BAS.340 of Regulation (EU) 2018/395.

AsOP.BAS.482 Life-saving and signalling equipment — search and rescue

Airships operated over areas in which search and rescue would be especially difficult shall be equipped with such life-saving and signalling equipment as appropriate to the area overflown.

Rationale

This proposed requirement is equivalent to point BOP.BAS.345 of Regulation (EU) 2018/395.

AMC1 AsOP.BAS.482 Life-saving and signalling equipment — search and rescue

GENERAL

Airships operated across land areas in which search and rescue would be especially difficult should be equipped with:

(a) signalling equipment for making distress signals; and

(b) additional survival equipment adequate for the route to be flown, taking account of the number of persons on board.

ADDITIONAL SURVIVAL EQUIPMENT

(c) The following additional survival equipment should be carried:

(1) 500 ml of water for every four, or fraction of four, persons on board;

(2) one knife; and

(3) first aid equipment.

(d) In addition, when polar conditions are expected, the following should be carried:

(1) a means of melting snow;

(2) one snow shovel and one ice saw;

(3) sleeping bags for use by a third of all persons on board and space blankets for the remainder or space blankets for all persons on board; and

(4) one arctic/polar suit for each crew member.

(e) If any item of equipment in (a) and (b) is already carried on board in accordance with other requirements, the carriage does not need to be duplicated.

Rationale

This proposed AMC is equivalent to AMC1 BOP.BAS.345 of Regulation (EU) 2018/395 and to AMC1 CAT.IDE.A.305 and AMC1 NCC.IDE.A.230(a)(3) of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.482 Life-saving and signalling equipment — search and rescue

SIGNALS

Distress signals are described in Implementing Regulation (EU) No 923/2012.

Rationale

This proposed GM is equivalent to GM1 CAT.IDE.A.305 and GM1 NCC.IDE.A.230(b)(2), but here the reference to ICAO Annex 2 is replaced by a reference to EU rules because the ICAO Annex is not applicable to airships.

GM2 AsOP.BAS.482 Life-saving and signalling equipment — search and rescue

AREAS IN WHICH SEARCH AND RESCUE WOULD BE ESPECIALLY DIFFICULT

The expression 'areas in which search and rescue would be especially difficult' means:

(a) areas so designated by the authority responsible for managing search and rescue; or

(b) areas that are largely uninhabited and where the authority referred to in (a):

(1) has not published any information to confirm whether search and rescue would be or would not be especially difficult; and

(2) does not, as a matter of policy, designate areas as being especially difficult for search and rescue.

Rationale

This proposed GM is equivalent to GM2 CAT.IDE.A.305 of Regulation (EU) No 965/2012.

AsOP.BAS.483 Emergency beacon

(a) Survival emergency locator transmitters (ELTs) or personal locator beacons (PLBs) complying with acceptable industry standards shall be worn by crew members or task specialists during each flight, in accordance with the following:

(1) for airships with an MOPSC of 19 or less, such ELTs or PLBs shall be worn by at least one crew member or task specialist;

(2) for airships with an MOPSC of more than 19 but less than 50, such ELTs or PLBs shall be worn by at least two crew members or task specialists;

(3) for airships with an MOPSC of 50 or more, such ELTs or PLBs shall be worn by at least three crew members or task specialists.

(b) The ELT/PLB required by point (a) shall be approved in accordance with an acceptable standard.

(c) The operator shall ensure that all batteries used in ELTs or PLBs are replaced or recharged as needed to ensure their readiness to be used and that crew members and task specialists wearing ELTs or PLBs have adequate knowledge of their characteristics and are proficient in

their operation.

Rationale

Unlike with aeroplanes and helicopters, a fixed ELT is not proposed, and no credit is given for any installed automatic fixed ELT. The reason for this approach is that fixed ELTs are designed for aircraft whose collision with the ground will result in high-acceleration forces (G-force). As the sensing devices automatically activating such ELTs are designed to sense these high forces, it is expected that they might not be activated in the event of an airship accident. For this reason, it is proposed that a portable ELT or PLB be required. Depending on the number of persons on board, additional devices must be present.

It is to be noted that this proposal does not contain requirements related to underwater locator beacons as it is considered that the probability that a modern airship will sink in the sea after a crash is extremely remote or even that it is not possible.

It is to be noted that the requirements of point CAT.GEN.MPA.210 'Location of an aircraft in distress' of Regulation (EU) No 965/2012 have not been included in this proposal. The rationale for this is that there are not adequate industry standards nor sufficient statistical data for suitable equipment qualification. Additionally, the low kinetic energy that is expected to be generated by an airship accident should facilitate the identification of the distressed airship or its wreckage.

AMC1 AsOP.BAS.483 Emergency beacon

TYPES OF EMERGENCY BEACON AND GENERAL TECHNICAL SPECIFICATIONS

(a) The purpose of the emergency beacon is to alert authorities to a distress situation and enable the determination of the location of the alerting beacon.

(b) The emergency beacon required by point AsOP.BAS.483 should be one of the following.

(1) A survival ELT that can be activated manually by a survivor or automatically (e.g. by water activation). The ELT should comply with ETSO-C126c, or an amendment, with type survival G and capability H1.

(2) A PLB that can be activated manually by a survivor or automatically (e.g. by water activation). The PLB should comply with ETSO-2C520, or an amendment, and be category 1.

(c) Any emergency beacon required by this provision should operate in accordance with the relevant provisions of ICAO Annex 10, Volume III, and should be registered with the national agency responsible for initiating search and rescue or another nominated agency.

Rationale

This proposed AMC is equivalent to AMC2 CAT.IDE.A.280 of Regulation (EU) No 965/2012. It is to be noted that only ELT types acceptable for airships have been included here.

AMC1 AsOP.BAS.483(c) Emergency beacon

BATTERIES

(a) All batteries used in ELTs or PLBs should be replaced (or recharged, if the battery is rechargeable) when the equipment has been in use for more than one cumulative hour or in the following cases.

(1) Batteries specifically designed for use in ELTs and that have an airworthiness release certificate (EASA Form 1 or equivalent) should be replaced (or recharged, if the battery is rechargeable) before the end of their useful life in accordance with the maintenance instructions applicable to the ELT.

(2) Standard batteries manufactured in accordance with an industry standard that do not have an airworthiness release certificate (EASA Form 1 or equivalent), when used in ELTs, should be replaced (or recharged, if the battery is rechargeable) when 50 % of their useful life (or, for rechargeable batteries, 50 % of their useful life of charge), as established by the battery manufacturer, has expired.

(3) All batteries used in PLBs should be replaced (or recharged, if the battery is rechargeable) when 50 % of their useful life (or, for rechargeable batteries, 50 % of their useful life of charge), as established by the battery manufacturer, has expired.

(4) The battery useful life (or useful life of charge) criteria in (1), (2) and (3) do not apply to batteries (such as water-activated batteries) that are essentially unaffected during storage intervals.

(b) The new expiry date for a replaced (or recharged) battery should be legibly marked on the outside of the equipment.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.280 of Regulation (EU) No 965/2012.

AsOP.BAS.485 Radio communication equipment

(a) Airships shall be equipped with radio communication equipment required by the applicable airspace requirements.

(b) The radio communication equipment shall provide for communication on the aeronautical emergency frequency 121.5 MHz.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.330 of Regulation (EU) No 965/2012.

AsOP.BAS.486 Navigation equipment

(a) Airships operated over routes that cannot be navigated by reference to visual landmarks shall be equipped with navigation equipment that will enable them to proceed in accordance with:

(1) the ATS flight plan, if applicable; and

(2) the applicable airspace requirements.

(b) Airships shall have sufficient navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment shall allow safe navigation in accordance with (a) or appropriate contingency action to be completed safely.

(c) Airships operated on flights in which it is intended to land in IMC shall be equipped with navigation equipment capable of providing guidance to a point from which a visual landing can be performed. This equipment shall be capable of providing such guidance for each aerodrome or operating site at which it is intended to land in IMC and for any designated alternate aerodromes or operating sites.

(d) For PBN operations, airships shall meet the airworthiness certification requirements for the appropriate navigation specification.

(e) Airships shall be equipped with surveillance equipment in accordance with the applicable airspace requirements.

Rationale

This proposed requirement is equivalent to points NCC.IDE.A.250 and NCO.IDE.A.195 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.486 Navigation equipment

AIRSHIP ELIGIBILITY FOR PERFORMANCE-BASED NAVIGATION SPECIFICATION NOT REQUIRING SPECIFIC APPROVAL

(a) The performance of the airship is usually stated in the AFM.

(b) Where such a reference cannot be found in the AFM, other information provided by the aircraft manufacturer as TC holder, the STC holder or the design organisation with the authority to approve minor changes may be considered.

(c) The following are considered acceptable sources of information:

(1) the AFM, supplements thereto and documents directly referenced in the AFM;

(2) the flight crew operating manual or a similar document;

(3) a service bulletin or service letter issued by the TC holder or STC holder;

(4) approved design data or data issued in support of a design change approval;

(5) any other formal document issued by the TC holder or STC holder stating compliance with PBN specifications, AMC, advisory circulars (ACs) or similar documents issued by the State of design; and

(6) written evidence obtained from the State of design.

(d) Equipment qualification data alone is not sufficient to assess the PBN capabilities of the aircraft, since the latter depend on installation and integration.

(e) As some PBN equipment and installations may have been certified prior to the publication of the PBN manual and the adoption of its terminology for the navigation specifications, it is not always possible to find a clear statement of aircraft PBN capability in the AFM. However, aircraft

eligibility for certain PBN specifications can rely on the aircraft performance certified for PBN procedures and routes prior to the publication of the PBN manual.

(f) Below, various references are listed that may be found in the AFM or other acceptable documents (refer to point (c)) in order to determine the aircraft's eligibility for a specific PBN specification if the specific term is not used.

(g) RNAV 5

If a statement of compliance with any of the following specifications or standards is found in the acceptable documentation as listed above, the aircraft is eligible for RNAV 5 operations:

(1) B-RNAV,

(2) RNAV 1,

(3) RNP 4,

(4) A-RNP,

(5) AMC 20-4,

(6) JAA Temporary Guidance Material, Leaflet No 2 (TGL 2),

(7) JAA AMJ 20X2,

(8) FAA AC 20-130A for en route operations,

(9) FAA AC 20-138 for en route operations, and

(10) FAA AC 90-96.

(h) RNAV 1 / RNAV 2

(1) If a statement of compliance with any of the following specifications or standards is found in the acceptable documentation as listed above, the aircraft is eligible for RNAV 1 / RNAV 2 operations:

(i) RNAV 1,

(ii) P-RNAV,

(iii) US RNAV type A,

(iv) FAA AC 20-138 for the appropriate navigation specification,

(v) FAA AC 90-100A,

(vi) JAA Temporary Guidance Material, Leaflet No 10 (TGL 10) (revision 1), and

(vii) FAA AC 90-100.

(2) However, if position determination is exclusively computed based on a VOR/DME, the aircraft is not eligible for RNAV 1 / RNAV 2 operations.

(i) RNP 1 / RNP 2 continental

(1) If a statement of compliance with any of the following specifications or standards is found in the acceptable documentation as listed above, the aircraft is eligible for RNP 1 / RNP 2 continental operations:

(i) A-RNP,

(ii) FAA AC 20-138 for the appropriate navigation specification, and

(iii) FAA AC 90-105.

(2) Alternatively, if a statement of compliance with any of the following specifications or standards is found in the acceptable documentation as listed above and position determination is primarily based on GNSS, the aircraft is eligible for RNP 1 / RNP 2 continental operations.

However, in the cases mentioned in the following documents, loss of GNSS implies loss of RNP 1 / RNP 2 capability:

(i) JAA Temporary Guidance Material, Leaflet No 10 (TGL 10) (any revision), and

(ii) FAA AC 90-100.

(j) RNAV 10

(1) If a statement of compliance with any of the following specifications or standards is found in the acceptable documentation as listed above, the aircraft is eligible for RNAV 10 operations:

(i) RNP 10,

(ii) FAA AC 20-138 for the appropriate navigation specification,

(iii) AMC 20-12,

(iv) FAA Order 8400.12 (or a later revision), and

(v) FAA AC 90-105.

(k) RNP 4

(1) If a statement of compliance with any of the following specifications or standards is found in the acceptable documentation as listed above, the aircraft is eligible for RNP 4 operations:

(i) FAA AC 20-138B or later, for the appropriate navigation specification,

(ii) FAA Order 8400.33, and

(iii) FAA AC 90-105 for the appropriate navigation specification.

(l) RNP 2 oceanic

(1) If a statement of compliance with FAA AC 90-105 for the appropriate navigation specification is found in the acceptable documentation as listed above, the aircraft is eligible for RNP 2 oceanic operations.

(2) If the airship has been assessed as eligible for RNP 4, the aircraft is eligible for RNP 2 oceanic.

(m) Other considerations

(1) In all cases, the limitations in the AFM need to be checked, in particular the use of autopilot or flight director, which can be required to reduce the number of flight technical errors primarily for RNAV 1, and RNP 1.

(2) Any limitation such as 'within the US national airspace' may be ignored since RNP APCH procedures are assumed to meet the same ICAO criteria around the world.

Rationale

This proposed GM is equivalent to GM1 NCC.IDE.A.250 of Regulation (EU) No 965/2012. Adaptations specific to airships have been made, as airships are not expected to be capable of performing RNP (APCH) operations.

GM2 AsOP.BAS.486 Navigation equipment

GENERAL

(a) The PBN specifications for which the airship complies with the relevant airworthiness criteria are set out in the AFM, together with any limitations to be observed.

(b) Because functional and performance requirements are defined for each navigation specification, an airship approved for an RNP specification is not automatically approved for all RNAV specifications. Similarly, an aircraft approved for an RNP or RNAV specification with a stringent accuracy requirement (e.g. RNP 0.3 specification) is not automatically approved for a navigation specification with a less stringent accuracy requirement (e.g. RNP 4).

RNP 4

(c) For RNP 4, at least two long-range navigation systems, capable of navigating to RNP 4, and listed in the AFM, may be operational at the entry point of the RNP 4 airspace. If an item of equipment required for RNP 4 operations is unserviceable, then the flight crew may consider an alternative route or diversion for repairs. For multisensor systems, the AFM may permit entry if one GNSS sensor is lost after departure, provided one GNSS and one inertial sensor remain available.

Rationale

This proposed GM is equivalent to GM2 NCC.IDE.A.250 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.486(a)(1) Navigation equipment

Where airships, with land in sight, can proceed in accordance with the ATS flight plan by navigation with visual reference to landmarks, no additional equipment is needed to comply with point AsOP.BAS.486(a)(1).

Rationale

This proposed AMC is equivalent to AMC1 NCO.IDE.A.195 of Regulation (EU) No 965/2012.

AsOP.BAS.490 Transponder

Airships shall be equipped with a pressure-altitude-reporting secondary surveillance radar (SSR) transponder and any other SSR transponder capability required for the route being flown.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.350 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.490 Transponder

GENERAL

(a) The SSR transponders of airships being operated under European ATC should comply with any applicable single European sky legislation, including the airspace usage requirements laid down by Regulation (EU) 2023/1770 (Part-AUR).

(b) If the single European sky legislation is not applicable, the SSR transponders should operate in accordance with the relevant provisions of Volume IV of ICAO Annex 10 'Aeronautical telecommunications'.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.350 of Regulation (EU) No 965/2012.

AsOP.BAS.491 Management of aeronautical databases

(a) Aeronautical databases used in certified aircraft system applications shall meet data quality requirements that are adequate for the intended use of the data.

(b) The operator shall ensure the timely distribution and insertion of current and unaltered aeronautical databases to airships that require them.

(c) Notwithstanding any other occurrence reporting requirements as defined in Regulation (EU) No 376/2014, the operator shall report to the database provider instances of erroneous, inconsistent or missing data that might be reasonably expected to constitute a hazard to flight. In such cases, the pilot-in-command shall not use the affected data.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.355 of Regulation (EU) No 965/2012.

AMC1 AsOP.BAS.491 Management of aeronautical databases

AERONAUTICAL DATABASES

When the operator of an airship uses an aeronautical database that supports an airborne navigation application to meet the airspace usage requirements, the database provider should be a Type 2 DAT provider, certified in accordance with Regulation (EU) 2017/373, or equivalent.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.355 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.491 Management of aeronautical databases

AERONAUTICAL DATABASE APPLICATIONS

(a) Applications using aeronautical databases for which Type 2 DAT providers should be certified in accordance with Regulation (EU) 2017/373 may be found in GM1 DAT.OR.100 of that Regulation.

(b) The certification of a Type 2 DAT provider in accordance with Regulation (EU) 2017/373 ensures data integrity and compatibility with the certified aircraft application/equipment.

Rationale

This proposed GM is equivalent to GM1 CAT.IDE.A.355 of Regulation (EU) No 965/2012.

GM2 AsOP.BAS.491 Management of aeronautical databases

TIMELY DISTRIBUTION

The operator should distribute current and unaltered aeronautical databases to all airships requiring them in accordance with the validity period of the databases or in accordance with an established procedure if no validity period is defined.

Rationale

This proposed GM is equivalent to GM2 CAT.IDE.A.355 of Regulation (EU) No 965/2012.

GM3 AsOP.BAS.491 Management of aeronautical databases

STANDARDS FOR AERONAUTICAL DATABASES AND DAT PROVIDERS

(a) A 'Type 2 DAT provider' is an organisation as defined in Article 2(5)(b) of Regulation (EU) 2017/373.

(b) What is considered equivalent to a certified 'Type 2 DAT provider' is defined in any aviation safety agreement between the European Union and a third country, including any technical implementation procedures, or any working arrangements between EASA and the competent authority of a third country.

Rationale

This proposed GM is equivalent to GM3 CAT.IDE.A.355 of Regulation (EU) No 965/2012.

AsOP.BAS.495 Emergency lighting and marking

Airships shall be equipped with an emergency lighting system and marking to facilitate the evacuation of the airship.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.275(a) of Regulation (EU) No 965/2012.

Section 5 — Airship ground handling and ground crew

Rationale

Airship ground handling (see definition in Article 2) is an activity that presents a number of specificities that are triggered by the need to (un)moor the airship and by the design of the mooring system.

This section has been drafted using the best available knowledge based on historical experience in airship operations all over the world.

The AMC and GM proposed in this section have also been drafted using the best available knowledge mainly based on historical experience in airship operations from all over the world.

AsOP.BAS.500 Procedures for airship ground handling

The operator shall ensure that, when conducting airship ground handling, the pilot(s), the ground crew chief and all relevant ground crew follow the procedures defined in the AFM and the ground-handling manual, if applicable, in the operator's ground-handling instructions or procedures, to ensure safe operations, including the safety of persons and property on the ground.

AsOP.BAS.505 Technical, organisational and personnel requirements for airship ground handling

The operator shall ensure that procedures or instructions are available for airship ground handling, encompassing all the following:

(a) the required devices and tools used in airship ground handling, in particular by indicating:

  (1) their nature;

  (2) their number;

  (3) their location; and

  (4) any other specific procedures, if applicable;

(b) the means of communication between the ground crew and the pilot-in-command, and among the ground crew;

(c) the necessary features to secure the airship on the ground;

(d) permissible weather conditions for airship ground handling;

(e) the required number of ground crew and their qualification or training, which may include specific training;

(f) the coordination between the pilot-in-command and the ground crew chief with respect to the control of the airship, where relevant.

AMC1 AsOP.BAS.505 Technical, organisational and personnel requirements for airship ground handling

If no specific elements are published and available in the airship's manufacturer documentation, the operator should develop its own, after assessing in coordination with the TC holder how the airship ground handling may be safely achieved.

GM1 AsOP.BAS.505 Technical, organisational and personnel requirements for airship ground handling

Airship ground handling involves several pieces of equipment or tools, which need to be properly handled.

(a) For airship ground handling, airships are connected to the air-to-ground interface (which is commonly a mast) by a dedicated system (such as the use of ropes from the airship to the mast and the mast's locking mechanism, usually in the mast head). The locking mechanism enables the airship to be secured and prevents inadvertent unmooring; it does not need any further input from the pilots or ground crew to ensure its proper effectiveness when activated.

(b) Trucks or equivalent driven ground vehicles enable the airship to be moved, sometimes directly supporting the mast, to clear the area for take-off or landing.

(c) Further ropes or other airship-securing devices (such as winches) are used when weather conditions so require.

GM1 AsOP.BAS.505(f) Technical, organisational and personnel requirements for airship ground handling

COORDINATION BETWEEN THE PILOT-IN-COMMAND AND THE GROUND CREW CHIEF

The coordination is intended to cover the process related to task sharing between flight crew and ground crew. This includes phraseology, hand signals and any other communication means.

AsOP.BAS.510 Responsibilities of the ground crew chief

The ground crew chief shall:

(a) share relevant operational information with all relevant crew members;

(b) ensure that all airship ground-handling-related procedures and checklists are followed;

(c) have the authority to give commands and take any appropriate actions for the purpose of ensuring the safety of the airship and of persons and/or property carried therein;

(d) be satisfied that relevant emergency equipment remains easily accessible for immediate use;

(e) be satisfied that the ground crew members, if any, assigned by the operator to support the ground crew chief are physically and mentally fit to safely discharge assigned duties and responsibilities; and

(f) take appropriate action in an emergency situation that requires immediate decision-making and

action that the ground crew chief considers necessary under the circumstances; in such cases, the ground crew chief may deviate from airship ground-handling procedures and methods to the extent necessary in the interest of safety.

AsOP.BAS.515 Ground crew training and checking

(a) The operator shall ensure that ground crew have appropriate knowledge, skills and attitudes, in relation to:

— relevant procedures and instructions for ground handling;

— personnel safety;

— crew communication;

— reporting obligations.

(b) The operator shall establish a training and checking programme for ground crew.

AMC1 AsOP.BAS.515 Ground crew training and checking

The training programmes, syllabi and assessment established by the operator for the ground crew should be based on the ground-handling manual or equivalent document provided by the TC holder and, if applicable, included in the operations manual.

The knowledge skills and attitudes required of ground crew should include the following:

— knowledge of the operations manual, if available, and/or the ground-handling manual;

— communication skills between all ground crews as required by airship ground handling;

— avoidance of adverse effects of propeller slipstream on personnel;

— interpretation of take-off and landing areas' markings/lights/signals/indicators;

— interpretation of operational instructions;

— reporting of any problem that may occur during airship ground handling.

AsOP.BAS.520 Ground crew chief training and checking

(a) The operator shall ensure that the ground crew chief has appropriate knowledge, skills and attitudes, including, in addition to those required under point AsOP.BAS.515, in relation to:

— appropriate operational experience;

— knowledge of crew resource management (CRM);

— relevant knowledge of the type of airship concerned;

— risk identification and management;

— relevant meteorological knowledge.

(b) The operator shall establish a training and checking programme for ground crew chiefs.

AMC1 AsOP.BAS.520 Ground crew chief training and checking

The training programmes, syllabi and assessment established by the operator for ground crew chiefs should be based on the ground-handling manual or equivalent document provided by the TC holder and, if applicable, be included in the operations manual.

In addition to those set out in AMC1 AsOP.BAS.515, the competences, skills and knowledge required of ground crew chiefs should include the following:

— operational experience in airship ground handling appropriate to the allocated tasks;

— CRM competences necessary to manage ground crews and to efficiently coordinate airship ground handling with the pilot-in-command;

— theoretical knowledge of the type of airship(s) used in operations, especially airship system interfaces with ground equipment;

— identification of risks related to airship ground handling and associated responses (such as fire and its prevention, and areas around propellers to avoid propeller strikes);

— meteorological theoretical knowledge appropriate to the operation.

Section 6 — Transport of dangerous goods

AsOP.BAS.600 Transport of dangerous goods

(a) The transport of dangerous goods by air shall be conducted in accordance with Annex 18 to the Chicago Convention as last amended and amplified by the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (ICAO Doc 9284-AN/905), including attachments, supplements and any other addenda or corrigenda.

(b) Dangerous goods shall only be transported by an operator approved in accordance with Annex II (Part-AsOP.AOC) to this Regulation and with Subpart G of Annex V (Part-SPA) to Regulation (EU) No 965/2012, except when:

(1) they are not subject to the Technical Instructions in accordance with Part 1 of those Instructions;

(2) they are carried by passengers, task specialists or crew members, or are in their baggage in accordance with Part 8 of the Technical Instructions;

(3) they are required on board the aircraft for specialised purposes in accordance with the Technical Instructions;

(4) they are used to facilitate flight safety where carriage aboard the aircraft is reasonable to ensure their timely availability for operational purposes, whether or not such articles and substances are required to be carried or intended to be used in connection with a particular flight.

(c) The operator shall establish procedures to ensure that all reasonable measures are taken to prevent dangerous goods from being carried on board inadvertently.

(d) The operator shall provide personnel with the necessary information to enable them to carry

out their responsibilities, as required by the Technical Instructions.

(e) The operator shall, in accordance with the Technical Instructions, report without delay to the competent authority and the appropriate authority of the State of occurrence in the event of:

(1) any dangerous goods accidents or incidents;

(2) the discovery of undeclared or misdeclared dangerous goods in cargo or mail; or

(3) the finding of dangerous goods carried by passengers, task specialists or crew, or in their baggage, when not in accordance with Part 8 of the Technical Instructions.

(f) The operator shall ensure that passengers and task specialists are provided with information about dangerous goods.

(g) The operator shall ensure that notices giving information about the transport of dangerous goods are provided at acceptance points for cargo as required by the Technical Instructions.

(h) The operator shall establish and maintain dangerous goods training programmes for personnel as required by the Technical Instructions. Such training programmes shall be commensurate with the responsibilities of personnel.

Rationale

This proposed requirement is equivalent to point CAT.GEN.MPA.200 of Regulation (EU) No 965/2012. The proposed requirement intends to ensure that approval to transport dangerous goods is only given to operators that hold an AOC, but procedures related to inadvertent transport of dangerous goods are applicable to all operators.

GM1 AsOP.BAS.600 Transport of dangerous goods

GENERAL

(a) The requirement to transport dangerous goods by air in accordance with the Technical Instructions is irrespective of whether:

(1) the flight is wholly or partly within or wholly outside the territory of a State; or

(2) an approval to carry dangerous goods in accordance with Annex V (Part-SPA), Subpart G, is held.

(b) Where specifically provided by the Technical Instructions, States concerned may grant an approval provided that, in such instances, an overall level of safety in transport that is equivalent to that provided for in the Technical Instructions is achieved. Additionally, the Technical Instructions provide in Part 1 that, in certain circumstances, dangerous goods that are normally forbidden on aircraft may be carried under an exemption.

(c) The Technical Instructions provide that exemptions and approvals are granted by the 'appropriate national authority', which is intended to be the authority responsible for the particular aspect against which the exemption or approval is being sought. The operator should ensure that all relevant conditions on an exemption or approval are met. For the State of overflight, if none of the criteria for granting an exemption are relevant, an exemption may be granted based solely on whether it is believed that an equivalent level of safety in air transport has been achieved.

(d) The Technical Instructions provide that exemptions and approvals are granted by the 'appropriate national authority', which is intended to be the authority responsible for the particular aspect against which the exemption or approval is being sought. The operator should ensure that all relevant conditions on an exemption or approval are met.

(e) The exemption or approval referred to in (b) to (d) are in addition to the approval required by Annex V (Part-SPA).

Rationale

This proposed GM is equivalent to GM1 CAT.GEN.MPA.200 of Regulation (EU) No 965/2012.

GM1 AsOP.BAS.600(b)(3) Transport of dangerous goods

Due to the variety of airship operations, specific equipment can be used for different missions. This equipment can require certain dangerous material to function properly.

The following can be considered special equipment:

— batteries used to operate the equipment, such as lithium batteries for cameras, radars and scientific equipment;

— magnetic elements that could be used within scientific data acquisition equipment.

Rationale

This proposed GM has been developed to cover airship-specific equipment for missions.

AMC1 AsOP.BAS.600(e) Transport of dangerous goods

DANGEROUS GOODS ACCIDENT AND INCIDENT REPORTING

(a) Any type of dangerous goods incident or accident should be reported. For reporting purposes, items of operators' stores that are classified as dangerous goods are considered misdeclared and undeclared dangerous goods found in cargo.

(b) The first report should be dispatched within 72 hours of the event. It may be sent by any means, including email, telephone or fax. This report should include the details that are known at that time, under the headings identified in (c). If necessary, a subsequent report should be made as soon as possible giving all the details that were not known when the first report was sent. If a report has been made verbally, written confirmation should be sent as soon as possible.

(c) The first and any subsequent report should be as precise as possible and contain the following information, where relevant:

(1) date of the incident or accident or the finding of undeclared or misdeclared dangerous goods;

(2) location and flight date;

(3) description of the goods;

(4) proper shipping name (including the technical name, if appropriate) and UN/identification number, when known;

(5) class or division and any subsidiary risk;

(6) type of packaging, and the packaging specification marking on it;

(7) quantity;

(8) name, address, etc. of the passenger;

(9) any other relevant details;

(10) suspected cause of the incident or accident;

(11) action taken;

(12) any other reporting action taken; and

(13) name, title, address and telephone number of the person making the report.

(d) Copies of relevant documents and any photographs taken should be attached to the report.

(e) A dangerous goods accident or incident may also constitute an aircraft accident, serious incident or incident. The criteria for reporting both types of occurrence should be met.

(f) The following dangerous goods reporting form should be used, but other forms, including electronic transfer of data, may be used provided that at least the minimum information set out in this AMC is supplied.

<table>
<tr><td colspan="2">DANGEROUS GOODS OCCURRENCE REPORT</td><td>DGOR No:</td></tr>
<tr><td>1. Operator:</td><td>2. Date of occurrence:</td><td>3. Local time of occurrence:</td></tr>
<tr><td colspan="2">4. Flight date:</td><td>5. Flight No:</td></tr>
<tr><td colspan="2">6. Departure aerodrome:</td><td>7. Destination aerodrome:</td></tr>
<tr><td colspan="2">8. Aircraft type:</td><td>9. Aircraft registration:</td></tr>
<tr><td colspan="2">10. Location of occurrence:</td><td>11. Origin of the goods:</td></tr>
<tr><td colspan="3">12. Description of the occurrence, including details of injury, damage, etc. (if necessary, continue on the reverse of this form):</td></tr>
</table>

<table>
<tr><td colspan="2">13. Proper shipping name (including the technical name):</td><td colspan="2">14. UN/ID No (when known):</td></tr>
<tr><td>15. Class/Division (when known):</td><td>16. Subsidiary risk(s):</td><td>17. Packing group:</td><td>18. Category (Class 7 only):</td></tr>
<tr><td>19. Type of packaging:</td><td>20. Packaging specification marking:</td><td>21. No of packages:</td><td>22. Quantity (or transport index, if applicable):</td></tr>
<tr><td colspan="4">23. Other relevant information (including suspected cause, any action taken):</td></tr>
<tr><td colspan="2">24. Name and title of person making the report:</td><td colspan="2">25. Telephone No:</td></tr>
<tr><td colspan="2">26. Company:</td><td colspan="2">27. Reporters ref:</td></tr>
<tr><td colspan="2" rowspan="2">28. Address:</td><td colspan="2">29. Signature:</td></tr>
<tr><td colspan="2">30. Date:</td></tr>
<tr><td colspan="4">Description of the occurrence (continuation)</td></tr>
</table>

Notes on the completion of the form

1. A dangerous goods accident is as defined in Article 2 of this Regulation. For this purpose, serious injury is as defined in Regulation (EU) No 996/2010.

2. The initial report should be dispatched unless exceptional circumstances prevent this. This occurrence report form, duly completed, should be sent as soon as possible, even if all the information is not available.

3. Copies of all relevant documents and any photographs should be attached to this report.

4. Any further information, or any information not included in the initial report, should be sent as soon as possible to the authorities identified in point AsOP.BAS.600(e).

5. Providing it is safe to do so, all dangerous goods, packaging, documents, etc. relating to the occurrence should be retained until after the initial report has been sent to the authorities identified in point AsOP.BAS.600(e) and they have indicated whether or not these should continue to be retained.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.200(e) of Regulation (EU) No 965/2012.

Annex II (Part-AsOP.AOC)

Section 1 — General organisation requirements

AsOP.AOC.001 Scope

(a) Except as provided for in Article 4 of this Regulation, this Annex establishes the additional requirements to be met by operators of airships conducting any of the following operations:

(1) commercial operations,

(2) specialised operations,

(3) operations with one or more large airships.

(b) If a task specialist is required for the operation of the airship, the provisions of this Annex become applicable in addition to those contained in Annex I (Part-AsOP.BAS).

Rationale

The operations described in this point are considered potentially riskier; therefore, additional requirements and approvals from competent authorities are deemed essential.

With respect to point (b), it is assumed that, when a task specialist is needed for airship operations, the activities conducted are essentially 'specialised operations' or 'commercial'. In both cases, the operator must comply with Annex I (Part-AsOP.BAS) and Annex II (Part-AsOP.AOC). Additionally, if a task specialist is required, it is assumed that the intended operations are by default more complex and therefore it is considered more appropriate that the involved airship operator holds an AOC.

GM1 AsOP.AOC.001 Scope

SPECIALISED OPERATIONS VERSUS ADVERTISING FLIGHTS

(a) An aerial advertising flight, displaying a logotype or an advertisement on the airship, should only fall within the applicability of Annex II (Part-AsOP.AOC) when:

(1) conducted at a specific predefined time and for an advertising purpose; and

(2) conducted in return for remuneration or other valuable consideration from the principal, with or without the existence of a contract.

(b) The display of advertising logos on the airship is not, per se, a condition sufficient to classify the operations as 'commercial'.

(c) When the airship used is a large airship, the aerial advertising flight is to be conducted in accordance with Annex II.

Rationale

This proposed GM is equivalent to AMC1 BOP.BAS.001 of Regulation (EU) 2018/395, with additional content to prevent misinterpretation of advertising logo status.

AsOP.AOC.002 Competent authority

The competent authority shall be the authority designated by the Member State where the operator has its principal place of business.

GM1 AsOP.AOC.002 Competent authority

DETERMINING THE PRINCIPAL PLACE OF BUSINESS

The principal place of business encompasses the principal financial functions and operational control of the activities of an operator. It may refer to the organisation's site from which the majority of its management personnel specified in point AsOP.AOC.005 direct, control or coordinate its operational activities, ensuring that the organisation complies with this Regulation.

Rationale

This proposed GM is equivalent to GM18 Annex I to Regulation (EU) No 965/2012.

AsOP.AOC.005 Operator responsibilities

(a) The operator is responsible for the operation of the airship in accordance with the essential requirements set out in Annex V to Regulation (EU) 2018/1139, with the requirements of this Regulation and with its AOC.

(b) The operator shall ensure that every flight is conducted in accordance with the provisions of the operations manual.

(c) The operator shall establish and maintain a system for exercising operational control over any flight operated under the terms of its AOC.

(d) The operator shall ensure that the airship is equipped and all crew members are qualified as required for the area and type of operation.

(e) The operator shall ensure that all personnel assigned to, or directly involved in, airship ground-handling and flight operations are properly instructed, have demonstrated their abilities in their particular duties and are aware of their responsibilities and the relationship of such duties to the operation as a whole.

(f) The operator shall establish procedures and instructions for the safe operation of each airship type, containing duties and responsibilities of the ground staff and crew members, for all types of operations undertaken by the operator. Those procedures and instructions shall not require crew members to perform any activity during critical phases of flight other than those required for the safe operation of the airship. Procedures and instructions for a sterile flight crew compartment shall also be included.

(g) The operator shall ensure that all personnel are made aware that they are to comply with the laws, regulations and procedures of the States in which operations are conducted that are pertinent to the performance of their duties.

(h) The operator shall establish a checklist for each airship type to be used by crew members in all phases of flight under normal, abnormal and emergency conditions in order to ensure that the operating procedures in the operations manual are followed. The design and the usage of

checklists shall observe human factors principles and take into account the latest relevant documentation from the TC holder.

(i) The training programmes of operators referred to in point AsOP.BAS.600(h), whether they transport dangerous goods or not, shall be subject to review and approval by the competent authority.

(j) The operator shall specify flight planning procedures to provide for the safe conduct of the flight, based on considerations of airship performance, other operating limitations and relevant expected conditions on the route to be followed and at the operating sites concerned. Those procedures shall be included in the operations manual.

(k) Whenever a task specialist is required, the operator shall clarify whether this person has to be designated as a crew member or not.

(l) For task specialists designated as crew members, the operator shall define selection criteria and initial and recurrent training requirements.

Rationale

This requirement is equivalent to point ORO.GEN.110 of Regulation (EU) No 965/2012, with some adaptations to cover ground crew and task specialists.

AMC1 AsOP.AOC.005(a) Operator responsibilities

SECURITY TRAINING PROGRAMME FOR CREW MEMBERS

Without prejudice to Regulation (EC) No 300/2008, the operator should establish and maintain a security training programme for crew members, including theoretical and practical elements. This training should be provided at the time of operator conversion training and thereafter at intervals not exceeding three years. The content and duration of the training should be adapted to the security threats of the individual operator and should ensure that crew members act in the most appropriate manner to minimise the consequences of acts of unlawful interference. This programme should include the following elements:

(a) determination of the seriousness of the occurrence;

(b) crew communication and coordination;

(c) appropriate self-defence responses;

(d) use of non-lethal protective devices assigned to crew members whose use is authorised by the Member State issuing the AOC;

(e) understanding of the behaviour of terrorists so as to facilitate the ability of crew members to cope with hijacker behaviour and passenger responses;

(f) in cases where cabin crew are required, live situational training exercises regarding various threat conditions;

(g) flight crew compartment procedures to protect the airship;

(h) airship search procedures, in accordance with Regulation (EC) No 300/2008, including identification of prohibited articles; and

(i) guidance on the least-risk bomb locations.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.110(a) of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.005(a) Operator responsibilities

SECURITY TRAINING PROGRAMME FOR GROUND PERSONNEL

In accordance with Regulation (EC) No 300/2008, the operator should establish and maintain a security training programme for ground personnel in order to acquaint appropriate employees with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage so that they contribute to the prevention of acts of sabotage or other forms of unlawful interference.

Rationale

This proposed AMC is equivalent to AMC2 ORO.GEN.110(a) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.005(a) Operator responsibilities

SECURITY TRAINING PROGRAMME FOR CREW MEMBERS

ICAO Security Manual Doc 9811 (restricted access) contains guidance on the development of training programmes.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.110(a) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.005(c) Operator responsibilities

OPERATIONAL CONTROL

The organisation of and methods established to exercise operational control should be included in the operations manual, which should cover at least a description of responsibilities concerning the initiation, continuation and termination or diversion of each flight.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.110(c) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.005(c) Operator responsibilities

OPERATIONAL CONTROL

(a) Point AsOP.AOC.005(c) does not imply a requirement for licensed flight operations officers (FOOs) / flight dispatchers (FDs).

(b) If the operator uses FOOs/FDs in conjunction with a method of operational control, training for such personnel should be based on the relevant parts of ICAO Annex 1 and ICAO Documents 10106 and 9868. This training should be described in the operations manual.

Rationale

This is equivalent to GM1 ORO.GEN.110(c) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.005(c)&(e) Operator responsibilities

PERSONNEL RESPONSIBILITIES — TRAINING PROGRAMME FOR OPERATIONAL CONTROL PERSONNEL WHO PERFORM TASKS RELATED TO FLIGHT MONITORING AND FLIGHT WATCH

(a) When an airship operator uses flight monitoring and/or flight watch as functions of a system for exercising operational control, FOOs/FDs should perform those functions.

(b) The airship operator should develop a training programme, based on the relevant parts of ICAO Annex 1 and ICAO Documents 10106 and 9868, for FOOs/FDs who perform those functions.

(c) The training programme specified above should be detailed in the operations manual of the airship operator and should be delivered by an instructor for operational control personnel.

INITIAL TRAINING

(d) The initial training should include, where relevant to the intended operation, the following elements, which should be tailored to the specific duties assigned to each person:

(1) air law — rules and regulations relevant to the task assignment, and appropriate ATS practices and procedures;

(2) airship general knowledge:

(i) principles of operation of airship engines/systems/instruments;

(ii) operating limitations of airships; and

(iii) MELs and CDLs;

(3) flight performance calculation, planning procedures and loading:

(i) effects of loading and mass distribution on airship performance and flight characteristics, and mass and balance calculations;

(ii) operational flight planning, fuel consumption and endurance calculations, alternate aerodrome selection procedures, en route cruising control and extended-range operation;

(iii) preparation and filing of ATS flight plans; and

(iv) basic principles of computer-assisted planning systems;

(4) human performance – human performance related to operational control duties, including principles of threat and error management; guidance material on how to design training programmes on human performance, including on threat and error management, is provided in ICAO Doc 9683 (*Human Factors Training Manual*);

(5) meteorology:

(i) aeronautical meteorology, movement of pressure systems, structure of fronts and origins and characteristics of significant weather phenomena that affect take-off, en route and landing conditions;

(ii) interpretation and application of aeronautical meteorological reports, charts and forecasts, codes and abbreviations, and use of and procedures for obtaining meteorological information; and

(iii) effects of meteorological conditions on airship operation and on radio reception in the airship that is used by the operator;

(6) navigation:

(i) principles of air navigation with particular reference to IFR; and

(ii) navigation and radio equipment in the airship that is used by the operator;

(7) operational procedures:

(i) use of aeronautical documentation and standard operating procedures (SOPs);

(ii) operational procedures for the carriage of cargo and dangerous goods;

(iii) de-icing/anti-icing;

(iv) procedures related to airship accidents and incidents, and emergency flight procedures; and

(v) security procedures related to unlawful interference and sabotage of airships;

(8) principles of flight – principles of flight related to the appropriate category of airship;

(9) radio communications – procedures for communicating with other airships and ground stations; and

(10) special aerodromes / operating sites.

OPERATOR-SPECIFIC TRAINING

(e) In addition to the initial training, FOOs/FDs should receive training in the specific duties, responsibilities and tools that are associated with the operational control system of the operator.

RECURRENT TRAINING

(f) When the recurrent training is conducted within the last 12 months of a 36-month validity period, the next 36-month validity period should be calculated from the original expiry date of the previous assessment.

(g) Notwithstanding the 36-month interval of point (f), recurrent training may also be performed at shorter intervals and adjusted to the needs identified after an assessment of training needs conducted by the operator.

KNOWLEDGE, SKILLS AND QUALIFICATIONS OF INSTRUCTORS OF OPERATIONAL CONTROL PERSONNEL

(h) Unless otherwise required by the relevant national regulations, instructors of operational control personnel should meet all of the following requirements.

(1) They should be able to prove that they have up-to-date knowledge of the subjects covered by the training programme for FOOs/FDs, including the operator-specific elements, or otherwise have successfully completed an FOO/FD training programme.

(2) They should have adequate instructional skills or attend instructor training. If more than 24 months have passed since the delivery of the last FOO/FD course, they should attend recurrent instructor training before delivering the next course.

(3) They should have relevant work experience in the areas of the training that they provide. The airship operator should include in the operations manual the required knowledge, skills and qualifications of the instructors of operational control personnel.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.110(c) and (e) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.005(e) Operator responsibilities

MINIMUM EQUIPMENT LIST TRAINING PROGRAMME

(a) The airship operator should develop a training programme for ground personnel (including maintenance personnel, FOOs/FDs) dealing with the use of the MEL and detail such training in the continuing airworthiness management exposition and operations manual, as appropriate. Such a training programme should include:

(1) the scope, extent and use of the MEL;

(2) placarding of inoperative equipment;

(3) deferral procedures;

(4) dispatching; and

(5) any other MEL-related procedures of the operator.

(b) The operator should develop a training programme for crew members and detail such training in the operations manual. Such a training programme should include:

(1) the scope, extent and use of the MEL;

(2) the operator's MEL procedures;

(3) elementary maintenance procedures in accordance with Commission Regulation (EU) No 1321/2014; and

(4) pilot-in-command responsibilities.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.110(e) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.005(f) Operator responsibilities

STERILE FLIGHT CREW COMPARTMENT

(a) Sterile flight crew compartment procedures should ensure that:

(1) flight crew activities are restricted to essential operational activities; and

(2) cabin crew and technical crew communications to flight crew or entry into the flight crew compartment are restricted to safety or security matters.

(b) The sterile flight crew compartment procedures should be applied during critical phases of flight.

(c) All crew members should be trained on the sterile flight crew compartment procedures established by the airship operator, as appropriate to their duties.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.110(f) of Regulation (EU) No 965/2012.

It is to be noted that points (b)(2), (3) and (4) of the above-mentioned AMC have not been included as they are not applicable to airships.

GM1 AsOP.AOC.005(f) Operator responsibilities

STERILE FLIGHT CREW COMPARTMENT

(a) Establishment of procedures

The airship operator establishes procedures for flight and cabin crew members and task specialists that emphasise the objectives and importance of the sterile flight crew compartment. These procedures also emphasise that, during periods when the sterile flight deck compartment procedures are applied, cabin crew members and task specialists should call the flight crew or enter the flight crew compartment only in cases related to safety or security matters. In such cases, information should be timely and accurate.

(b) Flight crew activities

When sterile flight crew compartment procedures are applied, flight crew members are focused on their essential operational activities without being disturbed by non-safety-related matters. Examples of activities that should not be performed are:

(1) radio calls concerning passenger connections, fuel loads, catering, etc.;

(2) non-critical paperwork; and

(3) mass and balance corrections and performance calculations, unless required for safety reasons.

(c) Communication to the flight crew

Cabin crew and task specialists use their own discretion to determine whether the situation is related to safety or security matters and whether to call the flight crew. Situations requiring the provision of information to the flight crew may include:

(1) any outbreak of fire inside the cabin or in an engine;

(2) a burning smell in the cabin or presence of smoke inside or outside;

(3) fuel or fluid leakage;

(4) an exit door that cannot be armed or disarmed;

(5) localised extreme cabin temperature changes;

(6) evidence of airframe icing;

(7) cabin/galley equipment or furniture malfunction/breakage posing a hazard to the occupants;

(8) the discovery of a suspicious object;

(9) a disruptive passenger;

(10) a security threat;

(11) abnormal vibration or noise;

(12) a medical emergency;

(13) general drop-down of the oxygen masks in the cabin; and

(14) any other condition deemed relevant by cabin crew members or task specialists.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.110(f) of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.005(f) Operator responsibilities

ELEMENTS OF THE BRIEFING GIVEN TO FLIGHT OPERATIONS OFFICERS / FLIGHT DISPATCHERS BEFORE ASSUMING DUTIES

Before commencing their shift, the FOO/FD should be briefed on relevant safety information such as:

(a) weather charts;

(b) weather reports;

(c) NOTAMs;

(d) operational restrictions in force;

(e) flights in the air and flights for which operational flight plans have been issued but that have not yet started and for which the FOO/FD will be responsible;

(f) the forecast flight schedule; and

(g) other relevant safety information as listed in GM3 Article 2 — Definitions.

Rationale

This proposed GM is equivalent to GM2 ORO.GEN.110(f) of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.005(f) Operator responsibilities

INSTRUCTIONS ABOUT DUTIES AND RESPONSIBILITIES OF PERSONNEL — BRIEFING OF FLIGHT OPERATIONS OFFICERS / FLIGHT DISPATCHERS BEFORE ASSUMING DUTIES

In the context of an ongoing flight-following, flight-monitoring or flight-watch activity, an FOO/FD, before assuming their duties, should be briefed on the elements related to the safety of the operations they will be performing as part of the operational control.

Rationale

This proposed AMC is equivalent to AMC2 ORO.GEN.110(f) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.005(f)&(h) Operator responsibilities

ESTABLISHMENT OF PROCEDURES TO BE FOLLOWED BY CABIN CREW

(a) An operator should establish procedures to be followed by cabin crew, covering at least:

(1) arming and disarming of slides;

(2) operation of cabin lights, including emergency lighting;

(3) prevention and detection of cabin, galley and toilet fires;

(4) actions to be taken when turbulence is encountered;

(5) actions to be taken in the event of an emergency and/or an evacuation; and

(6) safety aspects of the in-flight entertainment (IFE) system, if installed.

(b) When establishing procedures and a checklist system for cabin crew with respect to the airship cabin, the operator should take into account at least the following duties.

Duties		Pre-take-off	In-flight	Pre-landing	Post-landing
(1)	Briefing of cabin crew by the senior cabin crew member prior to commencement of a flight or series of flights	x			
(2)	Check of safety and emergency equipment in accordance with the operator's policies and procedures	x			
(3)	Security checks as applicable	x			x
(4)	Passenger embarkation and disembarkation	x			x
(5)	Securing of the passenger cabin (e.g. seat belts, cabin cargo/baggage, IFE system)	x		x	
(6)	Securing of galleys and stowage of equipment	x	if required	x	
(7)	Arming of door/exit slides	x			
(8)	Safety briefing/information to passengers	x	x	x	x
(9)	'Cabin secure' report to flight crew	x	if required	x	
(10)	Operation of cabin lights	x	if required	x	x
(11)	Safety aspects of the IFE system (if installed)	x	x	x	x
(12)	Cabin crew at assigned crew stations	x	if required	x	x
(13)	Surveillance of the passenger cabin	x	x	x	x
(14)	Prevention and detection of fire in the cabin (including the combi-cargo area, crew rest areas,	x	x	x	x

Duties		Pre-take-off	In-flight	Pre-landing	Post-landing
	galleys, lavatories and any other cabin remote areas) and instructions for actions to be taken				
(15)	Actions to be taken when turbulence is encountered		x		
(16)	Actions to be taken in the event of in-flight incidents (e.g. medical emergencies)		x		
(17)	Actions to be taken in the event of emergency situations	x	x	x	x
(18)	Disarming of door/exit slides				x
(19)	Reporting of any deficiency and/or unserviceability of equipment and/or any incident	x	x	x	x

Table 1

(c) The airship operator should specify the contents of safety briefings for all cabin crew members prior to the commencement of a flight or series of flights.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.110(f)(h) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.005(d);(e);(l) Operator responsibilities

DESIGNATION OF PERSONS AS CREW MEMBERS

(a) The operator may designate any person as a crew member (including a task specialist) provided that:

(1) the role, according to the reasonable expectation of the operator, will enhance the safety of the flight or achieve an operational objective of the flight;

(2) the person, according to the reasonable expectation of the operator, is capable of fulfilling the role;

(3) the person has been briefed on the role as a crew member and informed that they are crew, not a passenger; and

(4) the person agrees to the role as a crew member.

(b) Crew members are not considered to be passengers.

(c) Crew members may be required, by specific provisions of this Regulation and other implementing rules, to hold licences, ratings or other personnel certificates to fulfil certain roles such as instructor, examiner or flight engineer in certain circumstances.

Rationale

This proposed GM is equivalent to GM1 NCO.OP.180 of Regulation (EU) No 965/2012.

AsOP.AOC.010 Means of compliance

(a) When an airship operator subject to this Annex wishes to use an alternative means of compliance to the AMC adopted by the Agency to demonstrate compliance with the essential requirements set out in Annex V to Regulation (EU) 2018/1139 and with the requirements of this Regulation, in accordance with point AsOP.BAS.010 it shall, prior to implementing the alternative means of compliance, provide the competent authority with a full description of it. The description shall include any revisions to manuals or procedures that may be relevant, and an assessment demonstrating that the provisions of this Regulation are met.

(b) The airship operator may implement these alternative means of compliance subject to prior approval by the competent authority and upon receipt of the notification as prescribed in point ARO.GEN.120(d) of Regulation (EU) No 965/2012.

Rationale

This requirement is equivalent to point ORO.GEN.120 of Regulation (EU) No 965/2012. It is to be noted that point ORO.GEN.120(a) is already covered by point AsOP.BAS.010.

AMC1 AsOP.AOC.010 Means of compliance

DEMONSTRATION OF COMPLIANCE

Whenever alternative means of compliance are used, a risk assessment should be completed and documented. The result of this risk assessment should demonstrate that an equivalent level of safety to that established by the AMC adopted by EASA is reached.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.120(a) of Regulation (EU) No 965/2012.

AsOP.AOC.020 Management system

(a) The airship operator shall establish, implement and maintain a management system that includes all of the following.

(1) Clearly defined lines of responsibility and accountability throughout the organisation of the operator, including direct safety accountability of the accountable manager.

(2) A description of the overall philosophies and principles of the operator with regard to safety, which shall be known as the safety policy.

(3) The identification of aviation safety hazards entailed by the activities of the operator, the evaluation of those hazards and the management of associated risks, including by taking actions to mitigate those risks where necessary and verifying the effectiveness of those actions.

(4) Maintaining personnel with the required training and competence to perform their tasks.

(5) Documentation of all key processes of the management system, including a process for making personnel aware of their responsibilities and the procedure for amending that documentation.

(6) A function to monitor compliance of the operator with the requirements of this Regulation. Such compliance monitoring shall include a feedback system of findings to the accountable manager of the operator to ensure effective implementation of corrective actions as necessary.

(7) The processes necessary to ensure compliance with the requirements of Regulation (EU) No 376/2014.

(b) The management system shall correspond to the size of the operator and the nature and complexity of its activities, taking into account the hazards and associated risks of those activities.

(c) If the operator holds one or more additional organisation certificates within the scope of Regulation (EU) 2018/1139, the management system may be integrated with that required under the additional certificate(s) held.

(d) In addition to the management system referred to in point (a), airship operators shall establish, implement and maintain an information security management system in accordance with Implementing Regulation (EU) 2023/203 in order to ensure the proper management of information security risks that may have an impact on aviation safety.

Rationale

This requirement is equivalent to points ORO.GEN.200 and ORO.GEN.200A of Regulation (EU) No 965/2012.

Point (d) has been added to introduce compliance with the Information Security Risk Regulation (Part-IS) (Implementing Regulation (EU) 2023/203). According to provisions in paragraph b of Article 7 of that Regulation, airship operators are allowed a longer transition time to comply with that Regulation.

AMC1 AsOP.AOC.020(a)(1) Management system

ORGANISATION AND ACCOUNTABILITIES

The management system of an operator should encompass safety by including a safety manager and a safety review board in the organisational structure.

(a) Safety manager

(1) The safety manager should act as the focal point and be responsible for the development, administration and maintenance of an effective safety management system.

(2) The functions of the safety manager should be to:

(i) facilitate hazard identification, risk analysis and management;

(ii) monitor the implementation of actions taken to mitigate risks, as listed in the safety action plan;

(iii) provide periodic reports on safety performance;

(iv) ensure maintenance of safety management documentation;

(v) ensure that there is safety management training available and that it meets acceptable standards;

(vi) provide advice on safety matters; and

(vii) ensure initiation and follow-up of internal occurrence/accident investigations.

(3) If more than one person is designated to the safety management function, the accountable manager should identify the person who acts as the unique focal point (i.e. the 'safety manager').

(b) Safety review board

(1) The safety review board should be a high-level committee that considers matters of strategic safety in support of the accountable manager's safety accountability.

(2) The board should be chaired by the accountable manager and be composed of heads of functional areas.

(3) The safety review board should monitor:

(i) safety performance against the safety policy and objectives;

(ii) the timeliness of any safety action; and

(iii) the effectiveness of the operator's safety management processes.

(c) The safety review board should ensure that appropriate resources are allocated to achieve the established safety performance.

(d) The safety manager or any other relevant person may attend, as appropriate, safety review board meetings. They may communicate to the accountable manager any information to allow decision-making based on safety data.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.200(a)(1) of Regulation (EU) No 965/2012, which covers complex operators.

It is to be noted that the distinction between complex and non-complex organisations is not proposed to be introduced for airships, and accordingly there is no equivalent AMC to AMC1 ORO.GEN.200(a)(1);(2);(3);(5). The proposal contains management system requirements for complex organisations only. It is expected that airship operators falling under Annex II are always complex organisations; this is due to the type and complexity of activities likely to be conducted and to the susceptibility of airships to environmental conditions. These criteria are not related to the number of full-time-equivalent staff of the organisation.

GM1 AsOP.AOC.020(a)(1) Management system

SAFETY MANAGER

(a) Depending on the size of the operator and the nature and complexity of its activities, the safety manager may be assisted by additional safety personnel for the performance of all safety-management-related tasks.

(b) Regardless of the organisational set-up, it is important that the safety manager remains the unique focal point as regards the development, administration and maintenance of the operator's safety management system.

COMPETENCIES OF THE SAFETY MANAGER

(c) The safety manager as defined under AMC1 AsOP.AOC.020(a)(1) is expected to support, facilitate and lead the implementation and maintenance of the safety management system, fostering an organisational culture for effective safety management, risk management and occurrence reporting. The competencies for a safety manager should thus include, but not be limited to:

(1) knowledge of:

(i) ICAO standards and European requirements and provisions on safety management;

(ii) basic safety investigation techniques; and

(iii) human factors in aviation;

(2) relevant and documented work experience, preferably in a comparable position, in:

(i) management systems including compliance monitoring systems and safety management;

(ii) risk management; and

(iii) the operations of the organisation;

(3) other suitable competencies:

(i) the promotion of a positive safety culture,

(ii) interpersonal, influencing and leadership skills,

(iii) oral and written communication skills,

(iv) data management, analytical and problem-solving skills,

(v) professional integrity.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.200(a)(1) of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.020(a)(1) Management system

SAFETY ACTION GROUP

(a) A safety action group may be established as a standing group or as an ad hoc group to assist or act on behalf of the safety review board.

(b) More than one safety action group may be established depending on the scope of the task and specific expertise required.

(c) The safety action group should report to and take strategic direction from the safety review board and should comprise managers, supervisors and personnel from operational areas.

(d) The safety action group should:

(1) monitor operational safety;

(2) define actions to mitigate the identified safety risks;

(3) assess the impact of operational changes on safety; and

(4) ensure that safety actions are implemented within agreed timescales.

(e) The safety action group should review the effectiveness of previous safety recommendations and safety promotion.

Rationale

This proposed GM is equivalent to GM2 ORO.GEN.200(a)(1) of Regulation (EU) No 965/2012.

GM3 AsOP.AOC.020(a)(1) Management system

MEANING OF THE TERMS 'ACCOUNTABILITY' AND 'RESPONSIBILITY'

In the English language, the notion of accountability is different from the notion of responsibility. Whereas accountability refers to an obligation that cannot be delegated, responsibility refers to an obligation that can be delegated.

Rationale

This GM is equivalent to GM3 ORO.GEN.200(a)(1) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.020(a)(2) Management system

SAFETY POLICY

(a) The safety policy should:

(1) be endorsed by the accountable manager;

(2) reflect organisational commitments regarding safety and its proactive and systematic management;

(3) be communicated, with visible endorsement, throughout the organisation; and

(4) include safety reporting principles.

(b) The safety policy should include a commitment:

(1) to improve towards the highest safety standards;

(2) to comply with all applicable legislation, meet all applicable standards and consider best practices;

(3) to provide appropriate resources;

(4) to enforce safety as a primary responsibility of all managers; and

(5) not to blame someone for reporting something that would not have been otherwise detected.

(c) Senior management should:

(1) continually promote the safety policy to all personnel and demonstrate their commitment to it;

(2) provide necessary human and financial resources for its implementation; and

(3) establish safety objectives and performance standards.

Rationale

This AMC is equivalent to AMC1 ORO.GEN.200(a)(2) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.020(a)(3) Management system

SAFETY RISK MANAGEMENT

(a) Hazard identification processes

(1) Reactive and proactive schemes for hazard identification should be the formal means of collecting, recording, analysing, acting on and generating feedback about hazards and the associated risks that affect the safety of the operational activities of the operator.

(2) All reporting systems, including confidential reporting schemes, should include an effective feedback process.

(b) Risk assessment and mitigation processes

(1) The operator should develop and maintain a formal risk management process that ensures analysis (in terms of likelihood and severity of occurrence), assessment (in terms of tolerability) and control (in terms of mitigation) of risks to an acceptable level.

(2) The levels of management staff who have the authority to make decisions regarding the tolerability of safety risks, in accordance with (b)(1), should be specified.

(c) Internal safety investigation. The scope of internal safety investigations should extend beyond the scope of occurrences required to be reported to the competent authority.

(d) Safety performance monitoring and measurement

(1) Safety performance monitoring and measurement should be the process by which the safety performance of the operator is verified in comparison with the safety policy and objectives.

(2) This process should include:

(i) safety reporting, including addressing the status of compliance with the applicable requirements;

(ii) safety studies — that is, rather large analyses encompassing broad safety concerns;

(iii) safety reviews including trend reviews, which would be conducted during the introduction and deployment of new technologies, change or implementation of procedures, or in situations of structural change in operations;

(iv) safety audits focusing on the integrity of the operator's management system, and periodic assessments of the status of safety risk controls; and

(v) safety surveys, examining particular elements or procedures of a specific operation, such as problem areas or bottlenecks in daily operations, perceptions and opinions of operational personnel and areas of dissent or confusion.

(e) Management of change. The operator should manage safety risks related to a change. The management of change should be a documented process to identify external and internal change that may have an adverse effect on safety. This process should make use of the operator's existing hazard identification, risk assessment and mitigation processes.

(f) Continuous improvement. The operator should continuously seek to improve its safety performance. Continuous improvement should be achieved through:

(1) proactive and reactive evaluations of facilities, equipment, documentation and procedures through safety audits and surveys;

(2) proactive evaluation of individuals' performance to verify the fulfilment of their safety responsibilities; and

(3) reactive evaluations in order to verify the effectiveness of the system for control and mitigation of risk.

(g) The emergency response plan (ERP)

(1) An ERP that provides the actions to be taken by the operator or specified individuals in an emergency should be established. The ERP should reflect the size, nature and complexity of the activities performed by the operator.

(2) The ERP should ensure:

(i) an orderly and safe transition from normal to emergency operations;

(ii) safe continuation of operations or return to normal operations as soon as practicable; and

(iii) coordination with the ERPs of other organisations, where appropriate.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.200(a)(3) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.020(a)(3) Management system

INTERNAL SAFETY REPORTING SCHEME

(a) The overall purpose of the internal safety reporting scheme is to use reported information to improve the level of the safety performance of the operator, not to attribute blame.

(b) The objectives of the scheme are to:

(1) enable an assessment to be made of the safety implications of each relevant incident and accident, including previous similar occurrences, so that any necessary action can be initiated; and

(2) ensure that knowledge of relevant incidents and accidents is disseminated, so that other persons and operators may learn from them.

(c) The scheme is an essential part of the overall monitoring function. It is complementary to the normal day-to-day procedures and 'control' systems and is not intended to duplicate or supersede any of them. The scheme is a tool to identify those instances where routine procedures have failed.

(d) All occurrence reports judged reportable by the person submitting the report should be retained as the significance of such reports may only become obvious at a later date.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.200(a)(3) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.020(a)(4) Management system

TRAINING AND COMMUNICATION ON SAFETY

(a) Training

(1) All personnel should receive safety training as appropriate for their safety responsibilities.

(2) Adequate records of all safety training provided should be kept.

(b) Communication

(1) The operator should establish communication about safety matters that:

(i) ensures that all personnel are aware of the safety management activities as appropriate for their safety responsibilities;

(ii) conveys safety-critical information, especially relating to assessed risks and analysed hazards;

(iii) explains why particular actions are taken; and

(iv) explains why safety procedures are introduced or changed.

(2) Regular meetings with personnel where information, actions and procedures are discussed may be used to communicate safety matters.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.200(a)(4) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.020(a)(4) Management system

TRAINING ON SAFETY

The safety training programme may consist of self-instruction via various media (newsletters, flight safety magazines, etc.), classroom training, e-learning or similar training provided by training service providers.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.200(a)(4) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.020(a)(5) Management system

MANAGEMENT SYSTEM DOCUMENTATION

(a) The operator's management system documentation should include at least:

(1) a statement signed by the accountable manager to confirm that the operator will continuously work in accordance with the applicable requirements and the operator's documentation, as required by this Annex;

(2) the operator's scope of activities;

(3) the titles and names of persons referred to in points AsOP.AOC.030(a) and (c);

(4) an organisation chart showing the lines of responsibility among the persons referred to in point AsOP.AOC.030;

(5) a general description and location of the facilities referred to in point AsOP.AOC.045;

(6) procedures specifying how the operator ensures compliance with the applicable requirements;

(7) the amendment procedure for the operator's management system documentation.

(b) The operator's management system documentation may be included in a separate manual or in (one of) the manual(s) required by this Regulation. A cross reference should be included.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.200(a)(5) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.020(a)(6) Management system

COMPLIANCE MONITORING — GENERAL

(a) Compliance monitoring. The implementation and use of a compliance monitoring function should enable the operator to monitor compliance with the relevant requirements of this Annex and other applicable annexes.

(1) The operator should specify the basic structure of the compliance monitoring function applicable to the activities conducted.

(2) The compliance monitoring function should be structured according to the size of the operator and the complexity of the activities to be monitored.

(b) Organisations should monitor compliance with the procedures they have designed to ensure that activities are safe. In doing so, they should as a minimum, and where appropriate, monitor compliance with:

(1) the privileges of the operator;

(2) manuals, logs and records;

(3) training standards;

(4) management system procedures and manuals;

(5) activities of the organisation carried out under the supervision of the nominated persons in accordance with point AsOP.AOC.030(c); and

(6) any outsourced activities in accordance with point AsOP.AOC.025, for compliance with the contract.

(c) Organisational set-up

(1) To ensure that the operator continues to meet the requirements of this Annex and other applicable annexes, the accountable manager should designate a compliance monitoring manager. The role of the compliance monitoring manager is to ensure that the activities of the operator are monitored for compliance with the applicable regulatory requirements and any additional requirements as established by the operator, and that these activities are carried out properly under the supervision of the head of the relevant functional area.

(2) The compliance monitoring manager should be responsible for ensuring that the compliance monitoring programme is properly implemented, maintained and continually reviewed and improved.

(3) The compliance monitoring manager should:

(i) have direct access to the accountable manager;

(ii) not be one of the persons referred to in point AsOP.AOC.030(c);

(iii) be able to demonstrate relevant knowledge and background and appropriate experience related to the activities of the operator, including knowledge and experience in compliance monitoring; and

(iv) have access to all parts of the operator and, as necessary, any contracted operator.

(4) In the case of a non-complex operator, this task may be carried out by the accountable manager provided that they have demonstrated their competence as defined in (c)(3)(iii).

(5) In the event that the same person acts as the compliance monitoring manager and the safety manager, the accountable manager, with regard to their direct accountability for safety, should ensure that sufficient resources are allocated to both functions, taking into account the size of the operator and the nature and complexity of its activities.

(6) The independence of the compliance monitoring function should be established by ensuring that audits and inspections are carried out by personnel not responsible for the function, procedure or products being audited.

(7) If more than one person is designated to the compliance monitoring function, the accountable manager should identify the person who acts as the unique focal point (i.e. the ‘compliance monitoring manager’).

(d) Compliance monitoring documentation

(1) Relevant documentation should include the relevant part(s) of the operator's management system documentation.

(2) In addition, relevant documentation should also include:

(i) terminology;

(ii) specified activity standards;

(iii) a description of the operator;

(iv) the allocation of duties and responsibilities;

(v) procedures to ensure regulatory compliance;

(vi) the compliance monitoring programme, reflecting:

(A) the schedule of the monitoring programme;

(B) audit procedures including an audit plan that is implemented, maintained and continually reviewed and improved;

(C) reporting procedures;

(D) follow-up and corrective action procedures; and

(E) the recording system.

(vii) the training syllabus referred to in (e)(2);

(viii) document control.

(e) Training

(1) Correct and thorough training is essential to optimise compliance in every operator. In order for such training to be effective, the operator should ensure that all personnel understand the objectives as laid down in the operator's management system documentation.

(2) Those responsible for managing the compliance monitoring function should receive training on this task. Such training should cover the requirements of compliance monitoring, manuals and procedures related to the task, audit techniques, reporting and recording.

(3) Time should be provided to train all personnel involved in compliance management and for briefing the remainder of the personnel.

(4) The allocation of time and resources should be governed by the volume and complexity of the activities concerned.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.200(a)(6) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.020(a)(6) Management system

AUDIT AND INSPECTION

(a) 'Audit' means a systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which requirements are complied with.

(b) 'Inspection' means an independent documented conformity evaluation using observation and judgement accompanied as appropriate by measurement, testing or gauging, in order to verify compliance with applicable requirements.

Rationale

This proposed GM is equivalent to GM4 ORO.GEN.200(a)(6) of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.020(a)(6) Management system

COMPLIANCE MONITORING PROGRAMME

(a) Typical subject areas for compliance monitoring audits and inspections for operators are, as applicable:

(1) actual flight operations;

(2) ground de-icing/anti-icing;

(3) flight support services;

(4) load control;

(5) technical standards.

(b) Operators monitor compliance with the operational procedures that they have designed to ensure safe operations, airship airworthiness and the serviceability of both operational and safety equipment. In doing so, they, where appropriate, additionally monitor:

(1) operational procedures;

(2) flight safety procedures;

(3) operational control and supervision;

(4) airship performance;

(5) all-weather operations;

(6) communications and navigational equipment and practices;

(7) mass, balance and airship loading;

(8) instruments and safety equipment;

(9) airship ground handling;

(10) flight and duty time limitations, rest requirements and scheduling;

(11) airship maintenance/operations interface;

(12) use of the MEL;

(13) flight crew;

(14) cabin crew;

(15) task specialists;

(16) dangerous goods;

(17) security.

Rationale

This proposed GM is equivalent to GM2 ORO.GEN.200(a)(6) of Regulation (EU) No 965/2012.

GM3 AsOP.AOC.020(a)(6) Management system

COMPLIANCE MONITORING — GENERAL

(a) The organisational set-up of the compliance monitoring function should reflect the size of the operator and the nature and complexity of its activities. The compliance monitoring manager may perform all audits and inspections themselves or appoint one or more auditors by choosing personnel with the related competence as defined in AMC1 AsOP.AOC.020(a)(6). These personnel may be internal or external to the operator.

(b) Regardless of the option chosen, it must be ensured that the independence of the audit function is not affected, in particular in cases where those performing the audit or inspection are also responsible for other functions of the operator.

(c) If external personnel are used to perform compliance audits or inspections:

(1) any such audits or inspections are performed under the responsibility of the compliance monitoring manager; and

(2) the operator remains responsible for ensuring that the external personnel have relevant knowledge, backgrounds and experience as appropriate to the activities being audited or inspected, including knowledge and experience in compliance monitoring.

(d) The operator retains the ultimate responsibility for the effectiveness of the compliance monitoring function, in particular for the effective implementation and follow-up of all corrective actions.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.200(a)(6) of Regulation (EU) No 965/2012.

AsOP.AOC.025 Contracted activities

(a) When contracting or purchasing any services or products as part of its activities, the operator shall ensure:

(1) that the contracted or purchased services or products comply with the applicable requirements; and

(2) that any aviation safety hazards associated with contracted or purchased services or products are considered by the operator’s management system.

(b) When the operator contracts any part of its activity to an organisation that is not itself certified or authorised in accordance with this Annex to carry out such activity, the contracted organisation shall work under the approval of the operator. The contracting organisation shall ensure that the competent authority is given access to the contracted organisation to determine continued compliance with the applicable requirements.

Rationale

This requirement is equivalent to point ORO.GEN.205 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.025 Contracted activities

RESPONSIBILITY WHEN CONTRACTING ACTIVITIES

(a) The operator may decide to contract certain activities to external organisations.

(b) A written agreement should exist between the operator and the contracted organisation clearly defining the contracted activities and the applicable requirements.

(c) The contracted, safety-related activities relevant to the agreement should be included in the operator's safety management and compliance monitoring programmes.

(d) The operator should ensure that the contracted organisation has the necessary resources and competence to undertake the task.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.205 of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.025 Contracted activities

CONTRACTING — GENERAL

(a) Operators may decide to contract certain activities to external organisations for the provision of services related to areas such as:

(1) ground handling;

(2) flight support;

(3) training; and

(4) preparation of manuals.

(b) Contracted activities include all activities that are performed by another organisation either itself declared or certified to carry out such activities or, if not declared or certified, working under the operator's certificate.

(c) The ultimate responsibility for the product or service provided by external organisations always remains with the operator.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.205 of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.025 Contracted activities

RESPONSIBILITY WHEN CONTRACTING ACTIVITIES

(a) Regardless of the status of the contracted organisation, the contracting operator is responsible for ensuring that all contracted activities are subject to hazard identification and risk management as required by point AsOP.AOC.020(a)(3), and to compliance monitoring as required by point AsOP.AOC.020(a)(6).

(b) When the contracted organisation is itself certified to carry out the contracted activities, the operator's compliance monitoring at least checks that the AOC effectively covers the contracted activities.

Rationale

This proposed GM is equivalent to GM2 ORO.GEN.205 of Regulation (EU) No 965/2012.

AsOP.AOC.030 Personnel requirements

(a) The operator shall appoint an accountable manager who has the authority to ensure that all activities that fall within the scope of this Regulation can be financed and carried out in accordance with the essential requirements set out in Annex V to Regulation (EU) 2018/1139 and with the requirements of this Regulation. The accountable manager shall be responsible for establishing and maintaining an effective management system.

(b) The operator shall:

(1) identify the responsibilities of its personnel for all tasks and activities to be performed;

(2) have sufficient qualified personnel to carry out those tasks and activities; and

(3) maintain appropriate experience, qualification and training records of its personnel.

(c) The operator shall nominate one or more persons responsible for the management and supervision of the following areas:

(1) flight operations;

(2) crew training;

(3) airship ground handling;

(4) continuing airworthiness, in accordance with Regulation (EU) No 1321/2014.

Rationale

This requirement is equivalent to points ORO.GEN.210 and ORO.AOC.135 of Regulation (EU) No 965/2012. Some adaptations and simplifications have been made.

Airship ground handling is a key safety area for airship operations; therefore, airship ground handling requires dedicated and properly qualified management.

AMC1 AsOP.AOC.030(c) Personnel requirements

NOMINATED PERSONS

(a) A description of the functions and the responsibilities of the nominated persons, including their names, should be contained in the operations manual.

(b) The operator should make arrangements to ensure continuity of supervision in the absence of the nominated persons.

(c) A person nominated by the operator, who has already been nominated by another operator, may be acceptable subject to the agreement of the competent authorities concerned.

(d) Nominated persons should work sufficient hours to fulfil the management functions associated with the scale and scope of the operation.

(e) One person may hold more than one of the nominated posts if such an arrangement is considered suitable and properly matched to the scale and scope of the operation.

(f) The acceptability of a single person holding several posts, possibly in combination with being the accountable manager, should depend upon the nature and scale of the operation. The two main areas of concern should be competence and the individual's capacity to fulfil their responsibilities.

(g) As regards competence in different areas of responsibility, there should not be any difference from the requirements applicable to persons holding only one post.

(h) The capacity of an individual to meet their responsibilities should primarily be dependent upon the scale of the operation. However, the complexity of the organisation or of the operation may prevent, or limit, combinations of posts that may be acceptable in other circumstances.

Rationale

This proposed AMC is equivalent to AMC1 ORO.AOC.135(a) and AMC2 ORO.AOC.135(a) of Regulation (EU) No 965/2012 and AMC1 BOP.ADD.040(c) of Regulation (EU) 2018/395.

AMC2 AsOP.AOC.030(c) Personnel requirements

COMPETENCE OF NOMINATED PERSONS

(a) Nominated persons in accordance with point AsOP.AOC.030 should possess the experience and meet the licensing provisions, if any are applicable, that are listed below in points (b) to (f). In particular cases, the competent authority may accept a nomination that does not meet these provisions in full. In that case, the nominee should have comparable experience and also the ability to effectively perform the functions associated with the post and with the scale of the operation.

(b) Nominated persons should have:

(1) practical experience and expertise in the application of aviation safety standards and safe operating practices;

(2) comprehensive knowledge of:

(i) the applicable EU safety regulations and any associated requirements and procedures; and

(ii) the need for, and content of, the relevant parts of the operations manual;

(3) three years of relevant work experience.

(c) Flight operations

(1) The nominated person should hold or have held a valid flight crew licence and the associated ratings appropriate to the relevant type of operation. If the nominated person's licence and ratings are not current, their deputy should hold a valid flight crew licence and the associated ratings.

(2) Alternatively, the nominated person should have demonstrated in another manner thorough knowledge of the relevant flight operations.

(d) Crew training. The nominated person should have a thorough knowledge of airship operations, as well as of the AOC holder's crew training concept for flight, cabin and ground crew and other crew, when relevant.

(e) Airship ground handling. The nominated person should have a thorough knowledge of the airship operator's ground-handling concept.

(f) Continuing airworthiness. The nominated person should have the relevant knowledge and meet the appropriate experience requirements related to airship continuing airworthiness as detailed in Regulation (EU) No 1321/2014.

Rationale

This proposed AMC is equivalent to GM2 ORO.AOC.135 of Regulation (EU) No 965/2012. Considering the content of this provision, it was decided that it should be classified as AMC; however, the minimum experience has been adjusted considering the airship domain.

AsOP.AOC.035 Responsibilities of task specialists

(a) The task specialist shall be responsible for the proper execution of their duties. Task specialists' duties shall be specified in the operations manual.

(b) The task specialist shall not perform duties on an airship when incapacitated by any cause, including injury, sickness, medication, fatigue or the effects of any psychoactive substance, or if they feel otherwise unfit.

(c) During critical phases of the flight or whenever deemed necessary by the pilot-in-command in the interest of safety, the task specialist shall be restrained at their assigned station, unless otherwise specified in the operations manual.

(d) The task specialist shall ensure that they are restrained when carrying out specialised tasks with external doors opened or removed, unless otherwise specified in the operations manual.

(e) The task specialist shall report to the pilot-in-command:

(1) any fault, failure, malfunction or defect that they believe may affect the airworthiness or safe operation of the aircraft, including emergency systems; and

(2) any incident that endangered, or could endanger, the safety of the operation.

Rationale

This requirement is equivalent to point SPO.GEN.106 of Regulation (EU) No 965/2012, with some additions. It is equivalent to the provision on the responsibilities of flight and cabin crew members included in point AsOP.BAS.040. Refer to AMC1 and GM1 to this provision for descriptions of the role and responsibilities typically assigned to a task specialist.

AMC1 AsOP.AOC.035 Responsibilities of task specialists

Task specialists are required to operate specific systems on board as necessary to perform the intended operation. Their responsibilities for these systems should be to follow the operations manual of the operator. The operator should ensure that the task specialist is briefed as necessary to assist the flight crew based on the operations manual, including performing functions such as, but not limited to:

— assistance on the ground for flight preparation, as relevant;

— monitoring and recording of relevant aircraft or system parameters;

— reading and performing checklists as relevant as possible to the intended operation.

The task specialist should be familiar with coordination with the flight crew to ensure that they can report any element contributing to the flight safety.

Task specialists involved in the operation should be able to communicate with the pilot-in-command in the environment in which they perform their duties. If specific communications equipment is used, knowledge of and training in this equipment should be achieved before starting any operation requiring its use.

When specific risks are identified for operations and are related to the activity of the task specialist, personal protective equipment should be used adequately.

Rationale

This proposed AMC has been drafted to facilitate compliance with the task specialist concept in airship operations.

AsOP.AOC.040 Safety briefing of task specialists

(a) Before take-off, the pilot-in-command shall brief task specialists on:

(1) emergency equipment and procedures;

(2) operational procedures associated with the specialised task.

(b) The briefing referred to in (a)(2) shall be done before each flight or series of flights unless task specialists have been fully instructed on the operational procedures before the start of the operating season in that calendar year.

Rationale

This requirement is equivalent to point NCO.SPEC.125 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.040 Safety briefing of task specialists

TASK SPECIALISTS

(a) Safety briefings should ensure that task specialists are familiar with all aspects of the operation, including their responsibilities.

(b) Such briefings should include, as appropriate:

(1) behaviour on the ground and in-flight, including emergency procedures;

(2) procedures for boarding and disembarking;

(3) procedures for loading and unloading the airship;

(4) use of doors in normal and emergency operations;

(5) use of communications equipment and hand signals;

(6) precautions in the event of a landing on sloping ground; and

(7) in addition, before take-off:

(i) location of emergency exits;

(ii) restrictions regarding smoking;

(iii) restrictions regarding the use of portable electronic equipment;

(iv) stowage of tools and hand baggage.

(c) Briefings may be given as a verbal presentation or by issuing the appropriate procedures and instructions in written form. Before commencement of the flight, their understanding should be confirmed.

Rationale

This proposed AMC is equivalent to AMC1 NCO.SPEC.125 of Regulation (EU) No 965/2012.

AsOP.AOC.045 Facility requirements

The airship operator shall have facilities that are sufficient to allow the performance and management of all tasks and activities required to ensure compliance with the essential requirements set out in Annex V to Regulation (EU) 2018/1139 and with the requirements of this Regulation.

Rationale

This requirement is equivalent to point ORO.GEN.215 of Regulation (EU) No 965/2012.

AsOP.AOC.050 Authority of the pilot-in-command

In addition to point AsOP.BAS.045, the operator shall take all reasonable measures to ensure that all persons carried in the airship obey all lawful commands given by the pilot-in-command for the purpose of securing the safety of the airship and of persons or property carried therein.

Rationale

This requirement is equivalent to point CAT.GEN.MPA.110 of Regulation (EU) No 965/2012.

Section 2 — Air operator certificate, airworthiness and leasing

AsOP.AOC.100 Application for an air operator certificate

(a) Without prejudice to Regulation (EC) No 1008/2008 of the European Parliament and the Council, prior to commencing operations with airships under this Annex, the operator shall apply for and obtain an AOC issued by the competent authority.

(b) The application for an AOC or an amendment to an existing certificate shall be made in a form and manner established by the competent authority, taking into account the applicable requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts.

(c) The operator shall provide the following to the competent authority:

(1) the official name and business name, address and mailing address of the applicant;

(2) a description of the proposed operation, including the type(s), and number of airships to be operated;

(3) a description of the management system, including organisational structure;

(4) the name of the accountable manager;

(5) the names of the nominated persons required by point AsOP.AOC.030(c) together with their qualifications and experience;

(6) a copy of the operations manual required by point AsOP.AOC.200;

(7) the operator's security programme required by Regulation (EC) No 300/2008, including security training; the security programme shall be adapted to the type and area of operation, as well as to the airships operated;

(8) a statement that all the documentation sent to the competent authority has been verified by the applicant and found to be in compliance with the applicable requirements.

(d) Applicants shall demonstrate to the competent authority that:

(1) they comply with all the essential requirements of Annex V to Regulation (EU) 2018/1139, Annex I (Part-AsOP.BAS) and Annex II (Part-AsOP.AOC) to this Regulation, the applicable requirements of Annex V (Part-SPA) to Regulation (EU) No 965/2012, Annex I (Part 26) to Regulation (EU) 2015/640 and the AsOP.FTL Regulation;

(2) all airships operated have a CofA in accordance with Regulation (EU) No 748/2012 or are dry-leased in accordance with point AsOP.AOC.125; and

(3) their organisation and management is suitable and properly matched to the scale and scope of the intended operation.

(e) Applicants for an initial certificate, when providing the competent authority with documentation demonstrating how they will comply with the requirements established in Regulation (EU) 2018/1139 and its delegated and implementing acts, shall also present a procedure describing how changes not requiring prior approval will be managed and how the competent authority will be notified of them.

Rationale

This requirement is equivalent to points ORO.GEN.115 and ORO.AOC.100 of Regulation (EU) No 965/2012. It also contains the elements in AMC1 ORO.AOC.100(a) of the same regulation, which are proposed to be upgraded to the rule level for legal clarity.

AMC1 AsOP.AOC.100 Application for an air operator certificate

APPLICATION TIME FRAMES

The application for the initial issue of an AOC should be submitted at least 90 days before the intended start date of operation. The operations manual may be submitted later but, in any case, not later than 60 days before the intended start date of operation.

Rationale

This proposed AMC is equivalent to AMC1 ORO.AOC.100 of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.100(d) Application for an air operator certificate

CERTIFICATE OF AIRWORTHINESS

A CofA means either a CofA issued in accordance with point 21.B.326 or a restricted CofA issued in accordance with point 21.B.327 of Regulation (EU) No 748/2012.

Rationale

This proposed GM is equivalent to GM1 ORO.AOC.100(c) of Regulation (EU) No 965/2012.

AsOP.AOC.105 Terms of approval

(a) The privileges of the airship operator, including those granted in accordance with Annex V (Part-SPA) to Regulation (EU) No 965/2012, shall be specified in the operations specifications attached to the operator's certificate.

(b) A certified airship operator shall comply with the scope and privileges defined in the operations specifications of the certificate.

Rationale

This requirement is equivalent to points ORO.AOC.105 and ORO.GEN.125 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.105 Terms of approval

MANAGEMENT SYSTEM DOCUMENTATION

The management system documentation should contain the privileges and detailed scope of activities for which the airship operator is certified, as relevant to the applicable requirements. The scope of activities defined in the management system documentation should be consistent with the terms of approval.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.125 of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.105 Terms of approval

TYPE OF MISSIONS

For airships engaged in commercial operations and for large airships, in contrast to aeroplanes and helicopters, there is no sharp differentiation between what is commonly referred to as CAT and specialised operations. The principle is that these two categories of operations are included in the airship operator's AOC.

Examples of typical privileges granted with the airship AOC are given in the following illustrative, non-exhaustive list:

(a) passenger transportation,

(b) mail transportation,

(c) cargo transportation,

(d) external load operations,

(e) survey operations,

(f) observation and patrol flights,

(g) aerial advertisement,

(h) photography flights,

(i) agricultural flights,

(j) scientific research flights,

(k) news media, television and movie flights,

(l) special events flights,

(m) parachute dropping, and

(n) construction work flights.

Rationale

This proposed GM has been drafted to explain the overall approach implemented in Annex II (Part-AsOP.AOC) with some practical examples of expected privileges that may be granted to airship operators.

AsOP.AOC.110 Changes related to an air operator certificate holder

(a) Prior approval by the competent authority shall be required for any change affecting:

(1) the scope of the certificate or the operations specifications of the airship operator; or

(2) any of the elements of the operator's management system as required in point AsOP.AOC.020.

(b) For any changes requiring prior approval in accordance with Regulation (EU) 2018/1139 and its delegated and implementing acts, the operator shall apply for and obtain an approval issued by the competent authority. The application shall be submitted before any such change takes place, in order to enable the competent authority to determine continued compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts and to amend, if necessary, the operator certificate and related terms of approval attached to it.

The operator shall provide the competent authority with any relevant documentation.

The change shall only be implemented upon receipt of formal approval by the competent authority in accordance with point ARO.GEN.330 of Regulation (EU) No 965/2012.

The operator shall operate under the conditions prescribed by the competent authority during such changes, as applicable.

(c) All changes not requiring prior approval shall be managed, and the competent authority shall be notified of them, as defined in the procedure approved by the competent authority in accordance with point ARO.GEN.310(c) of Regulation (EU) No 965/2012.

Rationale

This requirement is equivalent to point ORO.GEN.130 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.110 Changes related to an air operator certificate holder

MANAGEMENT OF CHANGES REQUIRING PRIOR APPROVAL

For changes requiring prior approval, the operator should conduct a safety risk assessment and provide it to the competent authority upon request.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.130(b) of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.110 Changes related to an air operator certificate holder

APPLICATION TIME FRAMES

(a) The application for the amendment of an AOC should be submitted at least 30 days before the date of the intended changes.

(b) In the case of a planned change of a nominated person in accordance with point AsOP.AOC.030(c), the operator should inform the competent authority at least 20 days before the date of the proposed change.

(c) The competent authority should be notified of unforeseen changes at the earliest opportunity, in order to enable it to determine continued compliance with the applicable requirements and to amend, if necessary, the AOC and related terms of approval.

Rationale

This proposed AMC is equivalent to AMC1 ORO.GEN.130 of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.110(a) Changes related to an air operator certificate holder

GENERAL

(a) Typical examples of changes that may affect the AOC or the operations specifications of the operator's management system, as required in points AsOP.AOC.020(a)(1) and AsOP.AOC.020(a)(2), are:

(1) the name of the operator;

(2) the legal entity;

(3) the operator's principal place of business;

(4) the operator's scope of activities;

(5) additional locations of the operator;

(6) the accountable manager referred to in point AsOP.AOC.030(a);

(7) reporting lines between the accountable manager and the nominated person;

(8) the operator's documentation, as required by this Annex, safety policy and procedures;

(9) the facilities.

(b) Prior approval by the competent authority is required for any changes to the operator's procedure describing how changes not requiring prior approval will be managed and how the competent authority will be notified of them.

(c) Changes requiring prior approval may only be implemented upon receipt of formal approval by the competent authority.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.130(a) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.110(b) Changes related to an air operator certificate holder

CHANGES REQUIRING PRIOR APPROVAL

This GM is a non-exhaustive checklist of items that require prior approval by the competent authority as specified in the applicable implementing rules:

(a) alternative means of compliance;

(b) procedures regarding items that the competent authority shall be notified of;

(c) flight crew:

(1) procedures for flight crew to operate on more than one aircraft type or variant;

(2) training and checking programmes, including syllabi and use of flight simulation training devices (FSTDs);

(3) minimum composition of flight crew and associated risk assessments, in accordance with point AsOP.AOC.300(c)(3);

(d) cabin crew:

(1) conduct of the training, examination and checking required by Annex V (Part-CC) to Regulation (EU) No 1178/2011 and issue of cabin crew attestations;

(2) procedures for cabin crew to operate on four aircraft types;

(3) training programmes, including syllabi;

(e) non-commercial operations with airships with an MOPSC of more than 19 that may be performed without an operating cabin crew member;

(f) leasing agreements;

(g) individual flight time specification schemes and any change to them;

(h) procedures related to halt periods and life on board;

(i) any changes to the MEL;

(j) specific approvals in accordance with Annex V (Part-SPA) to Regulation (EU) No 965/2012;

(k) dangerous goods training programmes.

Rationale

This proposed GM is equivalent to GM1 ORO.GEN.130(b) of Regulation (EU) No 965/2012.

AsOP.AOC.115 Continued validity of an air operator certificate

(a) The operator's certificate shall remain valid subject to all of the following:

(1) the operator remaining in compliance with the relevant requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts, taking into account the provisions related to the handling of findings as specified under point AsOP.BAS.010(e) of Annex I;

(2) the competent authority being granted access to the operator as defined in points AsOP.BAS.010(c) and (d) of Annex I and point AsOP.AOC.025 of this Annex to determine continued compliance with the relevant requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts;

(3) the certificate not being surrendered or revoked.

(b) Upon revocation or surrender, the certificate shall be returned to the competent authority without delay, where relevant.

Rationale

This requirement is equivalent to point ORO.GEN.135 of Regulation (EU) No 965/2012. The wording 'where relevant' is proposed to be added at the end of point (b) to cover the case of digital certificates.

AsOP.AOC.125 Leasing of an airship

Any lease-in

(a) Without prejudice to Regulation (EC) No 1008/2008, any lease-in agreement concerning airships used by an operator shall be subject to prior approval by the competent authority.

(b) The operator shall not lease-in airships included in the list of operators subject to operational restrictions, registered in a State in which all operators under its oversight are subject to an operating ban or from an operator that is subject to an operating ban pursuant to Regulation (EC) No 2111/2005.

Wet lease-in

(c) An applicant for an approval of a wet lease-in of an airship registered in a third country shall demonstrate to the competent authority that the level of safety resulting from the application of the safety standards with regard to continuing airworthiness and air operations to which the third-country operator of the airship is subject is at least equivalent to that resulting from the application of the requirements of Annex I to Regulation (EU) No 1321/2014 and of this Regulation.

Dry lease-in

(d) An applicant for an approval of a dry lease-in of an airship registered in a third country shall demonstrate to the competent authority:

(1) compliance with the essential requirements relating to continuing airworthiness set out in Annexes II and V to Regulation (EU) 2018/1139 and with the requirements of this Regulation;

(2) that an operational need has been identified that cannot be satisfied through leasing an airship registered in the EU;

(3) that the duration of the dry lease-in does not exceed 7 months in any period of 12 consecutive months;

(4) that the aircraft is equipped in accordance with this Regulation.

Rationale

The requirements of leasing are an adaptation of the existing point ARO.OPS.110 in Regulation (EU) No 965/2012. There have been no known cases of wet leasing or dry leasing between two airship operators. This proposal takes into consideration the only known types of leasing performed by the currently existing airship operators. It is assumed that leasing agreements between two airship operators is only a remote theoretical possibility.

AMC1 AsOP.AOC.125 Leasing of an airship

GENERAL

(a) The operator intending to lease-in an airship should provide the competent authority with:

(1) the name and address of the registered owner;

(2) a copy of the valid CofA;

(3) a copy of the lease agreement or description of the lease provisions, except financial arrangements;

(4) duration of the lease; and

(5) in the case of wet lease-in, a copy of the AOC of the third-country operator and its operations specifications, if they exist.

(b) The information mentioned above should be accompanied by a statement signed by the lessee that the parties to the lease agreement fully understand their respective responsibilities under the applicable regulations.

Rationale

This proposed AMC is equivalent to AMC1 ORO.AOC.110 of Regulation (EU) No 965/2012 and AMC1 BOP.ADD.115 of Regulation (EU) 2018/395.

Section 3 — Manuals and records

AsOP.AOC.200 Operations manual

(a) The airship operator shall establish an operations manual.

(b) The content of the operations manual shall reflect the requirements set out in this Regulation and, if applicable, Subpart G of Annex V (Part-SPA) to Regulation (EU) No 965/2012, and shall not contravene the conditions contained in the operations specifications to the AOC.

(c) The operations manual may be established as separate parts.

(d) All operations personnel of the operator shall have easy access to the portions of the operations manual that are relevant to their duties.

(e) The operations manual shall be kept up to date. All personnel of the operator shall be made aware of any amendments of the operations manual that are relevant to the performance of their duties.

(f) The operator shall ensure that any information used as the basis for the content of the operations manual and any amendment thereof is correctly reflected in the operations manual. This does not prevent the operator from publishing more conservative data and procedures in the operations manual.

(g) The operator shall ensure that all personnel are able to understand the language used in those parts of the operations manual that are relevant to their duties. The content of the operations manual shall be presented in a form that can be used without difficulty.

(h) Each crew member shall be provided with a personal copy of the sections of the operations manual pertaining to their duties. Each holder of an operations manual, or appropriate parts of it, shall be responsible for keeping their copy up to date with the amendments or revisions supplied by the operator.

(i) For amendments that the competent authority is required to be notified of in accordance with point AsOP.AOC.110, the operator shall supply the competent authority with the intended

amendments in advance of the effective date.

(j) For amendments to procedures associated with prior approval items in accordance with point AsOP.AOC.110, approval shall be obtained before the amendment becomes effective.

(k) Notwithstanding (i) and (j), when immediate amendments or revisions are required in the interest of safety, they may be published and applied immediately, provided that any approval required has been applied for.

(l) The operator shall incorporate all amendments and revisions required by the competent authority.

Rationale

This requirement is equivalent to point ORO.MLR.100 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.200 Operations manual

GENERAL

(a) The operations manual may vary in detail depending on the complexity of the operation and of the type of airships operated.

(b) The operations manual, or parts thereof, may be presented in any form, including electronic form. In all cases, the accessibility, usability and reliability should be assured.

(c) The operations manual should be such that:

(1) all its parts are consistent and compatible in form and content;

(2) it can be easily amended; and

(3) its content and amendment status is controlled and clearly indicated.

(d) The operations manual should include a description of its amendment and revision process, specifying:

(1) the person(s) who may approve amendments or revisions;

(2) the conditions for amendments and revisions; and

(3) the methods by which operator personnel are advised of the changes.

(e) The operations manual content may be based on, or may refer to, industry codes of practice.

(f) When compiling an operations manual, the operator may take advantage of the contents of other relevant documents. Material produced by the operator for the type-related part of the operations manual may be supplemented with, or substituted by, applicable parts of the AFM or, where such a document exists, by an operating manual produced by the manufacturer of the airship.

(g) If the operator chooses to use material from another source in the operations manual, either the applicable material should be copied and included directly in the relevant part of the operations manual, or the operations manual should contain a reference to the appropriate section of that applicable material. In the latter case, the operator should make available the applicable material to the personnel.

(h) If the operator chooses to make use of material from another source (e.g. a route manual producer, an airship manufacturer or a training organisation), this does not absolve the operator from the responsibility of verifying the applicability and suitability of this material. Any material received from an external source should be identified as such by a statement in the operations manual.

Rationale

This proposed AMC is equivalent to AMC1 ORO.MLR.100 of Regulation (EU) No 965/2012 and AMC1 BOP.ADD.200 of Regulation (EU) 2018/395.

AMC2 AsOP.AOC.200 Operations manual

CONTENT

(a) The operations manual should contain at least the following information, where applicable, as relevant for the area and type of operation.

A. General/basic

0. Administration and control of the operations manual

0.1. Introduction

(a) A statement that the manual complies with all applicable regulations and with the terms and conditions of the applicable AOC.

(b) A statement that the manual contains operational instructions that are to be complied with by the relevant personnel.

(c) A list and brief description of the various parts, their contents, applicability and use.

(d) Explanations and definitions of terms and words needed for the use of the manual.

0.2 System of amendment and revision

(a) Details of the person(s) responsible for the issuance and insertion of amendments and revisions.

(b) A record of amendments and revisions with insertion dates and effective dates.

(c) A statement that handwritten amendments and revisions are not permitted, except in situations requiring immediate amendment or revision in the interest of safety.

(d) A description of the system for the annotation of pages or paragraphs and their effective dates.

(e) A list of effective pages or paragraphs.

(f) Annotation of changes (in the text and, as far as practicable, on charts and diagrams).

(g) Temporary revisions.

(h) A description of the distribution system for the manuals, amendments and revisions.

1. Organisation and responsibilities

1.1. Organisational structure. A description of the organisational structure, including the general organisation chart and operations departments' organograms. The organisation chart should depict the relationship between the operations departments and the other departments of the operator. In particular, the subordination and reporting lines of all divisions, departments, etc. that pertain to the safety of flight operations should be shown.

1.2. Nominated persons. The name of each nominated person responsible for flight operations, crew training and ground handling, as prescribed in point AsOP.AOC.030. A description of their function and responsibilities should be included.

1.3. Responsibilities and duties of operations management personnel. A description of the duties, responsibilities and authority of operations management personnel pertaining to the safety of flight operations and compliance with the applicable regulations.

1.4. Authority, duties and responsibilities of the pilot-in-command. A statement defining the authority, duties and responsibilities of the pilot-in-command.

1.5. Duties and responsibilities of crew members other than the pilot-in-command.

2. Operational control and supervision

2.1. Supervision of the operation by the operator. A description of the system for supervision of the operation by the operator (see point AsOP.AOC.005). This should show how the safety of flight operations and the qualifications of personnel are supervised. In particular, the procedures related to the following items should be described:

(a) licence and qualification validity,

(b) competence of operations personnel,

(c) control, analysis and storage of the required records.

2.2. System and responsibility for promulgation of additional operational instructions and information. A description of any system for promulgating information that may be of an operational nature, but that is supplementary to that in the operations manual. The applicability of this information and the responsibilities for its promulgation should be included.

2.3. Operational control. A description of the system, processes, procedures and responsibilities necessary to exercise operational control with respect to flight safety, including but not limited to:

(a) responsibilities for the initiation, continuation, diversion and termination of flights;

(b) risk management when intending to operate over or near conflict zones and other external threats;

(c) aircraft tracking and locating an aeroplane in distress, when applicable.

2.4. Powers of the authority. A description of the powers of the competent authority and guidance to staff on how to facilitate inspections by authority personnel.

3. Management system

A description of the management system, including at least:

(a) the safety policy;

(b) the process for identifying safety hazards and for evaluating and managing the associated risks;

(c) the compliance monitoring system;

(d) the allocation of duties and responsibilities;

(e) documentation of all key management system processes.

4. Crew composition

4.1. Crew composition. An explanation of the method for determining crew composition, taking account of:

(a) the type of airship being used;

(b) the area and type of operation being undertaken;

(c) the phase of the flight;

(d) the minimum crew requirement and flight duty period planned;

(e) experience (total and in the type of operation), recency and qualification of the crew members;

(f) the designation of the pilot-in-command and, if necessitated by the duration of the flight, the procedures for the relief of the pilot-in-command or other members of the flight crew (see point AsOP.AOC.306);

(g) the designation of the senior cabin crew member and, if necessitated by the duration of the flight, the procedures for the relief of the senior cabin crew member and any other member of the cabin crew.

4.2. Designation of the pilot-in-command. The rules applicable to the designation of the pilot-in-command.

4.3. Flight crew incapacitation. Instructions on the succession of command in the event of flight crew incapacitation.

4.4. Operation on more than one type. A statement indicating which aircraft are considered to be one type for the purposes of:

(a) flight crew scheduling; and

(b) cabin crew scheduling.

5. Qualification requirements

5.1. A description of the required licence, rating(s), qualification/competency (e.g. for routes and aerodromes), experience, training, checking and recency for operations personnel to conduct their duties. Consideration should be given to the aircraft type, type of operation and composition of the crew.

5.2. Flight crew:

(a) pilot-in-command,

(b) pilot relieving the pilot-in-command,

(c) co-pilot,

(d) pilot relieving the co-pilot,

(e) pilot under supervision,

(f) system panel operator,

(g) operation on more than one aircraft type or variant.

5.3. Cabin crew:

(a) senior cabin crew member,

(b) cabin crew member:

(i) required cabin crew member,

(ii) additional cabin crew member and cabin crew member during familiarisation flights,

(c) operation on more than one aircraft type or variant.

5.4. Training, checking and supervision personnel:

(a) for flight crew; and

(b) for cabin crew.

5.5. Other operations personnel (including technical crew and crew members other than flight, cabin and technical crew).

6. Crew health precautions

The relevant regulations and guidance to crew members concerning health, including the following:

(a) alcohol and other intoxicating liquids,

(b) narcotics,

(c) drugs,

(d) sleeping tablets,

(e) anti-depressants,

(f) pharmaceutical preparations,

(g) immunisation,

(h) deep-sea diving,

(i) blood / bone marrow donation,

(j) meal precautions prior to and during flight,

(k) sleep and rest,

(l) surgical operations.

7. Flight time limitations

7.1. Flight and duty time limitations and rest requirements.

7.2. Exceedance of flight and duty time limitations and/or reductions of rest periods. Conditions under which flight and duty time may be exceeded or rest periods may be reduced, and the procedures used to report these modifications.

8. Operating procedures

8.1. Flight preparation instructions. The below should be included, as applicable to the operation.

8.1.1. Minimum flight altitudes. A description of the method of determination and application of minimum altitudes, including:

(a) a procedure to establish the minimum altitudes / flight levels for VFR flights; and

(b) a procedure to establish the minimum altitudes / flight levels for IFR flights.

8.1.2. Criteria and responsibilities for determining the adequacy of aerodromes to be used.

8.1.3. Methods and responsibilities for establishing aerodrome operating minima. Reference should be made to procedures for the determination of the visibility and/or RVR and for the applicability of the actual visibility observed by the pilots, the reported visibility and the reported RVR.

8.1.4. En route operating minima for VFR flights or VFR portions of a flight and, where single-engine aircraft are used, instructions for route selection with respect to the availability of surfaces that permit a safe forced landing.

8.1.5. Presentation and application of aerodrome and en route operating minima.

8.1.6. Interpretation of meteorological information. Explanatory material on the decoding of meteorological forecasts and meteorological reports relevant to the area of operations, including the interpretation of conditional expressions.

8.1.7. Determination of the quantities of fuel, oil and water methanol carried. The methods by which the quantities of fuel, oil and water methanol to be carried are determined and monitored in-flight. This section should also include instructions on the measurement and distribution of the fluid carried on board. Such instructions should take account of all circumstances likely to be encountered on the flight, including the possibility of in-flight replanning and of failure of one or more of the aircraft's power plants. The system for maintaining fuel and oil records should also be described.

8.1.8. Mass, heaviness and centre of gravity. The general principles of mass, heaviness and centre of gravity, including:

(a) definitions;

(b) methods, procedures and responsibilities for preparation and acceptance of mass, heaviness and centre-of-gravity calculations;

(c) the policy for using standard and/or actual masses;

(d) the method for determining the applicable passenger, baggage and cargo masses;

(e) the applicable passenger and baggage masses for the type(s) of operations and airship type;

(f) general instructions and information necessary for verification of the various types of mass, heaviness and balance documentation in use;

(g) last-minute changes procedures;

(h) specific gravity of fuel, oil and water methanol, if applicable;

(i) seating policy/procedures.

8.1.9. ATS flight plan. Procedures and responsibilities for the preparation and submission of the ATS flight plan. Factors to be considered include the means of submission for both individual and repetitive flight plans.

8.1.10. Operational flight plan. Procedures and responsibilities for the preparation and acceptance of the operational flight plan. The use of the operational flight plan should be described, including samples of the operational flight plan formats in use.

8.1.11. Operator's aircraft technical log. The responsibilities and use of the operator's aircraft technical log should be described, including samples of the format used.

8.1.12. List of documents, forms and additional information to be carried.

8.2. Ground-handling instructions. The following should be included, as applicable to the operation.

8.2.1. Fuelling procedures. A description of fuelling procedures, including:

(a) safety precautions during refuelling and defuelling including when an aircraft auxiliary power unit is in operation or when an engine is running;

(b) refuelling and defuelling when passengers are embarking, on board or disembarking; and

(c) precautions to be taken to avoid mixing fuels.

8.2.2. Airship-, passenger- and cargo-handling procedures related to safety. A description of the handling procedures to be used when allocating seats, when embarking and disembarking passengers and when loading and unloading the aircraft. Further procedures, aiming to achieve safety while the airship is on the ground, should also be given. Airship ground-handling procedures should include:

(a) special categories of passengers, including children/infants, persons with reduced mobility, inadmissible passengers, deportees and persons in custody;

(b) permissible size and weight of hand baggage;

(c) loading and securing of items in the airship;

(d) positioning of ground equipment;

(e) operation of airship doors;

(f) safety on the aerodrome or operating site, including fire prevention and safety in blast and suction areas;

(g) start-up and ramp departure and arrival procedures, including masting, demasting and towing operations;

(h) servicing of the airship;

(i) documents and forms for airship handling;

(j) special loads and classification of load compartments; and

(k) multiple occupancy of airship seats.

8.2.3. Procedures for the refusal of embarkation. Procedures to ensure that persons who appear to be intoxicated, or who demonstrate by manner or physical indications that they are under the influence of drugs, are refused embarkation. This does not apply to medical patients under proper care.

8.2.4. De-icing and anti-icing on the ground. A description of the de-icing and anti-icing policy and procedures for aircraft on the ground. These should include descriptions of the types and effects of icing and other contaminants on the airship while stationary, during ground movements and during take-off. In addition, a description of the fluid types used should be given, including the following:

(a) proprietary or commercial names,

(b) characteristics,

(c) effects on airship performance,

(d) holdover times,

(e) precautions during usage.

8.3. Flight procedures

8.3.1. VFR/IFR policy. A description of the policy for allowing flights to be made under VFR, or for requiring flights to be made under IFR, or for changing from one to the other.

8.3.2. Navigation procedures. A description of all navigation procedures, relevant to the type(s) and area(s) of operation. Special consideration should be given to:

(a) standard navigational procedures, including the policy for carrying out independent cross-checks of keyboard entries where these affect the flight path to be followed by the aircraft;

(b) PBN, polar navigation and navigation in other designated areas;

(c) in-flight replanning;

(d) procedures in the event of system degradation.

8.3.3. Altimeter setting procedures, including, where appropriate, use of:

(a) metric altimetry and conversion tables; and

(b) QFE operating procedures.

8.3.4. Altitude alerting system procedures.

8.3.5. Procedures and instructions required for the avoidance of controlled flight into terrain, including limitations on high rate of descent near the surface.

8.3.6. Reserved.

8.3.7. Policy and procedures for in-flight fuel/energy management.

8.3.8. Adverse and potentially hazardous atmospheric conditions. Procedures for operating in, and/or avoiding, and reporting on, adverse and potentially hazardous atmospheric conditions, including the following:

(a) thunderstorms,

(b) icing conditions,

(c) turbulence,

(d) windshear,

(e) jet stream,

(f) volcanic ash clouds,

(g) heavy precipitation,

(h) sandstorms,

(i) mountain waves,

(j) significant temperature inversions.

8.3.9. Wake turbulence. Wake turbulence separation criteria, taking into account aircraft types, wind conditions and runway / final approach and take-off area location.

8.3.10. Crew members at their stations. The requirements for crew members to occupy their assigned stations or seats during the different phases of flight or whenever deemed necessary in the interest of safety, including procedures for controlled rest in the flight crew compartment.

8.3.11. Use of restraint devices for crew and passengers. The requirements for crew members and passengers to use safety belts and/or restraint systems during the different phases of flight or whenever deemed necessary in the interest of safety.

8.3.12. Admission to the flight crew compartment. The conditions for the admission to the flight crew compartment of persons other than the flight crew. The policy regarding the admission of inspectors from an authority should also be included.

8.3.13. Use of vacant crew seats. The conditions and procedures for the use of vacant crew seats.

8.3.14. Incapacitation of crew members. Procedures to be followed in the event of incapacitation of crew members in-flight. Examples of the types of incapacitation and the means for recognising them should be included.

8.3.15. Cabin safety requirements. Procedures:

(a) covering cabin preparation for flight, in-flight requirements and preparation for landing, including procedures for securing the cabin and galleys;

(b) to ensure that passengers are seated where, in the event that an emergency evacuation is required, they may best assist and not hinder evacuation from the airship;

(c) to be followed during passenger embarkation and disembarkation;

(d) when refuelling/defuelling with passengers embarking, on board or disembarking;

(e) covering the carriage of special categories of passengers;

(f) covering smoking on board;

(g) covering the evaluation, based on the presence of fever and certain other signs or symptoms, and handling of suspected infectious diseases, including the transmission of a general declaration to the relevant authorities, if required.

8.3.16. Passenger briefing procedures. The contents, means and timing of passenger briefing in accordance with point AsOP.BAS.115.

8.3.17. Procedures for airships operated whenever required cosmic or solar radiation detection equipment is carried.

8.3.18. Policy on the use of autopilot and autothrottle for aircraft fitted with these systems.

8.4. Reserved.

8.5. Reserved.

8.6. Use of the MELs and CDLs.

8.7. Reserved.

8.8. Oxygen requirements:

8.8.1. An explanation of the conditions under which oxygen should be provided and used.

8.8.2. The oxygen requirements specified for the following persons:

(a) flight crew,

(b) cabin crew,

(c) passengers.

8.9. Procedures related to the use of type B EFB applications.

9. Dangerous goods and weapons

9.1. Information, instructions and general guidance on the transport of dangerous goods, in accordance with point AsOP.BAS.600, including:

(a) the operator’s policy on the transport of dangerous goods;

(b) guidance on the requirements for acceptance, labelling, handling, stowage and segregation of dangerous goods, including company material, as applicable;

(c) special notification requirements in the event of an accident or occurrence when dangerous goods are involved;

(d) procedures for responding to emergency situations involving dangerous goods;

(e) duties of all personnel involved; and

(f) instructions on the carriage of the operator's personnel on cargo airships when dangerous goods are being carried.

9.2. The conditions under which weapons, munitions of war and sporting weapons may be carried.

9.3. Information to be provided to passengers on the types of prohibited, restricted or undeclared dangerous goods.

10. Security

Security instructions, guidance, procedures, training and responsibilities, taking into account Regulation (EC) No 300/2008, including an aircraft search procedure checklist as required in point 8.4 of Annex V ('Essential requirements for air operations') to Regulation (EU) 2018/1139. Some parts of the security instructions and guidance may be kept confidential.

11. Handling, notifying and reporting accidents, incidents and occurrences and using the flight recorder recording

Procedures for handling, notifying and reporting accidents, incidents and occurrences. This section should include:

(a) definitions of accident, incident and occurrence and of the relevant responsibilities of all persons involved;

(b) illustrations of forms to be used for reporting all types of accident, incident and occurrence (or copies of the forms themselves), instructions on how they are to be completed, the addresses to which they should be sent and the time allowed for this to be done;

(c) in the event of an accident, descriptions of which departments, authorities and other organisations have to be notified, how this will be done and in what sequence;

(d) procedures for verbal notification to ATS units of incidents involving any traffic awareness or avoidance system, bird hazards, dangerous goods and hazardous conditions;

(e) procedures for submitting written reports on air traffic incidents, actions resulting from traffic awareness or avoidance systems, bird strikes, dangerous goods incidents or accidents, and unlawful interference;

(f) reporting procedures, which should include internal safety-related reporting procedures to be followed by crew members, designed to ensure that the pilot-in-command is informed immediately of any incident that has endangered, or may have endangered, safety during the flight, and that the pilot-in-command is provided with all relevant information;

(g) procedures for the preservation of recordings of the flight recorders following an accident or a serious incident or when so directed by the investigating authority, which should include:

(1) a full quotation of point AsOP.AOC.210; and

(2) instructions and means to prevent inadvertent reactivation, repair or reinstallation of the flight recorders by personnel of the operator or of third parties, and to

ensure that flight recorder recordings are preserved for the needs of the investigating authority;

(h) procedures required by point AsOP.AOC.210 for using the flight recorder recording or its transcript without prejudice to Regulation (EU) No 996/210, when applicable.

12. Rules of the air

(a) VFR and IFR.

(b) Territorial application of the rules of the air.

(c) Communication procedures, including communication-failure procedures.

(d) Information and instructions relating to the interception of civil aircraft.

(e) The circumstances in which a radio listening watch is to be maintained.

(f) Signals.

(g) The time system used in operation.

(h) ATC clearances — including instructions on their clarification and acceptance, particularly where terrain clearance is involved —adherence to flight plan and position reports.

(i) Visual signals used to warn an unauthorised aircraft flying in or about to enter a restricted, prohibited or danger area.

(j) Procedures for flight crew observing an accident or receiving a distress transmission.

(k) The ground/air visual codes for use by survivors, and a description of signal aids and their use.

(l) Distress and urgency signals.

13. Leasing/code-share

A description of the operational arrangements for leasing and code-share, associated procedures and management responsibilities.

B. Airship operating matters — type related

Taking account of the differences between types, and variants of types, under the following headings.

0. General information and units of measurement

0.1. General information (e.g. airship dimensions), including a description of the units of measurement used for the operation of the airship type concerned and conversion tables.

1. Limitations

1.1. A description of the certified limitations and the applicable operational limitations should include:

(a) certification status (e.g. EASA STC/TC, environmental certification);

(b) passenger seating configuration for each airship type, including a pictorial presentation;

(c) types of operation that are approved (e.g. VFR/IFR, RNP, flights in known icing conditions);

(d) crew composition;

(e) mass, heaviness and centre of gravity;

(f) speed limitations;

(g) flight envelope(s);

(h) wind limits, including operations on contaminated surfaces;

(i) performance limitations for applicable configurations;

(j) surface slope;

(k) limitations on wet or contaminated surfaces;

(l) airframe contamination;

(m) system limitations.

2. Normal procedures

The normal procedures and duties assigned to the crew, the appropriate checklists, the system for their use and a statement covering the necessary coordination procedures between flight, cabin and ground crew members. The normal procedures and duties should include the following:

(a) pre-flight,

(b) pre-departure,

(c) altimeter setting and checking,

(d) departure briefing,

(e) taxi, take-off and climb,

(f) noise abatement,

(g) cruise and descent,

(h) approach, landing preparation and briefing,

(i) VFR approach,

(j) IFR approach,

(k) visual approach and circling,

(l) missed approach,

(m) normal landing,

(n) post-landing and masting,

(o) operations on wet and contaminated surfaces,

(p) handover of responsibility between the ground crew chief and the pilot-in-command.

3. Abnormal and/or emergency procedures

The abnormal and/or emergency procedures and duties assigned to the crew, the appropriate checklists, the system for their use and a statement covering the necessary coordination procedures between flight, cabin and ground crew members. The abnormal and/or emergency procedures and duties should include the following:

(a) crew incapacitation,

(b) fire and smoke drills,

(c) unpressurised and partially pressurised flight,

(d) lightning strikes,

(e) distress communications and alerting ATC to emergencies,

(f) engine failure,

(g) system failures,

(h) guidance for diversion in the event of serious technical failure,

(i) ground proximity warning,

(j) windshear,

(k) emergency landing/ditching,

(l) departure contingency procedures.

4. Performance

4.0. Performance data should be provided in a form that can be used without difficulty.

4.1. Performance data. Performance material that provides the necessary data for compliance with the performance requirements prescribed in Annex II (Part-AsOP.AOC). This performance data should be included to allow the determination of:

(a) take-off climb limits — mass, heaviness, altitude and temperature;

(b) take-off field length (for dry, wet and contaminated surface conditions);

(c) net flight path data for obstacle clearance calculation or, where applicable, the take-off flight path;

(d) the gradient losses for banked climb-outs;

(e) en route climb limits;

(f) approach climb limits;

(g) landing climb limits;

(h) landing field length (for dry, wet and contaminated surface conditions) including the effects of an in-flight failure of a system or device, if it affects the landing distance;

(i) brake energy limits;

(j) speeds applicable for the various flight stages (also considering dry, wet and contaminated surface conditions).

4.1.1. Supplementary data covering flights in icing conditions. Any certified performance related to an allowable configuration, or configuration deviation, such as the anti-skid system being inoperative.

4.1.2. If performance data, as required for the appropriate performance class, is not available in the AFM, then other data should be included. The operations manual may cross-reference the data contained in the AFM where such data is not likely to be used often or in an emergency.

4.2. Additional performance data. Additional performance data, where applicable, including the following:

(a) all engine climb gradients,

(b) drift-down data,

(c) effects of de-icing/anti-icing fluids,

(d) flight with landing gear down,

(e) for airships with three or more engines, one-engine-inoperative ferry flights,

(f) flights conducted under the provisions of the CDL.

5. Flight planning

5.1. Data and instructions necessary for pre-flight and in-flight planning, including, for airships, factors such as speed schedules and power settings.

5.2. The method for calculating fuel needed for the various stages of flight.

6. Mass, heaviness and balance

Instructions and data for the calculation of the mass, heaviness and balance, including:

(a) the calculation system (e.g. index system);

(b) information and instructions for completion of mass, heaviness and balance documentation, including manually produced and computer-generated types;

(c) limiting masses, heaviness and centre of gravity for the types or individual airship used by the operator;

(d) the dry operating mass, heaviness and corresponding centre of gravity or index.

7. Loading

Procedures and provisions for loading and unloading and securing the load in the airship.

8. Configuration deviation list

The CDL(s), if provided by the manufacturer, taking account of the airship types and variants operated, including procedures to be followed when an airship is being dispatched under the terms of its CDL.

9. MEL

The MEL for each airship type or variant operated and the type(s)/area(s) of operation. The MEL should also include the dispatch conditions associated with operations required for a specific

approval (e.g. RNAV, RNP). Consideration should be given to using the ATA number system when allocating chapters and numbers.

10. Survival and emergency equipment including oxygen

10.1. A list of the survival equipment to be carried for the routes to be flown and the procedures for checking the serviceability of this equipment prior to take-off. Instructions regarding the location, accessibility and use of survival and emergency equipment and its associated checklist(s) should also be included.

10.2. The procedure for determining the amount of oxygen required and the quantity that is available. The flight profile, the number of occupants and possible cabin decompression should be considered.

11. Emergency evacuation procedures

11.1. Instructions for preparation for emergency evacuation, including crew coordination and emergency station assignment.

11.2. Emergency evacuation procedures. A description of the duties of all members of the crew for the rapid evacuation of an aircraft and the handling of the passengers in the event of a forced landing, ditching or other emergency.

12. Airship systems

A description of the airship systems, related controls and indications and operating instructions. Consideration should be given to use of the ATA number system when allocating chapters and numbers.

C. Route/role/area and aerodrome or operating site instructions and information

1. Instructions and information relating to communications, navigation and aerodromes / operating sites, including minimum flight levels and altitudes for each route to be flown and operating minima for each aerodrome or operating site planned to be used, including:

(a) minimum flight level/altitude;

(b) operating minima for departure, destination and alternate aerodromes;

(c) communication facilities and navigation aids;

(d) runway / final approach and take-off area data and aerodrome or operating site facilities;

(e) approach, missed-approach and departure procedures including noise abatement procedures;

(f) communication-failure procedures;

(g) search and rescue facilities in the area over which the airship is to be flown;

(h) a description of the aeronautical charts that should be carried on board in relation to the type of flight and the route to be flown, including the method to check their validity;

(i) availability of aeronautical information and meteorological services;

(j) en route communication/navigation procedures;

(k) aerodrome or operating site categorisation for flight crew competence qualification;

(l) special aerodrome or operating site limitations (performance limitations, operating procedures, etc.).

D. Training

1. Description of scope. Training syllabi and checking programmes for all operations personnel assigned to operational duties in connection with the preparation and/or conduct of a flight.

2. Content. Training syllabi and checking programmes should include the following.

2.1. For flight crew, all relevant items prescribed in Annex I (Part-AsOP.BAS) and Annex II (Part-AsOP.AOC).

2.2. For cabin crew, all relevant items prescribed in Annex I (Part-AsOP.BAS) and Annex II (Part-AsOP.AOC).

2.3. For ground crew, all relevant items prescribed in Annex I (Part-AsOP.BAS).

2.4. For operations personnel concerned:

(a) all relevant items prescribed in point AsOP.BAS.600; and

(b) all relevant items prescribed in Annex I (Part-AsOP.BAS) and Annex II (Part-AsOP.AOC).

2.5. For operations personnel other than crew members (e.g. dispatcher, handling personnel), all other items prescribed in Annex IV (Part-CAT) and in this Annex pertaining to their duties.

3. Procedures

3.1. Procedures for training and checking.

3.2. Procedures to be applied in the event that personnel do not achieve or maintain the required standards.

3.3. Procedures to ensure that abnormal or emergency situations requiring the application of part or all of the abnormal or emergency procedures are not simulated during CAT operations, and that simulation of IMC by artificial means is not conducted during CAT operations.

4. Description of documentation to be stored and storage periods.

(b) If there are sections that, because of the nature of the operation, do not apply, it is recommended that operators maintain the numbering system described in point AsOP.AOC.200 and in this AMC and insert 'Not applicable' or 'Intentionally blank' where appropriate.

Rationale

This proposed AMC is equivalent to AMC3 ORO.MLR.100 of Regulation (EU) No 965/2012.

AsOP.AOC.205 Record-keeping

(a) The operator shall establish a system of record-keeping that allows adequate storage and reliable traceability of its activities.

(b) The format of the records shall be specified in the operator's procedures.

(c) The records of the activities referred to in point AsOP.AOC.020 shall be stored for at least five years.

(d) The following information used for the preparation and execution of a flight, and associated reports, should be stored for three months:

(1) the operational flight plan, if applicable,

(2) route-specific NOTAMs and aeronautical information services briefing documentation, if amended by the operator,

(3) mass and balance documentation,

(4) notification of special loads, including the provision of written information to the pilot-in-command about dangerous goods, if applicable,

(5) the journey log, or equivalent, and

(6) flight report(s) for recording details of any occurrence, or any event that the pilot-in-command deems necessary to report or record.

(e) Flight crew records should be stored for the periods indicated below.

Flight crew licence	For as long as the crew member is exercising the privileges of the licence for the airship operator
Crew member training, checking and qualifications	3 years
Records on crew members' recent experience	15 months
Crew members' route and aerodrome / task and area competence, as appropriate	3 years
Dangerous goods training, as appropriate	3 years
Training/qualification records of other personnel for whom a training programme is required	Last two training records

(f) The operator shall:

(1) maintain records of all training, checking and qualifications of each crew member, ground crew member and task specialist as prescribed in this Annex; and

(2) make such records available, on request, to the crew member, ground crew member or task specialist concerned.

(g) The operator should preserve the information used for the preparation and execution of a flight and personnel training records, even if the operator ceases to be the operator of that airship or the employer of that crew member, provided this is within the timescales prescribed in (e).

(h) If a crew member becomes a crew member for another operator, the former operator should make the crew member's records available to the new operator, provided this is within the timescales prescribed in (e).

Rationale

This requirement is equivalent to point ORO.MLR.115 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.205 Record-keeping

GENERAL

(a) The record-keeping system should ensure that all records are accessible whenever needed within a reasonable time. These records should be organised in a way that ensures traceability and retrievability throughout the required retention period.

(b) Records should be kept in paper form or in electronic format or a combination of both. Records stored in microfilm or optical disc format are also acceptable. The records should remain legible throughout the required retention period. The retention period starts when the record has been created or when it was last amended.

(c) Paper systems should use robust material that can withstand normal handling and filing. Computer systems should have at least one backup system, which should be updated within 24 hours of any new entry. Computer systems should include safeguards against the ability of unauthorised personnel to alter the data.

(d) All computer hardware used to ensure data backup should be stored in a different location from that containing the working data and in an environment that ensures that it remains in good condition. When hardware or software changes take place, special care should be taken to ensure that all necessary data remains accessible at least throughout the full retention period.

Rationale

This proposed AMC is equivalent to AMC1 ARO.GEN.220(a) of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.205 Record-keeping

TRAINING RECORDS — STORAGE PERIODS AND AVAILABILITY

A summary of training should be maintained by the operator to show every crew member's completion of each stage of training and checking.

Rationale

This proposed AMC is equivalent to AMC1 ORO.MLR.115 of Regulation (EU) No 965/2012.

AsOP.AOC.210 Handling of flight recorder recordings

(a) Following an accident, a serious incident or an occurrence identified by the investigating authority, the operator of an airship shall preserve the original recorded data of the flight recorders for a period of 60 days or until otherwise directed by the investigating authority.

(b) The operator shall conduct operational checks and evaluations of recordings to ensure the continued serviceability of the flight recorders that are required to be carried.

(c) The operator shall ensure that the recordings of flight parameters and data link communication

messages required to be recorded on flight recorders are preserved. However, for the purpose of testing and maintaining those flight recorders, up to one hour of the oldest recorded data at the time of testing may be erased.

(d) The operator shall keep and maintain up-to-date documentation that presents the necessary information to convert raw flight data into flight parameters expressed in engineering units.

(e) The operator shall make available any flight recorder recordings that have been preserved, if so determined by the competent authority.

(f) Without prejudice to Regulations (EU) No 996/2010 and (EU) 2016/679 of the European Parliament and of the Council[3]:

(1) except for ensuring flight recorder serviceability, audio recordings from a flight recorder shall not be disclosed or used unless all the following conditions are fulfilled:

(i) a procedure related to the handling of such audio recordings and of their transcript is in place;

(ii) all crew members and maintenance personnel concerned have given their prior consent;

(iii) such audio recordings are used only for maintaining or improving safety;

(2) when inspecting flight recorder audio recordings to ensure flight recorder serviceability, the operator shall protect the privacy of those audio recordings and make sure that they are not disclosed or used for purposes other than for ensuring flight recorder serviceability;

(3) flight parameters or data link messages recorded by a flight recorder shall not be used for purposes other than for the investigation of an accident or an incident that is subject to mandatory reporting, unless such recordings meet any of the following conditions:

(i) they are used by the operator for airworthiness or maintenance purposes only;

(ii) they are de-identified;

(iii) they are disclosed under secure procedures;

(4) except for ensuring flight recorder serviceability, images of the flight crew compartment that are recorded by a flight recorder shall not be disclosed or used unless all of the following conditions are fulfilled:

(i) a procedure related to the handling of such image recordings is in place;

(ii) all crew members and maintenance personnel concerned have given their prior consent;

(iii) such image recordings are used only for maintaining or improving safety;

(5) when images of the flight crew compartment that are recorded by a flight recorder are inspected for ensuring the serviceability of the flight recorder, then:

[3] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4.5.2016, p. 1).

(i) those images shall not be disclosed or used for purposes other than ensuring flight recorder serviceability;

(ii) if body parts of crew members are likely to be visible on the images, the operator shall ensure the privacy of those images.

Rationale

This requirement is equivalent to points CAT.GEN.MPA.195 and NCC.GEN.145 to Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.210(a) Handling of flight recorder recordings

PRESERVATION OF RECORDED DATA FOR INVESTIGATION

The operator should establish procedures to ensure that flight recorder recordings are preserved for the investigating authority. These procedures should include both of the following.

(a) Instructions for flight crew members to deactivate the flight recorders immediately after completion of the flight and inform relevant personnel that the recording of the flight recorders should be preserved. These instructions should be readily available on board.

(b) Instructions to prevent inadvertent reactivation, testing, repair or reinstallation of the flight recorders by operator personnel or during maintenance or ground-handling activities performed by third parties.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.195(a) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.210(a) Handling of flight recorder recordings

REMOVAL OF RECORDERS IN THE EVENT OF AN INVESTIGATION

The need for removal of the recorders from the airship is determined by the investigating authority with due regard to the seriousness of an occurrence and the circumstances, including the impact on the operation.

Rationale

This proposed GM is equivalent to GM1 CAT.GEN.MPA.195(a) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.210(b) Handling of flight recorder recordings

INSPECTIONS AND CHECKS OF RECORDINGS

(a) The operator should perform an inspection of the recordings every year unless one or more of the following apply.

(1) If the flight recorder is solid-state and the flight recorder system is fitted with continuous monitoring for proper operation, the time interval between two inspections of the recording may be up to two years.

(2) In the case of an airship equipped with two solid-state flight data and cockpit voice

combination recorders, where both of the following apply.

(i) The flight recorder systems are fitted with continuous monitoring for proper operation.

(ii) Where the flight recorders share the same flight data acquisition, a comprehensive inspection of the recording needs only to be performed for one flight recorder position. The inspection of the recordings should be performed alternately so that each flight recorder position is inspected at least every four years.

(b) The operator should perform an inspection of the data link recording every five years.

(c) When installed, the aural or visual means for pre-flight checking of the flight recorders for proper operation should be used on each day when the airship is operated. When no such means is available for a flight recorder, the operator should perform an operational check of that flight recorder at intervals not exceeding 150 flight hours or seven calendar days of operation, whichever is considered more suitable by the operator.

(d) The operator should check every five years, or in accordance with the recommendations of the sensor manufacturer, that the parameters dedicated to the flight data recorder or aircraft data recording system and not monitored by other means are being recorded within the calibration tolerances and that there is no discrepancy in the engineering conversion routines for these parameters.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.195(b) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.210(b) Handling of flight recorder recordings

MONITORING AND CHECKING THE PROPER OPERATION OF FLIGHT RECORDERS — EXPLANATION OF TERMS

The explanations are provided to aid understanding of the terms used in AMC1 AsOP.AOC.210(b).

(a) ‘Operational check of [the] flight recorder’ means a check of the flight recorder for proper operation. It is not a check of the quality of the recording and, therefore, it is not equivalent to an inspection of the recording. This check can be carried out by the flight crew or through a maintenance task.

(b) ‘Aural or visual means for pre-flight checking of the flight recorders for proper operation’ means an aural or visual means for the flight crew to check, before the flight, the results of an automatically or manually initiated test of the flight recorders for proper operation. Such a means provides for an operational check that can be performed by the flight crew.

(c) ‘Flight recorder system’ means the flight recorder, its dedicated sensors and transducers, as well as its dedicated acquisition and processing equipment.

(d) ‘Continuous monitoring for proper operation’ means, for a flight recorder system, a combination of system monitors and/or built-in test functions that operate continuously in order to detect:

(1) loss of electrical power to the flight recorder system;

(2) failure of the equipment performing acquisition and processing;

(3) failure of the recording medium and/or drive mechanism; and

(4) failure of the recorder to store the data in the recording medium as shown by checks of the recorded data including, as reasonably practicable for the storage medium concerned, correct correspondence with the input data.

However, detections by the continuous monitoring for proper operation do not need to be automatically reported to the flight crew compartment.

Rationale

This proposed GM is equivalent to GM2 CAT.GEN.MPA.195(b) of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.210(b) Handling of flight recorder recordings

AUDIO QUALITY

Additional guidance material for performing recording inspections may be found in the document titled *Guidance on CVR recording Inspection*, produced by the French Bureau of Enquiry and Analysis for Civil Aviation Safety and dated October 2018 or later.

Rationale

This proposed GM is equivalent to GM3 CAT.GEN.MPA.195(b) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.210(f)(1) Handling of flight recorder recordings

USE OF AUDIO RECORDINGS FOR MAINTAINING OR IMPROVING SAFETY

(a) The procedure related to the handling of audio recordings from flight recorders and of their transcripts should be documented and signed by all parties (airship operator, crew members and maintenance personnel if applicable). This procedure should take into account Regulation (EU) 2016/679 and, as a minimum, include all of the following elements.

(1) The method to obtain the consent of all crew members and maintenance personnel concerned.

(2) An access and security policy that restricts access to audio recordings from flight recorders and their transcripts to specifically authorised persons identified by their position.

(3) A retention policy and details of accountability, including the measures to be taken to ensure the security of audio recordings from flight recorders and transcripts thereof and their protection from misuse. The retention policy should specify the period of time after which such audio recordings and identified transcripts are destroyed.

(4) A description of the uses made of audio recordings from flight recorders and their transcripts.

(5) A description of the participation of flight crew member representatives in the assessment of audio recordings from flight recorders and their transcripts.

(6) A description of the conditions under which advisory briefing or remedial training should take place; this should always be carried out in a constructive and non-punitive manner.

(7) A description of the conditions under which actions other than advisory briefing or remedial training may be taken for reasons of gross negligence or significant continuing safety concern.

(b) Each time an audio recording file from a flight recorder is read out under the conditions defined by point AsOP.AOC.210(f)(1):

(1) parts of the audio recording file that contain information with a privacy content should be deleted to the extent possible, and transcription of information with a privacy content should not be permitted; and

(2) the operator should retain, and when requested, provide to the competent authority:

(i) information on the use made (or the intended use) of the audio recording file; and

(ii) evidence that the persons concerned consented to the use made (or the intended use) of the audio recording file.

(c) The person who fulfils the role of safety manager should be responsible for the protection and use of audio recordings from flight recorders and transcripts thereof, as well as for the assessment of issues and their transmission to the manager(s) responsible for the process concerned.

(d) If a third party is involved in the use of audio recordings from flight recorders, contractual agreements with this third party should cover the aspects enumerated in (a) and (b).

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.195(f)(1) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.210(f)(2) Handling of flight recorder recordings

INSPECTION OF AUDIO RECORDINGS FOR ENSURING SERVICEABILITY

(a) When an inspection of the audio recordings from a flight recorder is performed for ensuring audio quality and intelligibility of recorded communications:

(1) the privacy of the audio recordings should be ensured (e.g. by placing the replay equipment in a separated area and/or using headsets);

(2) access to the replay equipment should be restricted to specifically authorised persons identified by their position;

(3) provision should be made for the secure storage of the recording medium, the audio recording files and copies thereof;

(4) the audio recording files and copies thereof should be destroyed not earlier than two months and not later than one year after completion of the inspection of the audio recordings, except that audio samples with no privacy content may be retained for enhancing this inspection (e.g. for comparing audio quality);

(5) only the accountable manager of the operator and, when identified to comply with point AsOP.AOC.030, the nominated persons should be entitled to request a copy of the audio recording files.

(b) The conditions enumerated in (a) should also be complied with if the inspection of the audio recordings is subcontracted to a third party. The contractual agreements with the third party should explicitly cover these aspects.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.195(f)(1a) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.210(f)(4) Handling of flight recorder recordings

USE OF IMAGES FROM THE FLIGHT CREW COMPARTMENT FOR MAINTAINING OR IMPROVING SAFETY

(a) The procedure related to the handling of images of the flight crew compartment that are recorded by a flight recorder should be documented and signed by all parties (airship operator, crew members and maintenance personnel if applicable). This procedure should take into account Regulation (EU) 2016/679 and, as a minimum, include:

(1) the method to obtain the consent of all crew members and maintenance personnel concerned;

(2) an access and security policy that restricts access to the image recordings to specifically authorised persons identified by their position;

(3) a retention policy and details of accountability, including the measures to ensure the security of the image recordings and their protection from misuse;

(4) a description of the uses made of the image recordings.

(b) Each time a recording file from a flight recorder and containing images of the flight crew compartment is read out for purposes other than to ensure the serviceability of that flight recorder:

(1) images that contain information with a privacy content should be deleted to the extent possible, and it should not be permitted that the detail of information with a privacy content is transcribed; and

(2) the operator should retain and, when requested, provide the competent authority with:

(i) information on the use made (or the intended use) of the recording file; and

(ii) evidence that the flight crew members concerned consented to the use made (or the intended use) of the flight crew compartment images.

(c) The person fulfilling the role of safety manager should be responsible for the protection and use of images of the flight crew compartment that are recorded by a flight recorder, as well as for the assessment of issues and their transmission to the manager(s) responsible for the process concerned.

(d) If a third party is involved in the use of images of the flight crew compartment that are recorded by a flight recorder, contractual agreements with this third party should cover the aspects enumerated in (a) and (b).

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.195(f)(3) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.210(f)(5) Handling of flight recorder recordings

INSPECTION OF IMAGES OF THE FLIGHT CREW COMPARTMENT FOR ENSURING SERVICEABILITY

(a) When images of the flight crew compartment recorded by a flight recorder are inspected for ensuring the serviceability of the flight recorder, and any body part of a crew member is likely to be visible in these images, then all of the following criteria apply.

(1) The privacy of the image recordings should be ensured (e.g. by placing the replay equipment in a separated area).

(2) Access to the replay equipment should be restricted to specifically authorised persons identified by their position.

(3) Provisions should be made for the secure storage of the recording medium, the image recording files and copies thereof.

(4) The image recording files and copies thereof should be destroyed not earlier than two months and not later than one year after completion of the inspection of the image recordings. Images that do not contain any body part of a person may be retained for enhancing this inspection (e.g. for comparing image quality).

(5) Only the accountable manager of the operator and, when identified to comply with point AsOP.AOC.030, the nominated persons should be entitled to request copies of the image recording files.

(b) The conditions enumerated in (a) should also be complied with if the inspection of the image recording is subcontracted to a third party. The contractual agreements with the third party should explicitly cover these aspects.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.195(f)(3a) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.210(f) Handling of flight recorder recordings

FLIGHT CREW COMPARTMENT

If there are no compartments to physically segregate the flight crew from the passengers during the flight, the 'flight crew compartment' referred to in point (f) of AsOP.AOC.210 should be understood as the area including:

(a) the flight crew seats;

(b) airship and engine controls;

(c) airship instruments;

(d) the windshield and windows used by the flight crew to get an external view while seated at their duty station; and

(e) circuit breakers accessible by the flight crew while seated at their duty station.

Rationale

This proposed GM is equivalent to GM1 CAT.GEN.MPA.195(f) of Regulation (EU) No 965/2012.

Section 4 — Flight crew

AsOP.AOC.300 Number and composition of flight crew

In addition to point AsOP.BAS.045, the following apply.

(a) During the flight, flight crew members may be relieved of their duties at the controls by another suitably qualified flight crew member.

(b) When engaging the services of flight crew members who are working on a freelance or part-time basis, the operator shall verify that all applicable requirements of this regulation and the relevant elements of Annex I (Part-FCL) to Regulation (EU) No 1178/2011, including the requirements on recent experience, are complied with, taking into account all services rendered by the flight crew member to other operator(s) to determine in particular:

(1) the total number of aircraft types or variants operated; and

(2) the applicable flight and duty time limitations and rest requirements.

(c) Minimum flight crew

(1) Airships designed and operated to perform passenger transportation and with an MOPSC of 19 or less shall be operated with a minimum number of flight crew not lower than the one identified by the AFM.

(2) Airships with 20 or more persons on board, including flight crew, cabin crew and task specialists, shall be operated with a minimum flight crew of two pilots.

(3) In all other cases, the minimum flight crew shall be as required in the AFM. If this minimum flight crew is one pilot, the airship operator shall conduct a risk assessment to determine whether additional flight crew members are needed considering the specificities of the intended operations unless the operator elects to operate with a minimum crew of two pilots. This risk assessment shall be approved by the competent authority.

Rationale

In conjunction with point AsOP.BAS.045, this requirement is equivalent to points ORO.FC.100 and ORO.FC.200(d) of Regulation (EU) No 965/2012.

Point (c)(2) is introduced in order to maintain consistency with ICAO Annex 6, Part I, Chapters 4.9 and 9.1.1, even if nominally it is not applicable to airships. Safety considerations, such as the potential severity of an airship accident, and general social acceptance principles have been factored in while preparing these provisions.

AMC1 AsOP.AOC.300(c)(3) Number and composition of flight crew

RISK ASSESSMENT FOR SINGLE-PILOT OPERATIONS

(a) The airship operator should identify the hazards and assess the associated risks when performing operations with a single pilot, considering at least the following topics:

(1) mission (e.g. duration, repetition, number of take-offs and landings),

(2) environment (e.g. night/day, whether the airspace is congested, terrain characteristics, meteorological conditions),

(3) equipment (e.g. level of automation, navigation equipment, unserviceabilities),

(4) crew members (e.g. training, experience, fatigue induced by (1) to (3) above, physiological needs).

(b) The risk assessment should provide predefined mitigations for the generic risks identified above.

(c) The operator should ensure that the process is performed in accordance with point AsOP.AOC.020.

(d) The risk assessment on single-pilot operations should take into account the risk assessments required by point AsOP.AOC.655 (SOP for specialised operations) and the associated AMC, point AsOP.AOC.455(d)(1) (cabin crew) and points AsOP.FTL.120(b) and (d) of the AsOP.FTL Regulation, as applicable.

GM1 AsOP.AOC.300 Number and composition of flight crew

SCENARIOS TO BE INCLUDED IN THE SINGLE-PILOT RISK ASSESSMENT

The operator could identify and establish limitations to different factors (e.g. minimum meteorological conditions such as winds, visibility, cloud cover).

Groups of scenarios could be identified to provide flight crews and ground operations staff with easily referenced cases.

AsOP.AOC.305 Designation as pilot-in-command

(a) The operator shall designate one pilot among the flight crew to act as pilot-in-command.

(b) The operator shall only designate a pilot to act as pilot-in-command if they:

(1) are qualified to act as pilot-in-command in accordance with Annex I (Part-FCL) to Regulation (EU) No 1178/2011;

(2) have the minimum level of experience specified in the operations manual; and

(3) have adequate knowledge of the area to be flown and the aerodromes and operating sites to be used.

Rationale

This requirement has been drafted by adapting point ORO.FC.105 of Regulation (EU) No 965/2012.

The evidence-based training and alternative training and qualification programme concepts have not been retained since they are not relevant to airships.

AMC1 AsOP.AOC.305 Designation as pilot-in-command

GENERAL

The operator should comply with the national training and checking requirements published in the relevant aeronautical information publication.

KNOWLEDGE OF THE AREA AND THE AERODROMES AND OPERATING SITES

The knowledge of the area to be flown and of the aerodromes' / operating sites' facilities and procedures to be used should include the following.

(a) Area knowledge

(1) The objective of area familiarisation should be to ensure that the pilot has knowledge of:

(i) the terrain and minimum safe altitudes;

(ii) the environment (mountains, water, snow, etc.);

(iii) seasonal meteorological conditions;

(iv) meteorological, communication and air traffic facilities, services and procedures;

(v) search and rescue procedures where available; and

(vi) navigational facilities associated with the area above which the flight is to take place.

(2) The operations manual should describe appropriate methods of familiarisation depending on the complexity of the area and the experience of the pilot-in-command.

(b) Aerodrome and operating site knowledge

(1) Aerodrome and operating site familiarisation should include knowledge of obstructions; physical layout; lighting; approach aids; arrival, departure, holding and instrument approach procedures; applicable operating minima; and ground movement considerations.

(2) The operator's manual should describe appropriate methods of familiarisation depending on the complexity of the aerodromes and operating sites.

(3) If the competent authority of the aerodrome or area requires specific training or familiarisation, the operator should maintain all records of this training or familiarisation.

(4) The operations manual should describe appropriate validity and recency of the knowledge of the area and the aerodromes and operating sites.

Rationale

This proposed AMC is equivalent to AMC1 ORO.FC.105(b)(2),(c) of Regulation (EU) No 965/2012. Some adaptations have been introduced to better address the specificity of airship operations, requiring each operator to define its own rules for area and aerodrome or operating site classification.

AMC2 AsOP.AOC.305 Designation as pilot-in-command

GENERAL

(a) Before being designated by the operator to act as pilot-in-command, the pilot should have operated a minimum number of sectors and flight hours under the supervision of a flight crew member nominated by the operator:

(1) when joining the operator;

(2) when changing to an airship for which a new type or class rating is required.

(b) The minimum flight sectors/hours should be specified in the operations manual and should be determined by the following:

(1) previous experience of the flight crew member,

(2) complexity of the airship, and

(3) complexity, type and area of operations to be performed.

(c) Notwithstanding (b), the operator should not designate an inexperienced flight crew member to act as pilot-in-command. In this context, the operator should consider that a flight crew member is inexperienced until they have, on the airship type, either:

(1) flown 100 flight hours and 10 sectors within a consolidation period of 120 consecutive days; or

(2) flown 150 flight hours and 20 sectors (no time limit).

(d) A lesser number of flight hours or sectors to those indicated in (c), subject to any other conditions that the competent authority might impose, might be acceptable to the competent authority when one of the following applies:

(1) a new airship operator is commencing operations;

(2) an operator introduces a new airship type;

(3) credits are defined in the operational suitability data established in accordance with Commission Regulation (EU) No 748/2012; or

(4) the airship does not fall under the definition of a large airship.

Rationale

This proposed AMC is equivalent to AMC1 ORO.FC.200(a) of Regulation (EU) No 965/2012, which, despite its title referring to inexperienced crew members, essentially provides means of compliance with respect to the designation of pilot-in-command. Figures related to pilot experience have been adjusted to better suit the airship domain.

AsOP.AOC.306 In-flight relief of flight crew members

(a) The pilot-in-command may delegate the conduct of the flight to another pilot who is qualified to act as pilot-in-command.

(b) The co-pilot may be relieved by another suitably qualified pilot.

Rationale

This requirement is similar to point ORO.FC.A.201 of Regulation (EU) No 965/2012. It is to be noted that here there are no provisions for flights above flight level 200 or for flight engineers because they are not applicable to airship operations.

AsOP.AOC.307 Crew resource management training

(a) Before operating, the flight crew member shall have received CRM training, appropriate to their role, as specified by the operator in the operations manual.

(b) Elements of CRM training shall be included in the airship type rating and recurrent training as well as in the command course.

Rationale

This requirement is equivalent to point ORO.FC.115 of Regulation (EU) No 965/2012 as, in this respect, there are no significant differences between airships and other aircraft. Considering the limited number of certified airships, for the time being it is not expected that airship classes will be introduced. Therefore, the flight crew training is expected to be based on the specific type rating.

AMC1 AsOP.AOC.307 Crew resource management training

For CRM training, the AMC and GM to point ORO.FC.115 of Regulation (EU) No 965/2012 are applicable.

Rationale

There are no significant differences in this respect between airships and other aircraft. Therefore, the existing provisions related to point ORO.FC.115 of Regulation (EU) No 965/2012 are directly applicable to airships.

AsOP.AOC.308 Command course

The command course shall include at least the following elements:

(a) training in an FSTD and/or flight training, including line-oriented flight training;

(b) the operator proficiency check, operating as pilot-in-command;

(c) command responsibilities training;

(d) line training as pilot-in-command under supervision, for a minimum of 10 flight sectors;

(e) completion of a line check as pilot-in-command; and

(f) CRM training.

Rationale

This requirement is substantially equivalent to point ORO.FC.205 of Regulation (EU) No 965/2012 as, in this respect, there are no significant differences between airships and other aircraft.

AsOP.AOC.310 Operator conversion training and checking

(a) Flight crew members shall complete the operator conversion training course before commencing unsupervised line flying:

(1) when changing to an airship for which a new type rating is required;

(2) each time the flight crew member joins an operator.

(b) The operator conversion training course shall include training on the equipment installed on the aircraft as relevant to flight crew members' roles.

(c) The amount of training required by the flight crew member for the operator's conversion course shall be determined in accordance with the standards of qualification and experience specified in the operations manual, taking into account their previous training and experience.

(d) The flight crew member shall complete the operator proficiency check and the emergency and safety equipment training and checking before commencing flight under supervision.

Rationale

The proposed requirement combines elements from points ORO.FC.120 and ORO.FC.220 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.310 Operator conversion training and checking

OPERATOR CONVERSION TRAINING

(a) General

(1) The operator conversion training should include:

(i) ground training, including:

(A) aircraft systems;

(B) normal procedures, which include flight planning, ground-handling and flight operations, including performance, mass and balance and fuel schemes;

(C) abnormal and emergency procedures, which include pilot incapacitation, as applicable;

(D) a review of relevant samples of accidents/incidents and occurrences to increase awareness of the occurrences that may be relevant for the intended operation;

(ii) emergency and safety equipment training and checking, including survival equipment training (to be completed before operating on any passenger-carrying flight);

(iii) passenger handling for operations where no cabin crew is carried, as applicable; and

(iv) a minimum number of sectors and/or flight hours operated under the supervision of a flight crew member nominated by the operator, to demonstrate the standard of qualification specified in the operator's manual.

(2) The operator conversion course may be combined with a new type rating course, as required by Regulation (EU) No 1178/2011.

(3) The conversion training should ensure that each flight crew member:

(i) has been trained to competency on the emergency and safety equipment installed on the aircraft they are to operate; and

(ii) is competent in the operating procedures and the use of checklists used by the operator.

(b) Emergency and safety equipment training should meet all of the following criteria.

(1) It should take place in conjunction with cabin crew, technical crew and task specialists as far as practicable. Emphasis should be placed on the importance of effective coordination and two-way communication between crew members in various emergency situations.

(2) It should address the operational procedures of rescue and firefighting services.

(3) It should cover the items of AMC1 AsOP.AOC.312.

Rationale

This proposed AMC is equivalent to AMC1.ORO.FC.120 of Regulation (EU) No 965/2012 as there are no significant differences in this respect between airships and other aircraft.

AMC2 AsOP.AOC.310 Operator conversion training and checking

SPECIALISED OPERATIONS

If a flight crew member undergoes training with regard to SOPs related to specialised operations, as part of either equipment and procedure training or conversion training, the following should apply.

(a) Initial training for a given specialised operation

(1) Undergoing in-depth training should achieve competence in carrying out normal, abnormal and emergency procedures, covering the SOPs associated with the specialised task.

(2) The training should include ground training associated with the specialised task, to be completed before any flight training in an aircraft commences.

(3) If one or more task specialists are on board, the training should include emergency and safety equipment training, to be completed before any flight training in an aircraft commences. The training should ensure that all emergency equipment can be used in a timely and efficient manner, that an emergency evacuation can be conducted and that first aid can be provided, taking into account the training and operating procedures of the task specialist(s).

(4) Unless the flight crew member has significant experience in similar specialised operations as defined in the operations manual, the training should include aircraft/FSTD training associated with the specialised task.

(b) Training when changing operators

(1) The training should focus on the elements of the SOPs that are specific to the operator.

(2) The operator should determine the amount of training required in the operator's conversion course in accordance with the standards of qualification and experience specified in the operations manual, taking into account the flight crew member's previous training and experience in the given specialised operations and in similar operations.

(c) Training when changing types of specialised operations within the same operator, when the flight crew member has previous experience of the specialised operations: point (b) above should apply.

(d) Training when changing aircraft types or variants. The training should focus on the elements of the SOPs that are specific to the type or variant. The operator should assess whether the flight crew should require ground training, aircraft/FSTD training or both when changing type or variant within the framework of the same specialised operations. The assessment should take the following into account:

(1) the validity of the flight crew type rating,

(2) the experience and recency of the flight crew on the aircraft type or variant,

(3) whether any type- or variant-specific procedures exist,

(4) differences in equipment related to the specialised operations,

(5) differences in limitations or procedures related to the specialised operations.

Rationale

This proposed AMC is substantially equivalent to AMC3.ORO.FC.120 of Regulation (EU) No 965/2012 as there are no significant differences in this respect between airships and other aircraft.

AsOP.AOC.311 Differences training, familiarisation, and equipment and procedure training

(a) Flight crew members shall complete differences training or familiarisation when required by Annex I (Part-FCL) to Regulation (EU) No 1178/2011.

(b) Flight crew members shall complete equipment and procedure training when changing equipment or changing procedures requiring additional knowledge on airship types or variants currently operated.

(c) The operations manual shall specify when such differences training, familiarisation or equipment and procedure training is required.

Rationale

This requirement is equivalent to point ORO.FC.125 of Regulation (EU) No 965/2012 as, in this respect, there are no significant differences between airships and other aircraft.

It is to be noted that for this provision no AMC are proposed because no data or representative examples are currently available. Practical concepts to define airship types and variants have not been identified at present.

AsOP.AOC.312 Recurrent training and checking

(a) Each flight crew member shall complete annual recurrent flight and ground training relevant to the airship type or variant and associated equipment of the airship on which they operate, including training on the location and use of all emergency and safety equipment carried on board the airship.

(b) Each flight crew member shall be periodically required to demonstrate competence in carrying out normal, abnormal and emergency procedures. These checks shall include:

(1) an annual operator proficiency check;

(2) an annual line check.

(c) The recurrent training and checking shall cover the relevant aspects associated with the specialised operations task described in the operations manual.

(d) Appropriate consideration shall be given when operations are undertaken under IFR or at night.

Rationale

This proposed requirement has been drafted using point ORO.FC.130 and relevant elements of point ORO.FC.230 of Regulation (EU) No 965/2012.

The overall recurrent training and checking requirements could be summarised as:

— *the operator proficiency check;*

— *the line check;*

— *emergency and safety equipment training; and*

— *CRM (point AsOP.AOC.307 already requires CRM in recurrent training).*

AMC1 AsOP.AOC.312 Recurrent training and checking

RECURRENT TRAINING AND CHECKING TO DEMONSTRATE COMPETENCE

(a) Recurrent training

Recurrent training should comprise the following.

(1) Ground training

The ground training programme should include:

(i) aircraft systems;

(ii) normal procedures, which include flight planning, ground-handling and flight operations, including performance, mass and balance, fuel schemes, selection of alternate aerodromes or operating sites and ground de-icing/anti-icing;

(iii) abnormal and emergency procedures, which include pilot incapacitation as applicable;

(iv) a review of relevant samples of accidents/incidents and occurrences to increase awareness of the occurrences that may be relevant for the intended operation.

(2) Emergency and safety equipment training

(i) Emergency and safety equipment training may be combined with emergency and safety equipment checking and should be conducted in an aircraft or a suitable alternative training device.

(ii) The annual emergency and safety equipment training programme should include:

(A) actual donning of a life jacket, where fitted;

(B) actual donning of protective breathing equipment, where fitted;

(C) actual handling of fire extinguishers of the type used;

(D) instruction on the location and use of all emergency and safety equipment carried on the aircraft; and

(E) instruction on the location and use of all types of exits.

(3) Elements of CRM as specified in Table 1 of AMC1 ORO.FC.115 of Regulation (EU) No 965/2012 should be integrated into all appropriate phases of recurrent training.

(4) Aircraft/FSTD training. The aircraft/FSTD training programme should be established in such a way that all the major failures of aircraft systems and associated procedures will have been covered in the preceding three-year period.

(b) Periodic check to demonstrate competence

(1) Each flight crew member should complete the periodic check as part of the normal crew complement.

(2) Periodic demonstrations of competence should be conducted every 12 months and may be combined with the proficiency check required by Regulation (EU) No 1178/2011.

(3) Operator proficiency checks

(i) Flight crew members should complete an operator proficiency check to demonstrate competence in carrying out normal, abnormal and emergency procedures, covering the relevant aspects associated with the flight operational tasks described in the operations manual and not covered in the line check.

(ii) The operator proficiency check should be conducted by a suitably qualified examiner nominated by the operator to conduct flight crew operator proficiency checks.

(iii) The validity period should be counted from the end of the month when the check was performed. When the operator proficiency check is undertaken within the last three months of the validity period, the new validity period shall be counted from the original expiry date.

(4) Line checks

(i) A line check should establish a flight crew member's ability to satisfactorily perform a complete line operation, including pre-flight and post-flight procedures and use of the equipment provided, as specified in the operations manual. The route chosen should be such as to give adequate representation of the scope of a pilot's

normal operations.

(ii) The flight crew should be assessed on their CRM skills in accordance with the methodology described in AMC1 ORO.FC.115 of Regulation (EU) No 965/2012 and as specified in the operations manual.

(iii) CRM assessment should not be used as a reason for failure of the line check, unless the observed behaviour could lead to an unacceptable reduction in the safety margin.

(iv) When pilots are assigned duties as the pilot flying and as the pilot monitoring, they should be checked in both functions.

(v) A line check should be conducted by a PIC nominated by the operator. The operator should maintain a list of nominated PICs and inform the competent authority about the persons nominated.

(vi) The validity period should be counted from the end of the month when the check was performed. When the line check is undertaken within the last three months of the validity period, the new validity period shall be counted from the original expiry date.

Rationale

This proposed AMC is equivalent to AMC1.ORO.FC.130 of Regulation (EU) No 965/2012 as there are no significant differences in this respect between airships and other aircraft. This proposal introduces some minor adaptations and simplifications.

AMC2 AsOP.AOC.312 Recurrent training and checking

USE OF FLIGHT SIMULATION TRAINING DEVICES

(a) Training and checking provide an opportunity to practise abnormal/emergency procedures that rarely arise in normal operations and should be part of a structured programme of recurrent training. This recurrent training should be carried out in an FSTD when available and accessible.

(b) The line check should be performed in the aircraft. All other training and checking should be performed in an FSTD, or, if it is not reasonably practicable to gain access to such devices, in an aircraft of the same type or, in the case of emergency and safety equipment training, in a representative training device. The type of equipment used for training and checking should be representative of the instrumentation, equipment and layout of the aircraft type operated by the flight crew member.

(c) Because of the unacceptable risk when simulating emergencies such as engine failure, icing problems and problems with certain types of engine(s) (e.g. during continued take-off or go-around, total hydraulic failure) or because of environmental considerations associated with some emergencies (e.g. fuel dumping), these emergencies should preferably be covered in an FSTD. If no FSTD is available, these emergencies may be covered in the aircraft using a safe airborne simulation, bearing in mind the effect of any subsequent failure, and the exercise must be preceded by a comprehensive briefing.

Rationale

To improve clarity, it is proposed that this dedicated AMC for FSTD is used. These provisions are equivalent to those contained in AMC1 ORO.FC.230 of Regulation (EU) No 965/2012.

AMC3 AsOP.AOC.312 Recurrent training and checking

RECURRENT TRAINING PROGRAMME

The operator should ensure that the recurrent training programme includes the relevant de-identified feedback from the management system, including occurrence reporting and flight data monitoring (FDM) programmes.

Rationale

This proposed AMC is equivalent to AMC3 ORO.FC.230 of Regulation (EU) No 965/2012 as, in this respect, there are no significant differences between airships and other types of aircraft.

AsOP.AOC.313 Pilot qualification to operate in either pilot's seat

Flight crew members who may be assigned to operate in either pilot's seat shall complete appropriate training and checking as specified in the operations manual.

Rationale

This requirement is equivalent to point ORO.FC.135 of Regulation (EU) No 965/2012 as, in this respect, there are no significant differences between airships and other aircraft.

AMC1 AsOP.AOC.313 Pilot qualification to operate in either pilot's seat

The training and checking for pilot qualification to operate in either pilot's seat should, where the action to be taken by the pilot is different depending on which seat they occupy, include any safety-critical items as specified in the operations manual.

Training should be arranged so that all such items will have been covered in the preceding three-year period.

Rationale

This proposed AMC is equivalent to AMC1 ORO.FC.135 of Regulation (EU) No 965/2012.

AsOP.AOC.314 Operation on more than one aircraft type or variant

(a) Flight crew members who operate on more than one type or variant of aircraft shall comply with the requirements prescribed for each type or variant, unless credits related to the training, checking and recent experience requirements are defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012 for the relevant types or variants.

(b) Appropriate procedures and any operational restrictions shall be specified in the operations

manual for any operation on more than one type or variant.

Rationale

This requirement is based on point ORO.FC.140 of Regulation (EU) No 965/2012 but a significant simplification has been made to allow a certain level of flexibility. Indeed, operations on more than one airship type or variant is a topic that should be explored if and when practical cases occur. To cope with the lack of experience in this respect, this provision proposes that specific discussions are conducted on a case-by-case basis.

AsOP.AOC.315 Provision of training, checking and assessment

(a) All training, checking and assessment required in this Section 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) Training and checking programmes, including syllabi and means to deliver the programme such as individual FSTDs and other training solutions, shall be approved by the competent authority.

(d) An FSTD used to meet the requirements of this Section shall be qualified in accordance with Regulation (EU) No 1178/2011 and it 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.

(f) The operator shall monitor the validity of each cycle of recurrent training and checking.

(g) The validity periods required in this Section shall be counted from the end of the month in which the recency, training or check was completed.

Rationale

This proposed requirement is equivalent to point ORO.FC.145 of Regulation (EU) No 965/2012 as, in this respect, there are no significant differences between airships and other aircraft.

AsOP.AOC.316 Personnel providing training, checking and assessment

(a) All training, checking and assessment required in this Section shall be conducted by appropriately qualified personnel.

(b) In the case of flight and flight simulation training, checking and assessment, the personnel providing the training and conducting the checking or assessment shall be qualified in accordance with Annex I (Part-FCL) to Regulation (EU) No 1178/2011. Additionally, the personnel providing training and conducting checking in relation to specialised operations shall be suitably qualified for the relevant operation, if so required by the risk assessment performed by the operator in accordance with point AsOP.AOC.655.

(c) Notwithstanding point (b), the aircraft/FSTD training, the demonstration of competence, operator proficiency and the line check may be conducted by a suitably qualified pilot-in-command nominated by the operator. The operator shall inform the competent authority about the persons nominated.

Rationale

This proposed requirement is equivalent to point ORO.FC.146 of Regulation (EU) No 965/2012.

Section 5 — Cabin crew

Rationale

The requirements contained in this section are essentially derived from Subpart CC ('Cabin crew') of Annex III (Part-ORO) to Regulation (EU) No 965/2012. Indeed, the overall idea is that there are no significant differences between the training and qualification of cabin crew members of airships and other aircraft.

The major difference lies in the structure adopted. This section does not distinguish between 'common requirements' and 'additional requirements for commercial air transport operations'. The main reason for this difference is that Annex II (Part-AsOP.AOC) is applicable to all large airships and to any operator conducting specialised operations and commercial operations (i.e. CAT operations).

As a direct consequence of the scope of Annex II and considering the most realistic expected use of the existing airships (including those under development), EASA is satisfied that the proportionality already embedded in Section 2 of Subpart CC is already sufficient.

In addition to the above 'deviations', some minor adaptations have been introduced. For instance:

— *training and other provisions related to aircraft depressurisation have not been included;*

— *training and other provisions related to the drop-down and use of oxygen masks have not been included;*

— *training and other provisions related to the use of emergency rip have been added.*

Considering all the above points and the potential difficulties of building a community of cabin crew dedicated solely to airships, the proposed material does not require cabin crew to be trained ab initio *on airships.*

AsOP.AOC.400 Number and composition of cabin crew

(a) For the operation of airships with an MOPSC of more than 19, at least one cabin crew member shall be assigned when carrying one or more passenger(s).

(b) For the purpose of complying with point (a), the minimum number of cabin crew members shall be the greatest number among the following:

(1) the number of cabin crew members established during the airship certification process in accordance with the applicable certification basis, for the airship cabin configuration used by the operator;

(2) if the number under point (1) has not been established, the number of cabin crew members established during the airship certification process for the maximum certified

passenger seating configuration reduced by 1 for every whole multiple of 50 passenger seats of the airship cabin configuration, below the maximum certified seating capacity, used by the operator;

(3) one cabin crew member for every 50, or fraction of 50, passenger seats installed in the same compartment of the airship to be operated.

(c) For operations with more than one cabin crew member, the operator shall nominate one cabin crew member as accountable to the pilot-in-command.

(d) By way of derogation from point (a), non-commercial operations with airships with an MOPSC of more than 19 may be performed without an operating cabin crew member, subject to prior approval by the competent authority. To obtain the approval, the operator shall ensure that both of the following conditions are fulfilled:

(1) there are a maximum of 19 passengers on board;

(2) the operator has developed procedures for that operation.

Rationale

This requirement is equivalent to point ORO.CC.100 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.400 Number and composition of cabin crew

DETERMINATION OF THE NUMBER AND COMPOSITION OF CABIN CREW

(a) When determining the minimum number of cabin crew required to operate an airship subject to this Annex, factors to be taken into account should include:

(1) the number of doors/exits;

(2) the type(s) of doors/exits and the associated assisting evacuation means;

(3) the location of doors/exits in relation to cabin crew stations and the airship cabin configuration;

(4) the location of cabin crew stations, taking into account direct-view requirements and cabin crew duties in an emergency evacuation, including:

(i) opening floor-level doors/exits and initiating stair or slide deployment;

(ii) assisting passengers to pass through doors/exits; and

(iii) directing passengers away from inoperative doors/exits, crowd control and passenger flow management;

(5) actions required to be performed by cabin crew in ditching, including the deployment of slide rafts and the launching of life rafts;

(6) additional actions required to be performed by cabin crew members when responsible for a pair of doors/exits; and

(7) the type and duration of the flight to be operated.

(b) When scheduling cabin crew for a flight, the operator should establish procedures that take account of the experience of each cabin crew member. The procedures should specify that the required cabin crew includes at least one cabin crew member who has at least three months'

experience as an operating cabin crew member.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.100 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.400 Number and composition of cabin crew

MINIMUM NUMBER OF CABIN CREW

(a) When determining the minimum required cabin crew for its specific airship cabin configuration, the operator should:

(1) request information regarding the minimum number of cabin crew established by the airship TC holder or other design organisation responsible for showing compliance with the evacuation requirements of the applicable certification basis; and

(2) take into account the factors specified in AMC1 AsOP.AOC.400, as applicable.

(b) The number of cabin crew referred to in point AsOP.AOC.400(b)(1) is defined as either of the below.

(1) The number of cabin crew who actively participated in the relevant emergency evacuation demonstration of the airship cabin, or who were assumed to have taken part in the relevant analysis, carried out by the airship TC holder when demonstrating the maximum passenger seating capacity of the airship type at the time of initial type certification.

(2) A reduced number of cabin crew who actively participated in a subsequent emergency evacuation demonstration, or who were assumed to have taken part in the relevant analysis, and for which approval has been obtained for a cabin configuration other than the maximum passenger seating capacity, either by the TC holder or by another design organisation. The operator should obtain a clear indication of that number, which is specified in the related documentation.

Rationale

This proposed AMC is equivalent to GM1 ORO.CC.100 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.400(d)(2) Number and composition of cabin crew

PROCEDURES FOR NON-COMMERCIAL OPERATIONS WITH NO OPERATING CABIN CREW ON BOARD AN AIRSHIP WITH A MAXIMUM OPERATIONAL PASSENGER SEATING CONFIGURATION OF MORE THAN 19 BUT CARRYING A MAXIMUM OF 19 PASSENGERS

The operator should assess the risk of operating a flight with no cabin crew members and ensure that the following procedures mitigate the risks and provide an appropriate level of protection of the airship occupants.

(a) Flight crew members assigned to these flights should receive training on operations where no cabin crew is required in accordance with points AsOP.AOC.310 and AsOP.AOC.312.

(b) The operator should consider the categories of passengers to be carried on such flights, who may or may not be knowledgeable about the airship type and procedures in normal, abnormal and emergency situations.

(c) The procedures should cover at least the following elements, if applicable:

(1) communication and coordination between flight crew members and passengers;

(2) flight crew member incapacitation;

(3) cabin surveillance;

(4) rapid egress from the airship in the event of rapid disembarkation or evacuation;

(5) operation and use of emergency exits and assisting evacuation means;

(6) location and use of oxygen;

(7) location and use of life jackets;

(8) passenger seating in order to maintain:

(i) easy access to emergency exits;

(ii) timely communication with flight crew member(s); and

(iii) the required mass and balance of the airship;

(9) passenger briefing in accordance with point AsOP.BAS.115, including information on the location and use of equipment not displayed in the operator's safety briefing material, such as a fire extinguisher, first aid equipment (e.g. first aid kit, defibrillator) and a smoke hood; and

(10) any additional safety instructions that are deemed necessary to ensure passenger protection.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.100(d)(2) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.400(d)(2) Number and composition of cabin crew

CATEGORIES OF PASSENGER

(a) The operator should, for non-commercial operations with an airship with an MOPSC of more than 19 but carrying a maximum of 19 passengers and no operating cabin crew on board, adapt the procedures to the categories of passengers to be carried on such flights. These include but are not limited to the following groups.

(1) Passengers who are already familiar with the airship environment, the procedures in normal operations and abnormal and emergency situations, or who are trained on the airship type (e.g. non-operating aircrew members, maintenance personnel).

(2) Passengers who are not familiar with the airship environment or procedures in normal operations and abnormal and emergency situations (e.g. the operator's guests, employees).

(3) Passengers who travel frequently on such flights. The operator may consider providing these passengers with training covering all safety and emergency procedures for the given airship type. The operator should be able to show evidence of their training. These passengers may also be provided with an extended briefing to facilitate communication

with flight crew and coordination of all passengers in the event of an abnormal or emergency situation.

(4) Special categories of passengers (see point AsOP.AOC.650).

(b) The operator may include in its procedures a ratio of the categories of passengers described in (a) above who can travel on the same flight.

Rationale

This proposed GM is equivalent to GM1 ORO.CC.100(d)(2) of Regulation (EU) No 965/2012.

AsOP.AOC.410 Conditions for assignment to duties

(a) Cabin crew members shall be assigned to duties on an airship only if they:

(1) are at least 18 years of age;

(2) have been assessed, in accordance with the applicable requirements of Annex IV (Part-MED) to Regulation (EU) No 1178/2011, as physically and mentally fit to perform their duties and discharge their responsibilities safely; and

(3) have successfully completed all applicable training and checking required by this section and are competent to perform the assigned duties in accordance with the procedures specified in the operations manual.

(b) Before assigning cabin crew members to duties when those cabin crew members are working on a freelance or part-time basis, the operator shall verify that all applicable requirements of this section are complied with, taking into account all services rendered by the cabin crew member to any other operator(s), to determine in particular:

(1) the total number of airship types and variants operated; and

(2) the applicable flight and duty time limitations and rest requirements.

(c) Operating cabin crew members, as well as their role with regard to the safety of passengers and the flight, shall be clearly identified to the passengers.

Rationale

This provision is equivalent to point ORO.CC.110 of Regulation (EU) No 965/2012.

AsOP.AOC.415 Conduct of training courses and associated checking

(a) A detailed programme and syllabus shall be established by the operator for each training course in accordance with the applicable requirements of this section, and of Annex V (Part-CC) to Regulation (EU) No 1178/2011 where applicable, to cover the duties and responsibilities to be discharged by the cabin crew members.

(b) Each training course shall include theoretical and practical instruction together with individual or collective practice, as relevant to each training subject, in order that the cabin crew member achieves and maintains the adequate level of proficiency in accordance with this section.

(c) Each training course shall be:

(1) conducted in a structured and realistic manner; and

(2) performed by personnel appropriately qualified for the subject to be covered.

(d) During or following completion of all training required by this section, each cabin crew member shall undergo a check covering all training elements of the relevant training programme, except for CRM training. Checks shall be performed by personnel appropriately qualified to verify that the cabin crew member has achieved and/or maintains the required level of proficiency.

(e) CRM training courses and CRM modules where applicable shall be conducted by a cabin crew CRM instructor. When CRM elements are integrated in other training, a cabin crew CRM instructor shall manage the definition and implementation of the syllabus.

Rationale

This requirement is equivalent to point ORO.CC.115 to Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.415(c) Conduct of training courses and associated checking

TRAINING PROGRAMME — TRAINING METHODS AND TRAINING DEVICES

(a) The operator's training programme and syllabus should include training methods that take into account the following:

(1) training should include the use of cabin training devices, audiovisual presentations, computer-based training and other types of training, as most appropriate to the training element; and

(2) a reasonable balance between different training methods should be ensured so that the cabin crew member achieves the level of proficiency necessary for a safe performance of all related cabin crew duties and responsibilities.

(b) When assessing the representative training devices to be used, the operator should meet all of the following criteria:

(1) they should take into account that a representative training device may be used to train cabin crew as an alternative to the use of the actual airship or required equipment;

(2) they should ensure that those items relevant to the training and checking intended to be given, accurately represent the airship or equipment in the following particulars:

(i) layout of the cabin in relation to doors/exits, galley areas and safety and emergency equipment stowage as relevant;

(ii) type and location of passenger seats and cabin crew stations;

(iii) doors/exits in all modes of operation, particularly in relation to the method of operation, mass and balance and operating forces, including failure of power assist systems where fitted; and

(iv) safety and emergency equipment of the type provided in the airship (such equipment may be 'training use only' items and, for oxygen and protective breathing equipment, units charged with or without oxygen may be used); and

(3) they should assess the following factors when determining whether a door/exit can be considered to be a variant of another type:

(i) door/exit arming/disarming,

(ii) direction of movement of the operating handle,

(iii) direction of door/exit opening,

(iv) power assist mechanisms, and

(v) assisting evacuation means such as slides and ropes.

Note: 'Emergency equipment' means equipment installed/carried to be used in the event of abnormal and emergency situations that demand immediate action for the safe conduct of the flight and protection of occupants, including life preservation (e.g. crash axe, fire extinguisher, protective breathing equipment, manual release tool, slide raft).

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.115(c) of Regulation (EU) No 965/2012. The definition of emergency equipment is from GM1 ORO.CC.115 of that Regulation.

AMC1 AsOP.AOC.415(d) Conduct of training courses and associated checking

CHECKING

(a) Checking required for each training course should be accomplished by the method appropriate to the training element to be checked. These methods include:

(1) practical demonstration;

(2) computer-based assessment;

(3) in-flight checks;

(4) oral or written tests.

(b) Training elements that require individual practical participation may be combined with practical checks.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.115(d) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.415(e) Conduct of training courses and associated checking

CREW RESOURCE MANAGEMENT (CRM) TRAINING — MULTI-CABIN-CREW OPERATIONS

(a) General

(1) Training environment

CRM training should be conducted in the non-operational environment (classroom and computer-based) and in the operational environment (cabin training device and airship). Tools such as group discussions, team task analysis, team task simulation and feedback should be used.

(2) Classroom training

Whenever possible, classroom training should be conducted in a group session away from the pressures of the usual working environment, so that the opportunity is provided for cabin crew members to interact and communicate in an environment conducive to learning.

(3) Computer-based training

Computer-based training should not be conducted as a stand-alone training method, but may be conducted as a complementary training method.

(4) Cabin training devices and the airship

Whenever practicable, relevant parts of CRM training should be conducted in representative cabin training devices that reproduce a realistic operational environment, or in the airship. During practical training, interaction between crew members should be encouraged.

(5) Integration into cabin crew training

CRM principles should be integrated into relevant parts of cabin crew training and operations, including checklists, briefings and emergency procedures.

Note: 'Emergency procedures' means all procedures established by the operator in the operations manual for abnormal and emergency situations. For this purpose, 'abnormal' refers to a situation that is not typical or usual, deviates from normal operation and may result in an emergency.

(6) Combined CRM training for flight crew and cabin crew

(i) Operators should provide combined training for flight crew and cabin crew during recurrent CRM training.

(ii) The combined training should address at least:

(A) effective communication, coordination of tasks and functions of flight crew and cabin crew; and

(B) mixed multinational and cross-cultural flight crew and cabin crew, and their interaction, if applicable.

(iii) Combined CRM training should be conducted by a flight crew CRM instructor or cabin crew CRM instructor.

(iv) There should be effective liaison between flight crew and cabin crew training departments. Provision should be made for transfer of relevant knowledge and skills between flight crew and cabin crew CRM instructors.

(7) Management system

CRM training should address hazards and risks identified by the operator's management system described in point AsOP.AOC.020.

(8) Competency-based CRM training

Whenever practicable, the compliance-based approach concerning CRM training may be substituted by a competency-based approach. In this context, CRM training should be characterised by a performance orientation, with emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.

(9) Contracted CRM training

If the operator chooses not to establish its own CRM training, another operator, a training organisation or a third party may be contracted to provide the training in accordance with point AsOP.AOC.025. In the case of contracted CRM training, the operator should ensure that the content of the course covers the specific culture, the type of operations and the associated procedures of the operator. When crew members from different operators attend the same course, the CRM training should be specific to the relevant flight operations and to the trainees concerned.

(b) Operator's CRM training

The operator's CRM training should cover all elements listed in Table 1 of (g). Several training elements are specified as 'not required' for the operator's CRM training, since they are covered under the introductory CRM course for cabin crew as required in Annex V (Part-CC) to Regulation (EU) No 1178/2011.

(c) Operator airship type conversion CRM training

If the cabin crew member undertakes the operator's conversion training on an airship type, the applicable CRM training elements should be covered as specified in Table 1 of (g).

(d) Annual recurrent CRM training

(1) Annual recurrent CRM training should be provided in such a way that all CRM training elements specified for the annual recurrent training in Table 1 of (g) are covered over a period not exceeding three years.

(2) Operators should update their recurrent CRM training programme over a period not exceeding three years. The revision of the programme should take into account information from the operator's management system.

(e) Senior cabin crew member course

(1) CRM training for senior cabin crew members should comprise the application of knowledge gained in previous CRM training and operational experience relevant to the specific duties and responsibilities of a senior cabin crew member. The operator should ensure that, for the senior cabin crew member course, the CRM training elements are integrated into the training, as specified in Table 1 of (g).

(2) During the training, the senior cabin crew member should demonstrate the ability:

(i) to manage the operation; and

(ii) to take appropriate leadership and management decisions.

(f) Training elements

The CRM training elements to be covered are specified in Table 1 of (g). The operator should ensure that the following aspects are addressed.

(1) Resilience development

CRM training should address the following main aspects of resilience development.

(i) Mental flexibility

Cabin crew should be trained to:

(A) understand that mental flexibility is necessary to recognise critical changes;

(B) reflect on their judgement and adjust it to the unique situation;

(C) avoid fixed prejudices and over-reliance on standard solutions; and

(D) remain open to changing assumptions and perceptions.

(ii) Performance adaptation

Cabin crew should be trained to:

(A) mitigate freezing behaviours, overreactions and inappropriate hesitation; and

(B) adjust actions to current conditions.

(2) Surprise and startle effect

CRM training should address unexpected, unusual and stressful situations including interruptions and distractions. Therefore, CRM training should be designed to prepare cabin crew to master sudden events and associated uncontrolled reactions.

(3) Cultural differences

CRM training should cover cultural differences of multinational and cross-cultural crews. This includes recognising that:

(i) different cultures may have different communication specifics, ways of understanding and approaches to the same situation or problem;

(ii) difficulties may arise when crew members with different mother tongues communicate in a common language that is not their mother tongue; and

(iii) cultural differences may lead to different methods of identifying a situation and solving a problem.

(4) Operator’s safety culture and company culture

CRM training should cover the operator’s safety culture, its company culture, the type of operations and the associated procedures of the operator. This should include areas of operations that may lead to particular difficulties or involve unusual hazards.

(5) Case studies

(i) CRM training should cover airship-type-specific case studies, based on the information available within the operator's management system, including:

(A) accident and serious incident reviews to analyse and identify any associated non-technical causal and contributory factors, and instances or examples of lack of CRM; and

(B) analysis of occurrences that were well managed.

(ii) If relevant airship-type-specific or operator-specific case studies are not available, the operator should consider other case studies relevant to the scale and scope of its operations.

(g) CRM training syllabus

Table 1 below specifies which CRM training elements should be covered in each type of training. The levels of training in Table 1 can be described as follows.

(1) 'Required' means training that should be instructive or interactive in style to meet the objectives specified in the CRM training programme or to refresh and strengthen knowledge gained in previous training.

(2) 'In-depth' means training that should be instructive or interactive in style, taking full advantage of group discussions, team task analysis, team task simulation, etc., for the acquisition or consolidation of knowledge, skills and attitudes. The CRM training elements should be tailored to the specific needs of the training phase being undertaken.

Table 1 – Cabin crew CRM training

CRM training elements	Operator's CRM training	Operator airship type conversion training	Annual recurrent training	Senior cabin crew member course
General principles				
• Human factors in aviation • General instructions on CRM principles and objectives • Human performance and limitations • Threat and error management	Required	Not required	Required	Required
Aspects relevant to the individual cabin crew member				

• Personality awareness, human error and reliability, attitudes and behaviours, self-assessment and self-critique • Stress and stress management • Fatigue and vigilance • Assertiveness, situational awareness and information acquisition and processing	Required	Required	Required (three-year cycle)	Required
Aspects relevant to the entire airship crew				
• Shared situational awareness and shared information acquisition and processing • Workload management • Effective communication and coordination between all crew members including the flight crew and inexperienced cabin crew members • Leadership, cooperation, synergy, delegation, decision-making and actions • Resilience development	In-depth	Required when relevant to the type(s)	Required (three-year cycle)	In-depth

• Surprise and startle effect • Cultural differences • Identification and management of human factors associated with passengers: crowd control, passenger stress, conflict management and medical factors				
Specifics related to airship types, flight crew and cabin crew composition and number of passengers	Required	In-depth	Required (three-year cycle)	In-depth
Aspects relevant to the operator and the organisation				
• Operator's safety culture and company culture, SOPs, organisational factors and factors linked to the type of operations • Effective communication and coordination with other operational personnel and ground services • Participation in cabin safety incident and accident reporting	In-depth	Required when relevant to the type(s)	Required (three-year cycle)	In-depth

Case studies	In-depth	Required when relevant to the type(s)	In-depth	In-depth

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.115(e) of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.415(e) Conduct of training courses and associated checking

CREW RESOURCE MANAGEMENT TRAINING — SINGLE-CABIN-CREW OPERATIONS

For single-cabin-crew operations, AMC1 AsOP.AOC.415(e) should be applied with the following differences.

(a) Relevant training elements

CRM training should focus on the elements specified in Table 1 of point (g) of AMC1 AsOP.AOC.415(e), which are relevant to single-cabin-crew operations. Therefore, single-cabin-crew CRM training should include, among other things:

(1) situational awareness;

(2) workload management;

(3) decision-making;

(4) resilience development;

(5) surprise and startle effect; and

(6) effective communication and coordination with:

(i) the flight crew; and

(ii) other operational personnel and ground services.

(b) Virtual classroom training

Notwithstanding point (a)(2) of AMC1 AsOP.AOC.415(e), classroom training may take place remotely, using a videoconferencing tool for a cabin crew member operating on an airship with an MOPSC of 19 or less. The tool should permit real-time interaction between the trainees and the instructor, including speech and elements of body language. It should also be capable of transmitting any document to the trainee that the instructor wishes to present. The CRM instructor should establish the list of trainees in advance. The number of trainees should be limited to six to ensure a sufficient level of interaction during the training session.

Rationale

This proposed AMC is equivalent to AMC2 ORO.CC.115(e) of Regulation (EU) No 965/2012.

AMC3 AsOP.AOC.415(e) Conduct of training courses and associated checking

CABIN CREW CREW RESOURCE MANAGEMENT INSTRUCTOR

(a) Applicability

The provisions described herein should meet both of the following criteria.

(1) They should be fulfilled by cabin crew CRM instructors responsible for classroom CRM training.

(2) They are not applicable to instructors conducting training other than CRM training but integrating CRM elements into this training. Nevertheless, instructors who are integrating CRM elements into the aircraft type training, recurrent training or senior cabin crew member training should have acquired relevant knowledge of human performance and limitations, and have completed appropriate CRM training.

(b) Qualification of the cabin crew CRM instructor

(1) A training and standardisation programme for cabin crew CRM instructors should be established.

(2) The cabin crew CRM instructor, in order to be suitably qualified, should:

(i) have adequate knowledge of the relevant flight operations;

(ii) have received training on human performance and limitations;

(iii) have completed an introductory CRM course, as required in Annex V (Part-CC) to Regulation (EU) No 1178/2011, and an operator's CRM training, as specified in AMC1 AsOP.AOC.415(e);

(iv) have received training in group facilitation skills;

(v) have received additional training in the fields of group management, group dynamics and personal awareness; and

(vi) have demonstrated the knowledge, skills and credibility required to train cabin crew in the CRM training elements in the non-operational environment, as specified in Table 1 of point (g) of AMC1 AsOP.AOC.415(e).

(3) An experienced CRM instructor may become a cabin crew CRM instructor if they demonstrate satisfactory knowledge of the relevant flight operations and the cabin crew working environment, and fulfil the provisions specified in (2)(ii) to (2)(vi).

(c) Training of the cabin crew CRM instructor

(1) The training of cabin crew CRM instructors should be both theoretical and practical. Practical elements should include the development of specific instructor skills, particularly the integration of CRM into day-to-day operations.

(2) The basic training of cabin crew CRM instructors should include the training elements for cabin crew, as specified in Table 1 of point (g) of AMC1 AsOP.AOC.415(e). In addition, the basic training should include:

(i) an introduction to CRM training;

(ii) the operator's management system; and

(iii) the following characteristics, as applicable:

(A) characteristics of the different types of CRM training (initial, recurrent, etc.),

(B) characteristics of combined training, and

(C) characteristics related to the type of airship or operation.

(3) The refresher training of cabin crew CRM instructors should include new methodologies, procedures and lessons learned.

(4) The training of cabin crew CRM instructors should be conducted by cabin crew CRM instructors with a minimum of three years' experience. Assistance may be provided by experts in order to address specific areas.

(d) Assessment of the cabin crew CRM instructor

(1) A cabin crew CRM instructor should be assessed by the operator when conducting the first CRM training course. This first assessment should be valid for a period of three years.

(2) Assessment is the process of observing, recording, interpreting and debriefing the cabin crew CRM instructor. The operator should describe the assessment process in the operations manual. All personnel involved in the assessment must be credible and competent in their role.

(e) Recency and renewal of qualification as a cabin crew CRM instructor

(1) For recency of the three-year validity period, the cabin crew CRM instructor should:

(i) conduct at least two CRM training events in any 12-month period;

(ii) be assessed within the last 12 months of the three-year validity period by the operator; and

(iii) complete CRM instructor refresher training within the three-year validity period.

(2) The next three-year validity period should start at the end of the previous period.

(3) For renewal — that is, when a cabin crew CRM instructor does not fulfil the provisions of (1) — they should, before resuming their duties as cabin crew CRM instructor:

(i) comply with the qualification provisions of (b) and (d); and

(ii) complete CRM instructor refresher training.

Rationale

This proposed AMC is equivalent to AMC3 ORO.CC.115(e) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.415(e) Conduct of training courses and associated checking

CREW RESOURCE MANAGEMENT — GENERAL

(a) CRM is the effective utilisation of all available resources (e.g. crew members, airship systems and supporting facilities) to achieve safe and efficient operation.

(b) The objectives of CRM are to enhance the communication and management skills of the crew member and to achieve effective coordination and two-way communication between all crew members.

Rationale

This proposed GM is equivalent to GM1 ORO.CC.115(e) of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.415(e) Conduct of training courses and associated checking

MINIMUM TRAINING TIMES

(a) The following minimum training times are appropriate:

(1) multi-cabin-crew operations:

(i) combined CRM training – six training hours over a period of three years; and

(ii) operator's CRM training – six training hours;

(2) operator's CRM training for single-cabin-crew operations: four training hours for a cabin crew member operating on an airship with an MOPSC of 19 or less;

(3) cabin crew CRM instructor:

(i) basic training:

(A) 18 training hours when the operator can justify that the trainee has already received sufficient and suitable instruction on training skills in order to conduct CRM training courses; or

(B) 30 training hours for trainees not fulfilling (A);

(ii) refresher training: six training hours.

(b) 'Training hours' means actual training time excluding breaks.

Rationale

This proposed GM is equivalent to GM2 ORO.CC.115(e) of Regulation (EU) No 965/2012.

GM3 AsOP.AOC.415(e) Conduct of training courses and associated checking

DESIGN, IMPLEMENTATION AND EVALUATION OF CREW RESOURCE MANAGEMENT TRAINING

The checklist in Table 1 provides guidance on the design, implementation and evaluation of CRM

training, and on its incorporation into the operator's safety culture. Elements of the operator's management systems and the competency-based approach are included in the checklist.

Table 1 – Checklist for the design, implementation, evaluation and incorporation of CRM training

Step	Description	Element
1	Needs analysis	Determine the necessary CRM competencies
		Develop CRM training goals
		Ensure that the organisation is ready for CRM training
2	Design	Develop CRM training objectives
		Determine what to measure and how to measure it
3	Development	Describe the CRM learning environment
		Develop a full-scale prototype of training
		Validate and modify CRM training
4	Implementation	Prepare trainees and the environment
		Establish a culture of learning (e.g. practice and feedback)
		Implement the CRM training programme
5	Evaluation	Determine training effectiveness
		Evaluate CRM training at multiple levels
		Revise the CRM training programme to improve effectiveness
6	Incorporation	Establish an environment where CRM training is positively recognised
		Reinforce CRM behaviours in daily work
		Provide recurrent CRM training

Rationale

This proposed GM is equivalent to GM3 ORO.CC.115(e) of Regulation (EU) No 965/2012.

GM4 AsOP.AOC.415(e) Conduct of training courses and associated checking

RESILIENCE DEVELOPMENT

(a) The main aspects of resilience development can be described as the ability to:

(1) learn (i.e. knowing what has happened);

(2) monitor (i.e. knowing what to look for);

(3) anticipate (i.e. finding out and knowing what to expect); and

(4) respond (i.e. knowing what to do and being capable of doing it).

(b) Operational safety is a continuous process of evaluating and adjusting to existing and future conditions. In this context, and following the description in (a), resilience development involves an ongoing and adaptable process including situation assessment, self-review, decision-making and action. Training on resilience development enables crew members to draw the right conclusions from both positive and negative experiences. Based on those experiences, crew members are better prepared to maintain or create safety margins by adapting to dynamic complex situations.

(c) The training topics in point (f)(1) of AMC1 AsOP.AOC.415(e) are to be understood as follows.

(1) Mental flexibility

(i) The phrase ‘understand that mental flexibility is necessary to recognise critical changes’ means that crew members are prepared to respond to situations for which there are no set procedures.

(ii) The phrase ‘reflect on their judgement and adjust it to the unique situation’ means that crew members learn to review their judgement based on the unique characteristics of the given circumstances.

(iii) The phrase ‘avoid fixed prejudices and over-reliance on standard solutions’ means that crew members learn to update solutions and standard response sets, which have been formed on prior knowledge.

(iv) The phrase ‘remain open to changing assumptions and perceptions’ means that crew members constantly monitor the situation and are prepared to adjust their understanding of the evolving conditions.

(2) Performance adaptation

(i) The phrase ‘mitigate freezing behaviours, overreactions and inappropriate hesitation’ means that crew members correct improper actions with a balanced response.

(ii) The phrase ‘adjust actions to current conditions’ means that crew members’ responses accord with the actual situation.

Rationale

This proposed GM is equivalent to GM4 ORO.CC.115(e) of Regulation (EU) No 965/2012.

GM5 AsOP.AOC.415(e) Conduct of training courses and associated checking

CABIN CREW CREW RESOURCE MANAGEMENT INSTRUCTOR ASSESSMENT

(a) For assessing cabin crew CRM instructors, the operator may nominate experienced cabin crew CRM instructors who have demonstrated continued compliance with the provisions for a cabin crew CRM instructor and capability in that role for at least three years.

(b) An operator that does not have the resources to conduct the assessment may employ a contractor. The standard as regards the assessment is confirmed on a three-year basis by the operator.

(c) The checklist in Table 1 provides guidance on the assessment of a cabin crew CRM instructor. If a cabin crew CRM instructor is competent in their role, the response to the questions in Table 1 should be 'yes'. When answering the questions in Table 1, justifications and examples related to the responses given should be provided.

Table 1 – Cabin crew CRM instructor assessment checklist

Questions to assess a cabin crew CRM instructor	Response (yes/no)
Did the CRM instructor demonstrate the knowledge required for the role?	
Did the CRM instructor support CRM concepts?	
Did the CRM instructor encourage trainees to participate, share their experiences and self-analyse?	
Did the CRM instructor identify and respond to the trainees' needs relative to expertise/experience?	
Did the CRM instructor show how CRM is integrated in technical training?	
Did the CRM instructor incorporate company CRM standards when appropriate?	
Did the CRM instructor identify and discuss the non-technical reasons involved in accidents, incidents and events included in case studies?	
Did the CRM instructor regularly check for understanding and resolve ambiguities?	
Did the CRM instructor demonstrate effective instruction and facilitation skills?	

Rationale

This proposed GM is equivalent to GM5 ORO.CC.115(e) of Regulation (EU) No 965/2012.

GM6 AsOP.AOC.415(e) Conduct of training courses and associated checking

CREW RESOURCE MANAGEMENT VIRTUAL CLASSROOM TRAINING — SINGLE-CABIN-CREW OPERATIONS OF AIRSHIPS WITH A MAXIMUM OPERATIONAL PASSENGER SEATING CONFIGURATION OF 19 OR FEWER

(a) Successful virtual classroom training relies on the ability of the instructor to make best use of the associated technologies in the context of CRM training. The cabin crew CRM instructor may need to receive appropriate training covering:

(1) learning style;

(2) teaching methods associated with virtual classroom instruction, such as videoconferencing, and familiarisation with the virtual classroom instruction system in use, including management of time, training media and equipment and tools.

(b) The requirement of point AsOP.BAS.010 for the operator to grant access to the competent authority also applies to the virtual classroom training.

(c) More information on virtual classroom training is provided in EASA's *Guidance for allowing virtual classroom instruction and distance learning*.

Rationale

This proposed GM is equivalent to GM6 ORO.CC.115(e) of Regulation (EU) No 965/2012.

AsOP.AOC.420 Initial training course

(a) Each new entrant who does not already hold a valid cabin crew attestation issued in accordance with Annex V (Part-CC) to Regulation (EU) No 1178/2011:

(1) shall be provided with an initial training course as specified in point CC.TRA.220 of that Annex; and

(2) shall pass the associated examination before undertaking other training required by this section.

(b) Elements of the initial training programme may be combined with the first airship-type-specific training and operator conversion training, provided that the requirements of point CC.TRA.220 are met and any such element(s) are recorded as elements of the initial training course in the training records of the cabin crew members concerned.

Rationale

This requirement is equivalent to point ORO.CC.120 of Regulation (EU) No 965/2012.

AsOP.AOC.425 Airship-type-specific training and operator conversion training

(a) Each cabin crew member shall have completed appropriate airship-type-specific training and operator conversion training, and the associated checks, before being:

(1) assigned for the first time by the operator to operate as a cabin crew member; or

(2) assigned by that operator to operate on another airship type.

(b) When establishing the airship-type-specific and the operator conversion training programmes and syllabi, the operator shall include, where available, the relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012.

(c) The airship-type-specific training programme shall:

(1) involve training and practice on a representative training device or on the actual airship; and

(2) cover at least the following airship-type-specific training elements:

(i) a description of the airship, as relevant to cabin crew duties;

(ii) all safety equipment and systems installed relevant to cabin crew duties;

(iii) operation and actual opening, by each cabin crew member, of each type or variant of normal and emergency doors and exits in the normal and emergency modes;

(iv) demonstration of the operation of the other exits including flight crew compartment windows;

(v) fire and smoke protection equipment, where installed;

(vi) evacuation slide training, where fitted;

(vii) operation of the seat, restraint system and oxygen system equipment relevant to pilot incapacitation.

(d) The operator conversion training programme for each airship type to be operated shall:

(1) involve training and practice on a representative training device or on the actual airship;

(2) include training in the operator's SOPs for cabin crew members to be assigned for the first time to duties by the operator;

(3) cover at least the following operator-specific training elements as relevant to the airship type to be operated:

(i) a description of the cabin configuration;

(ii) location, removal and use of all portable safety and emergency equipment carried on board;

(iii) all normal and emergency procedures;

(iv) passenger handling and crowd control;

(v) fire and smoke training including the use of all related firefighting and protective equipment representative of that carried on board;

(vi) evacuation procedures;

(vii) pilot incapacitation procedures;

(viii) applicable security requirements and procedures;

(ix) CRM.

Rationale

This requirement is equivalent to point ORO.CC.125 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.425 Airship-type-specific training and operator conversion training

TRAINING PROGRAMMES

The programmes and syllabi of airship-type-specific training, operator conversion training and differences training should take into account the cabin crew member's previous training as documented in their training record.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.125 & ORO.CC.130 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.425(b) Airship-type-specific training and operator conversion training

NON-MANDATORY (RECOMMENDED) ELEMENTS OF OPERATIONAL SUITABILITY DATA

When developing the training programmes and syllabi for airship-type-specific training and for differences training, the operator should consider the non-mandatory (i.e. recommended) elements for the relevant airship type that are provided in the operational suitability data established in accordance with Commission Regulation (EU) No 748/2012.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.125(b) & ORO.CC.130(c).

AMC1 AsOP.AOC.425(c) Airship-type-specific training and operator conversion training

TRAINING PROGRAMME — AIRSHIP-TYPE-SPECIFIC TRAINING

The following airship-type-specific training elements should be covered as relevant to the airship type.

(a) A description of the airship, which should comprise:

(1) the type of airship and the principal dimensions and airship layout of the passenger cabin configuration;

(2) speed, altitude and range;

(3) passenger seating capacity;

(4) the flight crew number and minimum number of required cabin crew;

(5) locations and sill heights of cabin doors/exits;

(6) cargo and unpressurised areas as relevant;

(7) airship systems relevant to cabin crew duties;

(8) the flight crew compartment — general presentation, pilot seats and their mechanism, emergency exits and storage;

(9) required cabin crew stations;

(10) flight crew compartment security – door components and use;

(11) access to the avionics bay where relevant;

(12) lavatories — doors, systems, calls and signs; and

(13) the least-risk bomb location.

(b) Safety and emergency equipment and airship systems installed

Each cabin crew member should receive realistic training on, and a demonstration of, the location and use of all airship-type-specific safety and emergency equipment and airship systems installed, with emphasis on:

(1) slides and, where non-self-supporting slides are carried, the use of any associated assisting evacuation means;

(2) life rafts and slide rafts, including the equipment attached to, and/or carried in, the raft; and

(3) communications equipment.

(c) Operation of doors and exits

This training should be conducted in a representative training device or in the actual airship and should include failure of power assist systems where fitted and the action and forces required to operate and deploy evacuation slides. Training should also include operation and actual opening of the flight crew compartment security door when installed.

(d) Fire and smoke protection equipment

Each cabin crew member should be trained in using fire and/or smoke protection equipment where fitted.

(e) Evacuation slide training

(1) Each cabin crew member should descend an evacuation slide from a height representative of the airship deck sill height.

(2) The slide should be fitted to a representative training device or to the actual airship.

(3) A further descent should be made when the cabin crew member qualifies on an airship type in which the main deck exit sill height differs significantly from any airship type previously operated.

(f) Operation of equipment related to pilot incapacitation

The training should cover any type-specific elements or conditions relevant to cabin crew actions to be taken in the event of pilot incapacitation. Each cabin crew member should be trained to operate all equipment that must be used in the event of pilot incapacitation.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.125(c) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.425(d) Airship-type-specific training and operator conversion training

TRAINING PROGRAMME — OPERATOR CONVERSION TRAINING

The following training elements should be covered as relevant to the airship type and the related specificities of the operator.

(a) Description of the cabin configuration

The description should cover all elements specific to the operator's cabin configuration and any differences from those previously covered in accordance with AMC1 AsOP.AOC.415(c), including:

(1) required and additional cabin crew stations — location (including direct view), restraint systems and control panels;

(2) passenger seats — general presentation and associated operator-specific features and equipment;

(3) designated stowage areas;

(4) lavatories — operator-specific features, equipment and systems additional to the airship-type-specific elements;

(5) the galley — location, appliances and the water and waste system, including shut-off, sinks, drains, stowage, control panels, calls and signs;

(6) crew rest areas — location, systems, controls and safety and emergency equipment, where applicable;

(7) cabin dividers, curtains and partitions, where applicable;

(8) lift location, use and controls, where applicable;

(9) stowage for the containment of waste, where applicable;

(10) the passenger hand rail system or alternative means, where applicable; and

(11) the IFE system, if installed (e.g. a central system or handheld device(s) such as portable electronic devices for use by the passenger(s) as applicable), and its safety aspects.

(b) Safety and emergency equipment

Each cabin crew member should receive realistic training on, and a demonstration of, the location and use of all safety and emergency equipment carried, including:

(1) life jackets, infant life jackets and flotation devices;

(2) first-aid and drop-down oxygen, including supplementary systems;

(3) fire extinguishers and protective breathing equipment;

(4) the crash axe or crowbar;

(5) emergency lights including torches;

(6) communications equipment, including megaphones;

(7) slide rafts and life raft survival packs and their contents;

(8) pyrotechnics (actual or representative devices);

(9) first aid kits, emergency medical kits and their contents;

(10) the emergency rip; and

(11) other portable safety and emergency equipment, where applicable.

(c) Normal and emergency procedures

Each cabin crew member should be trained on the operator's normal and emergency procedures as applicable, with emphasis on:

(1) passenger briefing, safety demonstration and cabin surveillance;

(2) severe air turbulence;

(3) other in-flight emergencies; and

(4) carriage of special categories of passengers.

(d) Passenger handling and crowd control

Training should be provided on the practical aspects of passenger preparation and handling, and crowd control, in various emergency situations as applicable to the operator's specific airship cabin configuration, and should cover:

(1) communications between flight crew and cabin crew and use of all communications equipment, including the difficulties of coordination in a smoke-filled environment;

(2) verbal commands;

(3) the physical contact that may be needed to encourage people out of a door/exit and onto a slide;

(4) redirection of passengers away from unusable doors/exits;

(5) marshalling of passengers away from the airship;

(6) evacuation of special categories of passengers, with emphasis on passengers with disabilities or reduced mobility; and

(7) authority and leadership.

(e) Fire and smoke training

(1) Each cabin crew member should receive realistic and practical training in the use of all firefighting equipment, including protective clothing, representative of that carried in the airship.

(2) Each cabin crew member should:

(i) extinguish an actual fire characteristic of an airship interior fire except that, in the case of halon extinguishers, an alternative extinguishing agent may be used; and

(ii) exercise the donning and use of protective breathing equipment in an enclosed simulated smoke-filled environment with particular emphasis on identifying the actual source of fire and smoke.

(f) Evacuation procedures

Training should include all the operator's procedures that are applicable to planned or unplanned evacuations on land and water. It should also include, where relevant, the additional actions required from cabin crew members responsible for a pair of doors/exits and the recognition of when doors/exits are unusable or when evacuation equipment is unserviceable.

(g) Pilot incapacitation procedures

Unless the minimum flight crew is more than two, each cabin crew member should be trained in the procedure for pilot incapacitation. Training in the use of flight crew checklists, where required by the operator's SOPs, should be conducted by a practical demonstration.

(h) CRM

(1) The operator should ensure that all applicable CRM training elements, as specified in Table 1 of point (g) of AMC1 AsOP.AOC.415(e), are covered to the level required in the column 'Operator airship type conversion training'.

(2) The operator's CRM training and the CRM training covered during the operator airship type conversion training should be conducted by at least one cabin crew CRM instructor.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.125(d) of Regulation (EU) No 965/2012.

AsOP.AOC.430 Differences training

(a) In addition to the training required in point AsOP.AOC.425, the cabin crew member shall complete appropriate training and checking covering any differences before being assigned to:

(1) a variant of an airship type currently operated; or

(2) a currently operated airship type or variant with:

(i) different safety equipment;

(ii) a different safety and emergency equipment location; or

(iii) different normal and emergency procedures.

(b) The differences training programme shall:

(1) be determined as necessary on the basis of a comparison with the training programme completed by the cabin crew member, in accordance with points AsOP.AOC.425(c) and (d), for the relevant airship type; and

(2) involve training and practice in a representative training device or the actual airship as relevant to the differences training element to be covered.

(c) When establishing a differences training programme and syllabus for a variant of an airship type currently operated, the operator shall include, where available, the relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012.

Rationale

This requirement is equivalent to point ORO.CC.130 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.430 Differences training

Refer to AMC1 AsOP.AOC.425.

AMC1 AsOP.AOC.430(c) Differences training

Refer to AMC1 AsOP.AOC.425(b).

AsOP.AOC.435 Familiarisation

After completion of airship-type-specific training and operator conversion training on an airship type, each cabin crew member shall complete appropriate supervised familiarisation on the type before being assigned to operate as a member of the minimum number of cabin crew required in accordance with point AsOP.AOC.400.

Rationale

This requirement is equivalent to point ORO.CC.135 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.435 Familiarisation

FAMILIARISATION FLIGHTS AND AIRSHIP FAMILIARISATION VISITS

(a) For commercial operations, familiarisation of cabin crew with a new airship type or variant should be completed in accordance with the following, as relevant.

(1) New-entrant cabin crew

Each new-entrant cabin crew member with no previous comparable operating experience should participate in:

(i) a familiarisation visit, as described in (c), to the airship to be operated; and

(ii) familiarisation flights, as described in (b).

(2) Cabin crew operating on a subsequent airship type

A cabin crew member assigned to operate on a subsequent airship type with the same operator should participate in either:

(i) a familiarisation flight, as described in (b); or

(ii) a familiarisation visit, as described in (c), to the airship type to be operated.

(b) Familiarisation flights

(1) During familiarisation flights, the cabin crew member should be assigned in addition to the minimum number of cabin crew required in accordance with point AsOP.AOC.400 and, if applicable, point AsOP.AOC.450.

(2) Familiarisation flights should be:

(i) conducted under the supervision of the senior cabin crew member;

(ii) structured and conducted with the cabin crew member participating in pre-flight, in-flight and post-flight safety duties;

(iii) operated with the cabin crew member wearing the operator's cabin crew uniform; and

(iv) recorded in the training record of the cabin crew member.

(c) Airship familiarisation visits

(1) Airship familiarisation visits should enable the cabin crew member to become familiar with the aircraft environment and its equipment. Accordingly, such visits should be conducted by appropriately qualified persons. The visit should provide an overview of the airship's exterior, interior and systems, with emphasis on:

(i) interphone and public address systems;

(ii) evacuation alarm systems;

(iii) emergency lighting;

(iv) smoke detection systems;

(v) safety and emergency equipment;

(vi) the flight crew compartment;

(vii) cabin crew stations;

(viii) lavatories;

(ix) galleys, galley security and water shut-off;

(x) cargo areas, if accessible from the passenger compartment during flight;

(xi) circuit breaker panels located in the passenger compartment;

(xii) crew rest areas;

(xiii) location of doors/exits ;

(xiv) the IFE system used for conveying safety-related information.

(2) An airship familiarisation visit may be combined with the airship-type-specific training or operator conversion training required by point AsOP.AOC.425.

(d) For cabin crew members assigned to operations other than commercial, familiarisation should be completed by means of an airship familiarisation visit or a familiarisation flight, as appropriate, taking into account the airship type to be operated by the cabin crew member.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.135 of Regulation (EU) No 965/2012.

AsOP.AOC.440 Recurrent training

(a) Each cabin crew member shall complete annually recurrent training and checking.

(b) Recurrent training shall cover the actions assigned to each member of the cabin crew in normal and emergency procedures and drills relevant to each airship type and/or variant to be operated.

(c) Airship-type-specific training elements

(1) Recurrent training shall include annual touch drills by each cabin crew member for simulating the operation of each type or variant of normal and emergency doors and exits for passenger evacuation.

(2) Recurrent training shall also include, at intervals not exceeding three years:

(i) operation and actual opening by each cabin crew member, in a representative training device or in the actual airship, of each type or variant of normal and emergency exits in the normal and emergency modes;

(ii) actual operation by each cabin crew member, in a representative training device or in the actual airship, of the flight crew compartment security door, in both normal and emergency modes, and of the seat and restraint system, and a practical demonstration of the oxygen system equipment relevant to pilot incapacitation;

(iii) demonstration of the operation of all other exits including the flight crew compartment windows; and

(iv) demonstration of the use of the life raft, or slide raft, where fitted.

(d) Operator-specific training elements

(1) Recurrent training shall include, annually:

(i) by each cabin crew member:

(A) location and handling of all safety and emergency equipment installed or carried on board; and

(B) the donning of life jackets and protective breathing equipment;

(ii) stowage of articles in the passenger compartment;

(iii) procedures related to airship surface contamination, if applicable;

(iv) emergency procedures;

(v) evacuation procedures;

(vi) incident and accident review;

(vii) CRM;

(viii) aeromedical aspects and first aid including related equipment;

(ix) security procedures.

(2) Recurrent training shall also include, at intervals not exceeding three years:

(i) use of pyrotechnics (actual or representative devices);

(ii) practical demonstration of the use of flight crew checklists;

(iii) realistic and practical training in the use of all firefighting equipment, including protective clothing, representative of that carried in the airship;

(iv) by each cabin crew member:

(A) extinguishing a fire characteristic of an airship interior fire;

(B) donning and use of protective breathing equipment in an enclosed simulated smoke-filled environment.

(e) Validity periods

(1) The annual recurrent training validity period shall be 12 calendar months counted from the end of the month when the check was carried out.

(2) If the recurrent training and checking required in (a) are undertaken within the last three calendar months of the validity period, the new validity period shall be counted from the original expiry date.

(3) For the additional triennial training elements specified in (c)(2) and (d)(2), the validity period shall be 36 calendar months counted from the end of the month when the checks were carried out.

Rationale

This requirement is equivalent to point ORO.CC.140 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.440 Recurrent training

TRAINING PROGRAMMES

(a) Elements of the annual recurrent training programme

(1) Training on the location and handling of safety and emergency equipment should include all relevant oxygen systems, and any equipment such as defibrillators if carried on board.

(2) Training on emergency procedures should cover pilot incapacitation procedures and crowd control techniques.

(3) CRM training should satisfy the following:

(i) the applicable training elements specified in Table 1 of point (g) of AMC1 AsOP.AOC.415(e) should be covered within a three-year cycle to the level required by the column 'Annual recurrent training';

(ii) the definition and implementation of the CRM training programme should be managed by a cabin crew CRM instructor; and

(iii) when CRM training is provided in stand-alone modules, it should be conducted by at least one cabin crew CRM instructor.

(b) Additional triennial elements of the recurrent training programme

(1) Training on the operation of normal and emergency doors/exits should cover failure of power assist systems where fitted. This should include the actions and forces required to operate and deploy evacuation slides, and additional training when relevant for cabin crew members responsible for a pair of doors/exits.

(2) Training in the use of all firefighting equipment, including protective clothing, representative of that carried in the airship should include individual practice by each cabin crew member to extinguish a fire characteristic of an airship interior fire except that, in the case of halon extinguishers, an alternative extinguishing agent may be used. Training should place particular emphasis on identifying the actual source of fire or smoke.

(3) Training on normal and emergency procedures for special categories of passengers should cover the specific procedures established by the operator for the carriage of special categories of passengers. The operator may determine that such training is to be completed at shorter intervals, taking into account the route structure, passenger profiles, aircraft types operated, seasonal demands and operations.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.140 of Regulation (EU) No 965/2012.

AsOP.AOC.445 Refresher training

(a) When a cabin crew member, during the preceding six months within the validity period of the last relevant recurrent training and checking:

(1) has not performed any flying duties, they shall, before being reassigned to such duties, complete refresher training and checking for each airship type to be operated; or

(2) has not performed flying duties on one particular airship type, they shall, before being reassigned to duties, complete one of the following on that airship type:

(i) refresher training and checking,

(ii) two familiarisation flights in accordance with point AsOP.AOC.435.

(b) The refresher training programme for each airship type shall at least cover:

(1) emergency procedures;

(2) evacuation procedures;

(3) operation and actual opening, by each cabin crew member, of each type or variant of normal and emergency exits and of the flight crew compartment security door in the normal and emergency modes;

(4) demonstration of the operation of all other exits including the flight crew compartment windows;

(5) location and handling of all relevant safety and emergency equipment installed or carried on board.

(c) The operator may elect to replace refresher training with recurrent training if the reinstatement of the cabin crew member's flying duties commences within the validity period of the last recurrent training and checking. If that validity period has expired, refresher training may only be replaced by airship-type-specific and operator conversion training as specified in point AsOP.AOC.425.

Rationale

This requirement is equivalent to point ORO.CC.145 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.445 Refresher training

TRAINING PROGRAMME

(a) Training on emergency procedures should include pilot incapacitation procedures and crowd control techniques as applicable to the airship type.

(b) Operation of doors and exits by each cabin crew member should include failure of power assist systems where fitted and the action and forces required to operate and deploy evacuation slides.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.145 of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.445 Refresher training

FREQUENCY OF REFRESHER TRAINING

For airships with complex equipment or procedures, the operator should consider the need for refresher training to be completed by cabin crew members who have been absent from flying duties for less than six months.

Rationale

This proposed GM is equivalent to GM1 ORO.CC.145 to Regulation (EU) No 965/2012.

AsOP.AOC.450 Senior cabin crew member

(a) When more than one cabin crew member is required, the composition of the cabin crew shall include a senior cabin crew member nominated by the operator.

(b) The operator shall nominate cabin crew members to the position of senior cabin crew member only if they:

(1) have at least one year of experience as an operating cabin crew member; and

(2) have successfully completed a senior cabin crew training course and the associated check.

(c) The senior cabin crew training course shall cover all duties and responsibilities of senior cabin crew members and shall include at least the following elements:

(1) pre-flight briefing,

(2) cooperation with the rest of the crew,

(3) review of operator requirements and legal requirements,

(4) accident and incident reporting,

(5) human factors and CRM, and

(6) flight and duty time limitations and rest requirements.

(d) The senior cabin crew member shall be responsible to the pilot-in-command for the conduct and coordination of normal and emergency procedures specified in the operations manual, including for discontinuing non-safety-related duties for safety or security purposes.

(e) The operator shall establish procedures to select the most appropriately qualified cabin crew member to act as senior cabin crew member if the nominated senior cabin crew member becomes unable to operate.

Rationale

This requirement is equivalent to point ORO.CC.200 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.450(c) Senior cabin crew member

TRAINING PROGRAMME

The senior cabin crew member training course should at least cover the following elements.

(a) Pre-flight briefing:

(1) operating as a crew;

(2) allocation of cabin crew stations and responsibilities; and

(3) consideration of the particular flight, airship type, equipment, area and type of operation and special categories of passengers, with emphasis on passengers with disabilities or reduced mobility, infants and stretcher cases.

(b) Cooperation within the crew:

(1) discipline, responsibilities and chain of command;

(2) importance of coordination and communication; and

(3) pilot incapacitation.

(c) Review of operator requirements and legal requirements:

(1) passenger briefing and safety briefing cards;

(2) securing of galleys;

(3) stowage of cabin baggage;

(4) electronic equipment;

(5) procedures when replacing batteries with passengers on board;

(6) turbulence; and

(7) documentation.

(d) Accident and incident reporting.

(e) Human factors and CRM: the operator should ensure that all applicable elements specified in Table 1 of point (g) of AMC1 AsOP.AOC.415(e) are integrated into the training and covered to the level required by the column 'Senior cabin crew member course'.

(f) Flight and duty time limitations and rest requirements.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.200(c) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.450(d) Senior cabin crew member

RESPONSIBILITY TO THE PILOT-IN-COMMAND

When the level of turbulence so requires, and in the absence of any instructions from the flight crew, the senior cabin crew member should be entitled to discontinue non-safety-related duties and advise the flight crew of the level of turbulence being experienced and the need for the 'fasten seat belt' signs to be switched on. This should be followed by the cabin crew securing the passenger cabin and other relevant areas.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.200(d) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.450(e) Senior cabin crew member

UNABLE TO OPERATE

(a) Replacement of the senior cabin crew member at a base of the operator

A senior cabin crew member who did not report for or cannot commence the assigned flight or series of flights originating from a base of the operator should be replaced without undue delay. The flight should not depart unless another senior cabin crew member has been assigned.

(b) Replacement of an incapacitated or unavailable senior cabin crew member

(1) A senior cabin crew member who becomes incapacitated during a flight or series of flights, or unavailable at a stopover (layover) point, should be replaced without undue delay by another senior cabin crew member qualified on the airship type/variant concerned. If there is no other senior cabin crew member, the most appropriately qualified cabin crew member should be assigned to act as senior cabin crew member in order to reach a base of the operator.

(2) If during the series of flights the airship transits via a base of the operator, the assigned cabin crew member acting as senior cabin crew member should be replaced by another senior cabin crew member.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.200(e) of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.450(e) Senior cabin crew member

MOST APPROPRIATELY QUALIFIED CABIN CREW MEMBER

Selection of the most appropriately qualified cabin crew member should take into account whether the individual's experience as an operating cabin crew member is adequate for the conduct of duties required of a senior cabin crew member. The selected cabin crew member should have operational experience on the airship type/variant concerned.

Rationale

This proposed AMC is equivalent to AMC2 ORO.CC.200(e) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.450(e) Senior cabin crew member

REPLACEMENT OF AN INCAPACITATED OR UNAVAILABLE SENIOR CABIN CREW MEMBER WITH ANOTHER SENIOR CABIN CREW MEMBER

To ensure that another senior cabin crew member is assigned without undue delay, the operator should take appropriate measures. These include, but are not limited to, the following.

(a) To ensure that a flight or series of flights do not depart from an aerodrome or operating site without assigning a senior cabin crew member who is available or can be made available, the operator may:

(1) appoint a senior cabin crew member originally assigned to another flight and who is available at the base or stopover (layover) point concerned if the reporting time for that flight provides sufficient time to find a replacement; or

(2) assign a senior cabin crew member who is on standby to operate the flight or to position to the destination where the nominated senior cabin crew member has become incapacitated or unavailable to operate.

(b) The operator should utilise another senior cabin crew member among the operating crew on the same flight, if available.

(c) If a senior cabin crew member is unavailable, the operator should use the available time and resources to replace them at the stopover (layover) point with another senior cabin crew

member.

(d) The operator should consider including the identification of the most appropriately qualified cabin crew member in pre-flight briefings.

Rationale

This proposed GM is equivalent to GM1 ORO.CC.200(e) of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.450(e) Senior cabin crew member

FLIGHT OR SERIES OF FLIGHTS

A 'flight or series of flights' refers to a period that commences when a cabin crew member is required to report for duty, which includes a sector or a series of sectors, and finishes when the airship finally comes to rest and the engines are shut down at the end of the last sector on which the cabin crew member acts as an operating crew member.

Rationale

This proposed GM is equivalent to GM2 ORO.CC.200(e) of Regulation (EU) No 965/2012.

AsOP.AOC.455 Reduction of the number of cabin crew members during ground handling and in unforeseen circumstances

(a) Whenever passengers are on board an airship, the minimum number of cabin crew members required in accordance with point AsOP.AOC.400 shall be present in the airship and ready to act.

(b) By way of derogation from point (a), the minimum number of cabin crew members may be reduced in any of the following cases.

(1) When the airship is moored.

(2) In unforeseen circumstances if the number of passengers carried on the flight is reduced. In this case, a report shall be submitted to the competent authority after completion of the flight.

(3) For the purpose of providing in-flight rest during the cruise phase, either in accordance with point AsOP.FTL.205 of the AsOP.FTL Regulation or as a fatigue mitigation implemented by the operator.

(c) For the purposes of points (b)(1) and (b)(2), the operator's procedures established in the operations manual shall ensure that:

(1) an equivalent level of safety is achieved with the reduced number of cabin crew members, in particular for evacuation of passengers;

(2) despite the reduced number of cabin crew members, a senior cabin crew member is present in accordance with point AsOP.AOC.450;

(3) at least one cabin crew member is required for every 50, or fraction of 50, passengers present on the same deck of the airship.

(d) For the purposes of point (b)(3), the operator shall:

(1) conduct a risk assessment to determine the number of cabin crew members who are to be present and ready to act at all times during cruise;

(2) identify measures to mitigate the effects of having a lower number of cabin crew members present and ready to act during cruise;

(3) establish in the operations manual specific procedures, including for the in-flight rest of the senior cabin crew member, that ensure at all times appropriate passenger handling and efficient management of any abnormal or emergency situations;

(4) specify, in the flight time specification scheme in accordance with point AsOP.FTL.120 of the AsOP.FTL Regulation, the conditions under which in-flight rest may be provided to the cabin crew members.

Rationale

This requirement is equivalent to point ORO.CC.205 of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.455(a) Reduction of the number of cabin crew members during ground handling and in unforeseen circumstances

CABIN CREW PRESENT AND READY TO ACT

'Present and ready to act' means that cabin crew members should be awake and in a state of alertness that enables them to fulfil their responsibilities and perform their duties as required by any situation in accordance with all applicable normal and emergency procedures established in the operations manual.

Rationale

This proposed GM is equivalent to GM1 ORO.CC.205(a) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.455(b)(2) Reduction of the number of cabin crew members during ground handling and in unforeseen circumstances

UNFORESEEN CIRCUMSTANCES

In the context of unforeseen circumstances:

(a) 'incapacitation' means a sudden degradation of medical fitness that occurs during a flight duty period, either in-flight or during a flight transit of the same flight duty period away from the operator's base, and that precludes the senior cabin crew member or cabin crew member from performing their duties. Incapacitation prior to dispatch of the airship from a base of the operator does not substantiate a reduction of the cabin crew complement below the minimum required;

(b) 'unavailability' means circumstances at a stopover (layover) destination that preclude the senior cabin crew member or cabin crew member from reporting for the flight duty period, such as traffic jams that prevent the senior cabin crew member or cabin crew member from presenting themselves at the crew pick-up point in time, difficulties with local authorities,

health problems or death. Unavailability does not refer to an insufficient number or absence of cabin crew members on standby, or absence from work due to pregnancy, maternity/paternity leave, parental leave, medical leave, sick leave or any other formalised absence from work.

Rationale

This proposed GM is equivalent to GM1 ORO.CC.205(b)(2) of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.455(c)(1) Reduction of the number of cabin crew members during ground handling and in unforeseen circumstances

PROCEDURES WITH A REDUCED NUMBER OF CABIN CREW

(a) During ground handling, if reducing the applicable minimum required number of cabin crew, the operator should ensure that the procedures required by point AsOP.AOC.455(c)(1) specify that:

(1) electrical power is available on the airship;

(2) a means of initiating an evacuation is available to the senior cabin crew member or at least one member of the flight crew is in the flight crew compartment;

(3) cabin crew stations and associated duties are specified in the operations manual; and

(4) cabin crew remain aware of the position of servicing and loading vehicles at and near the exits.

Additionally, in the case of passengers' embarkation:

(5) the senior cabin crew member should have performed the pre-boarding safety briefing to the cabin crew; and

(6) the pre-boarding cabin checks should have been completed.

(b) If, in unforeseen circumstances, the number of cabin crew members is reduced below the applicable minimum required number, for example in the event of incapacitation or unavailability of cabin crew, the procedures established for this purpose in the operations manual should take into consideration at least the following:

(1) reduction of passenger numbers;

(2) reseating of passengers with due regard to doors/exits and other applicable limitations; and

(3) relocation of cabin crew taking into account the factors specified in AMC1 AsOP.AOC.400 and any change of procedures.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.205(c)(1) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.455(d) Reduction of the number of cabin crew members during ground handling and in unforeseen circumstances

RISK ASSESSMENT FOR CRUISE-PHASE OPERATION WITH A LOWER NUMBER OF CABIN CREW MEMBERS

When conducting the risk assessment required under point AsOP.AOC.455(d), the operator should:

(a) assess the risks as relevant to the type and duration of the flight to be operated, the airship type, the cabin configuration, the passenger seating capacity, the number and qualification of the operating cabin crew members and the particular flight duty period;

(b) determine how many cabin crew members should be present and ready to act at any time to realistically manage the normal and emergency procedures to be applied during cruise; and

(c) evaluate the time and conditions necessary for the cabin crew members taking in-flight rest to reach their assigned cabin crew stations in the event of an emergency.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.205(d) of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.455(d) Reduction of the number of cabin crew members during ground handling and in unforeseen circumstances

SPECIFIC PROCEDURES FOR CRUISE-PHASE OPERATION WITH A LOWER NUMBER OF CABIN CREW MEMBERS IN THE PASSENGER COMPARTMENT

(a) When establishing the specific procedures for cruise-phase operation with a lower number of cabin crew members in the passenger compartment, the operator should at least consider the following.

(1) Normal procedures, including at least:

(i) surveillance of the passenger compartment, including the lavatories and the galleys;

(ii) management of, and assistance provided to, passengers;

(iii) crew communication and coordination, including the necessary contact with and support to the flight crew as specified by the operator.

(2) Emergency procedures, including at least those to be applied in the event of:

(i) a medical emergency;

(ii) unruly behaviour;

(iii) unlawful interference or a bomb threat;

(iv) a fire or smoke event.

(b) Specific procedures for cruise-phase operation with a lower number of cabin crew should describe:

(1) how to reassign duties and responsibilities of cabin crew members or senior cabin crew members who take in-flight rest to another cabin crew member considering the experience and qualification of the cabin crew member or senior cabin crew member; and

(2) how cabin crew members taking in-flight rest can be ready to act and reach their assigned cabin crew stations in the event of an emergency.

Rationale

This proposed AMC is equivalent to AMC2 ORO.CC.205(d) of Regulation (EU) No 965/2012.

AsOP.AOC.460 Additional conditions for assignment to duties

Cabin crew members shall only be assigned to duties, and operate, on a particular airship type or variant if they:

(a) hold a valid attestation issued in accordance with Annex V (Part-CC) to Regulation (EU) No 1178/2011;

(b) are qualified on the type or variant in accordance with this section;

(c) comply with the other applicable requirements of this Regulation;

(d) wear the operator's cabin crew uniform.

Rationale

This requirement is equivalent to point ORO.CC.210 of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.460(d) Additional conditions for assignment to duties

OPERATOR'S CABIN CREW UNIFORM

The uniform to be worn by operating cabin crew should be such as not to impede the performance of their duties, as required for the safety of passengers and the flight during operations, and should allow passengers to identify the operating cabin crew including in an emergency situation.

Rationale

This proposed GM is equivalent to GM1 ORO.CC.210(d) of Regulation (EU) No 965/2012.

AsOP.AOC.465 Training and checking programmes and related documentation

(a) Training and checking programmes including syllabi required by this Section shall be approved by the competent authority and specified in the operations manual.

(b) After a cabin crew member has successfully completed a training course and the associated check, the operator shall:

(1) update the cabin crew member's training record in accordance with point AsOP.AOC.200; and

(2) provide them with a list showing updated validity periods as relevant to the airship type(s) and variant(s) on which the cabin crew member is qualified to operate.

Rationale

This requirement is equivalent to point ORO.CC.215 of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.465(b)(2) Training and checking programmes and related documentation

LIST OF AIRSHIP TYPE/VARIANT QUALIFICATIONS

When providing the updated validity list of airship type/variant qualifications to cabin crew members who have successfully completed a training course and the associated checking, the operator may use the following format. If using another format, at least the elements in (a) to (d) and in columns (1) and (2) should be indicated to show validity of qualification(s).

CABIN CREW AIRSHIP TYPE/VARIANT QUALIFICATION(S)							
(a)	Reference number of the cabin crew attestation:						
(b)	Cabin crew attestation holder's full name: The above-mentioned person may act as an operating cabin crew member during flight operations only if their airship type and/or variant qualification(s) listed below, and dated DD/MM/YYYY, comply with the applicable validity period(s) specified in Section 5 of Part-AsOP.AOC.						
(c)	Issuing organisation: (name, postal address, AOC and/or approval reference number and stamp or logo)						
(d)	Date of issue: (DD/MM/YYYY)						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Qualification valid until:	Airship-type-specific training	Operator conversion training	Differences training (if relevant)	Familiarisation	Last recurrent training	Refresher training (if relevant)
Airship type 1							
Variant …							
Airship type 2							

Variant …							
Airship type 3							
Variant …							
Airship type 4 (if approved)							

Rationale

This proposed GM is equivalent to GM1 ORO.CC.215(b)(2) of Regulation (EU) No 965/2012.

AsOP.AOC.470 Operation on more than one airship type or variant

(a) A cabin crew member shall not be assigned to operate on more than three airship types, except that, with the approval of the competent authority, the cabin crew member may be assigned to operate on four airship types if for at least two of the types:

(1) safety and emergency equipment and type-specific normal and emergency procedures are similar; and

(2) non-type-specific normal and emergency procedures are identical.

(b) For the purpose of (a) and for cabin crew training and qualifications, the operator shall determine:

(1) the type or variant of each airship, taking into account, where available, the relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012 for the relevant airship type or variant; and

(2) that variants of an airship type are different types if the following aspects are not similar:

(i) emergency exit operation,

(ii) location and type of portable safety and emergency equipment,

(iii) type-specific emergency procedures.

Rationale

This requirement is equivalent to point ORO.CC.250 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.470(b) Operation on more than one airship type or variant

DETERMINATION OF AIRSHIP TYPES AND VARIANTS

(a) When determining similarity of location and type of portable safety and emergency equipment, the following factors should be considered:

(1) whether all portable safety and emergency equipment is stowed in the same or, in exceptional circumstances, in substantially the same location;

(2) whether all portable safety and emergency equipment requires the same method of operation;

(3) portable safety and emergency equipment includes:

(i) firefighting equipment;

(ii) protective breathing equipment;

(iii) oxygen equipment;

(iv) crew life jackets;

(v) torches;

(vi) megaphones;

(vii) first aid equipment;

(viii) survival and signalling equipment; and

(ix) other safety and emergency equipment, where applicable.

(b) The type-specific emergency procedures to be considered should include at least:

(1) land and water evacuation;

(2) in-flight fire; and

(3) pilot incapacitation.

(c) When determining similarity of doors/exits in the absence of operational suitability data established in accordance with Commission Regulation (EU) No 748/2012 for the relevant airship type(s) or variant(s), the following factors should be assessed, excluding self-help exits, such as type III and type IV exits, that need not be included in the assessment:

(1) door/exit arming and disarming,

(2) direction of movement of the operating handle,

(3) direction of door/exit opening,

(4) power assist mechanisms, and

(5) assisting evacuation means.

Rationale

This proposed AMC is equivalent to AMC1 ORO.CC.250(b) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.470 Operation on more than one airship type or variant

SAFETY BRIEFING FOR CABIN CREW

When changing airship type or variant during a series of flight sectors, the cabin crew safety briefing should include a representative sample of type-specific normal and emergency procedures and safety and emergency equipment applicable to the actual airship to be operated for the immediately subsequent flight sector.

Rationale

This proposed GM is equivalent to GM1 ORO.CC.250 of Regulation (EU) No 965/2012.

AsOP.AOC.475 Single-cabin-crew-member operations

(a) The operator shall select, recruit, train and check the proficiency of cabin crew members to be assigned to single-cabin-crew-member operations in accordance with criteria appropriate to this type of operation.

(b) Cabin crew members who have no previous operating experience as single cabin crew members shall be assigned to this type of operation only after they have:

(1) completed training as required in (c) in addition to other applicable training and checking required by this section;

(2) successfully passed the checks verifying their proficiency in discharging their duties and responsibilities in accordance with the procedures specified in the operations manual; and

(3) undertaken familiarisation flying of at least 20 hours and 15 sectors on the relevant airship type under the supervision of an appropriately experienced cabin crew member.

(c) The following additional training elements shall be covered with particular emphasis to reflect the specificities of single-cabin-crew operations:

(1) responsibility to the pilot in command for the conduct of normal and emergency procedures;

(2) the importance of coordination and communication with the flight crew, in particular when managing unruly or disruptive passengers;

(3) review of operator requirements and legal requirements;

(4) documentation;

(5) accident and incident reporting; and

(6) flight and duty time limitations and rest requirements.

Rationale

This requirement is equivalent to point ORO.CC.255 of Regulation (EU) No 965/2012.

Section 6 — Security

AsOP.AOC.500 Flight crew compartment

If installed, the flight crew compartment door on an airship operated for the purpose of carrying passengers shall be capable of being locked from within the flight crew compartment in order to prevent unauthorised access.

Rationale

This provision is equivalent to point ORO.SEC.105 of Regulation (EU) No 965/2012.

Section 7 — Operating requirements and procedures

AsOP.AOC.600 Operational flight plan

An operational flight plan shall be completed for each intended flight based on considerations of airship performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes / operating sites concerned.

Rationale

This provision is equivalent to point CAT.OP.MPA.175(a) of Regulation (EU) No 965/2012.

AMC1AsOP.AOC.600 Operational flight plan

OPERATIONAL FLIGHT PLAN

(a) The operational flight plan used and the entries made during flight should contain the following items:

(1) airship registration,

(2) airship type and variant,

(3) date of flight,

(4) flight identification,

(5) names of flight crew members,

(6) duty assignment of flight crew members,

(7) place of departure,

(8) time of departure (actual time of release from ground-securing means and take-off time),

(9) place of arrival (planned and actual),

(10) time of arrival (actual landing and on-block time),

(11) type of operation (VFR, IFR, etc.),

(12) route and route segments with checkpoints/waypoints, distances, time and tracks,

(13) planned cruising speed and flying times between checkpoints/waypoints (estimated, revised and actual times overhead),

(14) safe altitudes and minimum levels,

(15) planned altitudes or flight levels,

(16) fuel/energy calculations (records of in-flight checks),

(17) fuel/energy on board when starting engines,

(18) alternate(s) for destination and, where applicable, take-off and en route, including information required in (a)(12) to (15),

(19) initial ATS flight plan clearance and subsequent reclearance,

(20) in-flight replanning calculations, and

(21) relevant meteorological information.

(b) Items that are readily available in other documentation or from another acceptable source or are irrelevant to the type of operation may be omitted from the operational flight plan.

(c) The operational flight plan and its use should be described in the operations manual.

(d) All entries in the operational flight plan should be made concurrently and be permanent in nature.

Rationale

This proposed AMC is equivalent to AMC1 CAT.OP.MPA.175(a) of Regulation (EU) No 965/2012.

AsOP.AOC.610 Common language

The operator shall ensure that all crew members can communicate with each other in a common language.

Rationale

This provision is equivalent to point CAT.GEN.MPA.120 of Regulation (EU) No 965/2012.

AsOP.AOC.615 Psychoactive substances

(a) The operator shall take all reasonable measures to ensure that no person enters or is in an airship when under the influence of psychoactive substances to the extent that the safety of the airship or its occupants is likely to be endangered.

(b) The operator shall develop and implement a policy on the prevention and detection of misuse of psychoactive substances by flight crew, cabin crew, ground crew members and by other safety-sensitive personnel under the operator's direct control, in order to ensure that the safety of the airship or its occupants is not endangered.

(c) Without prejudice to the applicable national legislation on data protection concerning testing of individuals, the operator shall develop and implement an objective, transparent and non-

discriminatory procedure for the prevention and detection of cases of misuse of psychoactive substances by its flight and cabin crew and other safety-sensitive personnel.

(d) In the event of a confirmed positive test result, the operator shall inform its competent authority and the authority responsible for the person concerned, such as a medical assessor of the licensing authority.

Rationale

This requirement is equivalent to point CAT.GEN.MPA.170 of Regulation (EU) No 965/2012.

It is to be noted that CAT.GEN.MPA.215 'Support programme' has not been included in the proposal because of the small size of the airship community, which makes it difficult to implement an effective support programme, and the fact that airship intrinsic design characteristics significantly reduce the risks linked to malicious intent. The provisions contained in point AsOP.AOC.620 represent a possible mitigating measure concerning the absence of the support programme provisions.

AMC1 AsOP.AOC.615(b) Psychoactive substances

POLICY ON THE PREVENTION OF MISUSE OF PSYCHOACTIVE SUBSTANCES

(a) The airship operator's policy on the prevention of misuse of psychoactive substances should ensure that flight crew, cabin crew, ground crew and other safety-sensitive personnel are dealt with in a consistent, just and fair manner as regards the prevention and detection of misuse of psychoactive substances.

(b) The airship operator's training policy on misuse of psychoactive substances should include training and/or educational material on:

(1) the effects of psychoactive substances on individuals and on flight safety;

(2) established procedures within the organisation to prevent misuse of psychoactive substances;

(3) individual responsibilities with regard to applicable legislation and policies on psychoactive substances.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.170(b) of Regulation (EU) No 965/2012, except that point (b)(4) is omitted since, as stated above, this proposal does not include provisions on support programmes.

AMC2 AsOP.AOC.615(b) Psychoactive substances

POLICY ON THE PREVENTION OF MISUSE OF PSYCHOACTIVE SUBSTANCES — TESTING

The airship operator's policy should ensure testing for psychoactive substances at least in the following cases:

(a) upon employment by the airship operator; and

(b) with due cause:

(1) following a reasonable suspicion, and following an assessment by appropriately trained personnel; and

(2) after a serious incident or accident within the meaning of Regulation (EU) No 996/2010, provided that testing is possible due to the location of the serious incident or accident.

Rationale

This proposed AMC is equivalent to AMC2 CAT.GEN.MPA.170(b) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.615(b) Psychoactive substances

POLICY ON THE PREVENTION OF MISUSE OF PSYCHOACTIVE SUBSTANCES

Guidance for the development and implementation of the policy on the prevention of misuse of psychoactive substances is contained in ICAO Doc 9654 (*Manual on Prevention of Problematic Use of Substances in the Aviation Workplace*).

TRAINING AND EDUCATION PROGRAMMES

Guidance for the development and implementation of training and education programmes is contained in ICAO Doc 9654 (*Manual on Prevention of Problematic Use of Substances in the Aviation Workplace*).

Rationale

This proposed GM is equivalent to GM1 CAT.GEN.MPA.170(b) of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.615(b) Psychoactive substances

AIRSHIP OPERATOR RANDOM TESTING PROGRAMME

Nothing should prevent an airship operator from implementing a random testing programme in accordance with national requirements on testing of individuals, in order to mitigate the risk that misuse of psychoactive substances remains undetected and endangers the safety of the airship or its occupants.

Rationale

This proposed GM is equivalent to GM2 CAT.GEN.MPA.170(b) of Regulation (EU) No 965/2012.

GM3 AsOP.AOC.615(b) Psychoactive substances

MEANING OF 'PERSONNEL UNDER THE OPERATOR'S DIRECT CONTROL'

(a) 'Personnel under the operator's direct control' means personnel who are directly employed by the operator. This excludes personnel of contractors or subcontractors of the operator unless they act as flight crew, cabin crew or ground crew.

(b) The operator may require the contracted service provider to carry out testing of personnel as part of the contract between the airship operator and the contracted service provider.

Rationale

This proposed GM is equivalent to GM3 CAT.GEN.MPA.170(b) of Regulation (EU) No 965/2012.

GM4 AsOP.AOC.615(b) Psychoactive substances

POLICY ON THE PREVENTION OF MISUSE OF PSYCHOACTIVE SUBSTANCES — UNANNOUNCED TESTING

After referral and assessment by the medical assessor of the licensing authority, the airship operator may consider unannounced testing as part of a periodic medical follow-up after rehabilitation and return to work.

Rationale

This proposed GM is equivalent to GM4 CAT.GEN.MPA.170(b) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.615(c) Psychoactive substances

OBJECTIVE, TRANSPARENT AND NON-DISCRIMINATORY TESTING PROCEDURE

The airship operator's objective, transparent and non-discriminatory testing procedure should specify:

(a) means to ensure confidentiality and protection of data;

(b) the responsibilities of the person carrying out a test, which should be in accordance with national legislation;

(c) the timing and suitable locations for testing;

(d) that the body responsible for testing should be an independent, accredited body using standard guidelines on psychoactive substance testing in line with national legislation;

(e) the testing process, and in particular:

  (1) the psychoactive substances to be tested for;

  (2) the applicable national legislation and which recognised quality standards have been applied to the testing methodology;

  (3) initial screening and confirmation methods used; and

  (4) handling of test results, which should be conducted by impartial and trained personnel, in order to ensure adherence to the procedure, to determine the true positives and to prevent false positives;

(f) applicable limits for psychoactive substance tests;

(g) the process to be followed in the event of a confirmed positive test result; and

(h) the internal appeal process.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.170(c) of Regulation (EU) No 965/2012.

AsOP.AOC.620 Endangering safety

(a) The operator shall take all reasonable measures to ensure that no person intentionally, recklessly or negligently acts or omits to act with one of the following consequences:

  (1) endangering an airship or person therein or on the ground;

(2) causing or permitting an airship to endanger any person or property.

(b) The operator shall ensure that flight crew members have undergone a psychological assessment before commencing line flying in order to:

(1) identify psychological attributes and suitability of the flight crew members in respect of the work environment; and

(2) reduce the likelihood of negative interference with the safe operation of the airship.

(c) Considering the size, nature and complexity of the activity of an operator, an operator may replace the psychological assessment referred to in point (b) with an internal assessment of the psychological attributes and suitability of flight crew.

Rationale

This requirement is equivalent to point CAT.GEN.MPA.175 of Regulation (EU) No 965/2012.

However, unlike in that requirement (refer to AMC1 CAT.GEN.MPA.175(c)), point (c) is not proposed to be limited to non-complex operators. The main reasons for this are:

— *a distinction between complex and non-complex operators has not been implemented in this NPA;*

— *the requirements of point (b) may be disproportionate to most of the airship operators that are envisaged at this stage, resulting in point (c) representing the most suitable approach.*

AMC1 AsOP.AOC.620(b) Endangering safety

PSYCHOLOGICAL ASSESSMENT

(a) The psychological assessment should fulfil all of the following criteria.

(1) It should be appropriate to the particularity, the complexity and the challenges of the operational environment that the flight crew is likely to be exposed to, as defined by a job analysis identifying the safety-critical dimensions related to the flight crew's function and role within the airship operator, and should include at least the following assessment criteria:

(i) cognitive abilities,

(ii) personality traits,

(iii) operational and professional competencies, and

(iv) social competencies in accordance with CRM principles.

(2) It should be validated and either directly performed or overseen by a psychologist with acquired knowledge in aviation relevant to the flight crew's operating environment and with expertise in psychological assessment and, where possible, the psychological selection of aviation personnel.

(3) It should have been undertaken at least within the 24 months before commencing line flying, unless the operator can demonstrate that the psychological assessment undertaken more than 24 months ago is still adequate for the risk mitigation as required

by point AsOP.AOC.020(a)(3). Such a demonstration should be based on the tests previously performed, an updated risk assessment based on data gathered from previous operational experience and continuous human performance monitoring since the last psychological assessment.

(b) As regards the psychological assessment, the following should be documented:

(1) the procedures followed,

(2) the personnel involved,

(3) the assessment criteria and instruments used in the assessment, and

(4) the validity period.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.175(b) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.620(b) Endangering safety

GUIDANCE ON CONDUCTING A PSYCHOLOGICAL ASSESSMENT

(a) A psychological assessment performed by one airship operator may subsequently be accepted by a different operator, provided that the latter is satisfied that the assessment has been performed in accordance with AMC1 AsOP.AOC.620(b).

(b) A psychological assessment conducted by or on behalf of an airship operator should not be considered or conducted as a clinical psychological evaluation.

(c) When establishing the policy on psychological assessment of flight crews, the operator may refer to recognised industry standards and best practices in the field of pilot selection, aptitude testing and psychological assessment, such as:

(1) the International Air Transport Association's *'Guidance Material and Best Practices for Pilot Aptitude Testing*; and

(2) national or European standards for ethical codes of conduct for carrying out a psychological assessment, such as those produced by national or European associations for (aviation) psychology.

Rationale

This proposed GM is equivalent to GM1 CAT.GEN.MPA.175(b) of Regulation (EU) No 965/2012.

AsOP.AOC.625 Weighing

The operator shall perform the weighing of the airship, as required in point AsOP.BAS.305(a), at intervals not exceeding 12 months. However, the weighing may be postponed if the interval lapses when the airship is not in service; in this case, the operator shall weigh the airship before the next flight.

Rationale

The reason for imposing this periodical weighing is the need to have very precise information regarding

the heaviness of the airship. If the weighing interval occurs during a period of time when the airship is not in operation, the weighing can be conducted before the next flight.

AsOP.AOC.630 Mass, heaviness and centre-of-gravity documentation

(a) The operator shall establish mass, heaviness and centre-of-gravity data and produce mass and balance documentation prior to each flight, specifying the load and its distribution in such a way that the mass, heaviness and centre-of-gravity limits of the airship are not exceeded. The mass, heaviness and centre-of-gravity documentation shall contain the following information:

(1) airship registration and type,

(2) flight identification, number and date, as applicable,

(3) name of the pilot-in-command,

(4) name of the person who prepared the document,

(5) dry operating mass and the corresponding centre of gravity of the airship,

(6) mass of the fuel/energy at take-off and mass of trip fuel/energy,

(7) mass of consumables other than fuel/energy, if applicable,

(8) load components including passengers, baggage, freight and ballast,

(9) take-off mass, landing mass and zero-fuel/energy mass,

(10) take-off heaviness, landing heaviness and zero-fuel/energy heaviness,

(11) superheat and weather effects,

(12) applicable airship centre-of-gravity positions, and

(13) the limiting mass, heaviness and centre-of-gravity values.

(b) Where mass, heaviness and centre-of-gravity documentation is generated by a computerised system, the operator shall verify the integrity of the output data.

(c) When the loading of the airship is not supervised by the pilot-in-command, the person supervising the loading of the airship shall confirm by hand signature or equivalent that the load and its distribution are in accordance with the mass, heaviness and centre-of-gravity documentation established by the pilot-in-command. The pilot-in-command shall indicate their acceptance by hand signature or equivalent.

(d) The operator shall specify procedures for last-minute changes to the load to ensure that:

(1) any last-minute change after the completion of the mass, heaviness and centre-of-gravity documentation is entered in the flight planning documents containing the mass, heaviness and centre-of-gravity documentation;

(2) the maximum last-minute change allowed in passenger numbers or hold load is specified; and

(3) new mass, heaviness and centre-of-gravity documentation is prepared if this maximum

number is exceeded.

Rationale

This requirement is equivalent to points CAT.POL.MAB.105 and NCC.POL.110 of Regulation (EU) No 965/2012. Some adaptations have been made to address the heaviness, superheat and weather effects of airships.

AMC1 AsOP.AOC.630 Mass, heaviness and centre-of-gravity documentation

CONTENT

The mass, heaviness and centre-of-gravity documentation should include advice to the pilot-in-command whenever a non-standard method has been used for determining the mass of the load.

Rationale

This proposed AMC is equivalent to AMC1 CAT.POL.MAB.105(a) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.630 Mass, heaviness and centre-of-gravity documentation

SUPERHEAT

Superheat is defined as the difference between (1) the temperature of the lifting gas and air within the airship envelope and (2) the temperature of the external air.

If the gas temperature is higher than the temperature of the free air, the superheat is termed ‘positive’. In such conditions, the volume of the lifting gas increases, density decreases and in turn the lift increases.

If the free air temperature is higher, the superheat is considered negative.

Superheat has an impact on mass, heaviness and centre-of-gravity calculation.

Rationale

The superheat conditions are specific to airship operations and this GM is deemed necessary to provide additional clarifications in this respect.

GM2 AsOP.AOC.630 Mass, heaviness and centre-of-gravity documentation

WEATHER EFFECT

Weather effect could have an impact on mass, heaviness and centre-of-gravity calculation. For example, the additional weight of the snow or rain adds to the total weight of the airship, increasing the lift required for the airship. Temperature inversion could also have an impact on buoyancy.

Rationale

As the weather can play a significant role in airship operations, it is deemed necessary to develop GM

to provide additional clarification with respect to weather effect.

AMC1 AsOP.AOC.630(b) Mass, heaviness and centre-of-gravity documentation

INTEGRITY

The operator should verify the integrity of mass and balance data and documentation generated by a computerised mass and balance system, at intervals not exceeding six months. The operator should establish a system to check that amendments to its input data are incorporated properly in the system and that the system is operating correctly on a continuous basis.

Rationale

This proposed AMC is equivalent to AMC1 CAT.POL.MAB.105(b) of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.630(b) Mass, heaviness and centre-of-gravity documentation

ON-BOARD INTEGRATED MASS AND BALANCE COMPUTER SYSTEM

An on-board integrated mass and balance computer system may be an installed airship system capable of receiving input data either from other airship systems or from a mass and balance system on the ground, in order to generate mass and balance data as an output.

Rationale

This proposed GM is equivalent to GM1 NCC.POL.110(b) of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.630(b) Mass, heaviness and centre-of-gravity documentation

STAND-ALONE COMPUTERISED MASS AND BALANCE SYSTEM

A stand-alone computerised mass and balance system may be a computer, either as part of an EFB system or solely dedicated to mass and balance purposes, requiring input from the user in order to generate mass and balance data as an output.

Rationale

This proposed GM is equivalent to GM1 NCC.POL.110(b) of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.630(c) Mass, heaviness and centre-of-gravity documentation

SIGNATURE OR EQUIVALENT

Where a signature by hand is impracticable or it is desirable to arrange the equivalent verification by electronic means, the following conditions should be applied in order to make an electronic signature the equivalent of a conventional handwritten signature:

(a) electronic 'signing' should be carried out by entering a personal identification number (PIN) code with appropriate security, etc.;

(b) entering the PIN code generates a printout of the individual's name and professional capacity on the relevant document(s) in such a way that it is evident, to anyone requiring that information, who has signed the document;

(c) the computer system logs information to indicate when and where each PIN code has been entered;

(d) the use of the PIN code is, from a legal and responsibility point of view, considered to be fully equivalent to signature by hand;

(e) the requirements for record-keeping remain unchanged; and

(f) all personnel concerned are made aware of the conditions associated with electronic signature and this is documented.

Rationale

This proposed AMC is equivalent to AMC1 CAT.POL.MAB.105(c) of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.630(c) Mass, heaviness and centre-of-gravity documentation

MASS AND BALANCE DOCUMENTATION SENT VIA DATA LINK

Whenever the mass and balance documentation is sent to the aircraft via data link, a copy of the final mass and balance documentation as accepted by the pilot-in-command should be available on the ground.

Rationale

This proposed AMC is equivalent to AMC2 CAT.POL.MAB.105(c) of Regulation (EU) No 965/2012.

AsOP.AOC.635 Mass, heaviness and centre-of-gravity documentation — alleviations

Notwithstanding point AsOP.AOC.630(a)(5), the centre-of-gravity position may not need to be included in the mass, heaviness and centre-of-gravity documentation, if the load distribution is in accordance with a pre-calculated balance table or if it can be shown that for the planned operations a correct balance can be ensured, whatever the real load is.

Rationale

This requirement is equivalent to point NCC.POL.111 of Regulation (EU) No 965/2012.

AsOP.AOC.640 In-flight fuel/energy and ballast management

The operator shall establish a procedure to ensure that in-flight fuel/energy checks are carried out by the pilot-in-command in accordance with points AsOP.BAS.110(a) and AsOP.BAS.185.

Rationale

This requirement is equivalent to point NCC.POL.111 of Regulation (EU) No 965/2012.

AsOP.AOC.645 Flight data monitoring

(a) Operators of large airships shall establish and maintain an FDM system as part of their management system.

(b) The FDM system shall be non-punitive and contain adequate safeguards to protect the source(s) of the data.

Rationale

This requirement is equivalent to point ORO.AOC.130 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.645 Flight data monitoring

FLIGHT DATA MONITORING PROGRAMME

When establishing an FDM programme, AMC1 ORO.AOC.130 of Regulation (EU) No 965/2012 should be applied. References in that AMC to AMC1 ORO.GEN.200(a)(1) and to CAT.GEN.MPA.195 should be understood as references to AMC1 AsOP.AOC.020(a)(1) and to AsOP.AOC.210, respectively.

Rationale

FDM is an aircraft-agnostic process, so it is proposed that existing AMC material is used rather than it being reproduced here without introducing any significant change.

It is to be noted that AMC1 ORO.AOC.130 of Regulation (EU) No 965/2012 contains two references to specific provisions of that Regulation. As these provisions have been translated in this proposed regulation, those references are to be understood as references to the relevant elements of this draft regulation.

GM1 AsOP.AOC.645 Flight data monitoring

IMPLEMENTATION OF A FLIGHT DATA MONITORING PROGRAMME

When establishing an FDM programme, GM1 ORO.AOC.130 of Regulation (EU) No 965/2012 may be used as guidance.

AsOP.AOC.650 Carriage of special categories of passengers

The operator shall establish procedures for carrying persons requiring special conditions, assistance or devices when carried on board an airship, under conditions that ensure the safety of the airship and of any person or property carried therein.

Rationale

This requirement is equivalent to point BOP.ADD.505 of Regulation (EU) 2018/395, which is deemed to be better suited to airship operations than point CAT.OP.MPA.505 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.650 Carriage of special categories of passengers

PROCEDURES

When establishing the procedures for the carriage of special categories of passengers, the operator should take into account the following factors:

(a) the airship type and cabin configuration;

(b) the total number of passengers carried on board;

(c) the number and individual categories of special categories of passengers, which should not exceed the number of passengers capable of assisting them in the event of an emergency; and

(d) any other factor(s) or circumstances that could impact the application of emergency procedures by the operating crew members.

Rationale

This proposed AMC is equivalent to AMC1 CAT.OP.MPA.155(b) of Regulation (EU) No 965/2012.

AsOP.AOC.655 Specialised operations with — standard operating procedures

(a) Before commencing specialised operations with airships, the operator shall fulfil the following requirements.

(1) The operator shall conduct a risk assessment, assessing the complexity of the intended activity in order to determine the hazards and associated risks of the intended operation and establish mitigating measures where necessary.

(2) The operator shall establish SOPs appropriate to the intended operation and the airship used. The SOPs shall either be part of the operations manual or be laid down in a separate document. The operator shall regularly review and update the SOPs where necessary in order to adequately take account of the risk assessment.

(b) By derogation from point (a)(2), operators of other-than-large airships may establish checklists in place of SOPs.

(c) The operator shall ensure that specialised operations with airships are performed in accordance with the relevant SOPs or checklists, as applicable.

(d) The following persons shall be considered task specialists:

(1) persons entering or leaving the airship when airborne; and

(2) persons being lifted or towed outside the cabin of the airship when airborne.

Rationale

This proposed provision is equivalent to point SPO.OP.230 of Regulation (EU) No 965/2012. Specialised operations with an airship could lead to additional risks. Taking into account the possible diversity of equipment and missions, it is not considered appropriate to develop precise requirements specific to each case. Nevertheless, it is essential to ensure that the operator is capable of assessing the risks and adapting operating procedures accordingly. In accordance with point (d), parachutists are also

considered task specialists. This provision is needed to ensure that the airship operator performs a risk assessment and establishes a dedicated SOP before allowing the launch of parachutists.

AMC1 AsOP.AOC.655 Specialised operations with airships — standard operating procedures

DEVELOPMENT OF STANDARD OPERATING PROCEDURES

(a) SOPs should be developed using a standard template in accordance with AMC2 AsOP.AOC.655 and should take into account the results of the risk assessment process.

(b) SOPs should be based on a systematic risk assessment to ensure that the risks associated with the task are acceptable. The risk assessment should describe the activity in detail, identify the relevant hazards, analyse the causes and consequences of accidental events and establish methods to mitigate the associated risk.

Rationale

This proposed AMC is equivalent to AMC1 SPO.OP.230 of Regulation (EU) No 965/2012.

AMC2 AsOP.AOC.655 Specialised operations with airships — standard operating procedures

TEMPLATE

(a) Nature and complexity of the activity

(1) The nature of the activity and exposure. The nature of the flight and the risk exposure should be described.

(2) The complexity of the activity. Details should be provided on how demanding the activity is with regard to the required piloting skills, the necessary level of experience, the ground support, safety and individual protective equipment that should be provided to persons involved.

(3) The operational environment and geographical area. The operational environment and geographical area over which the operation takes place should be described, including:

(i) congested hostile environments — airship performance standard, compliance with the rules of the air, mitigation of third-party risk;

(ii) mountain areas — altitude, performance, the use or non-use of oxygen with mitigating procedures;

(iii) water areas — water state and temperature, risk of ditching, availability of search and rescue, survivability, carriage of safety equipment;

(iv) desert areas — carriage of safety equipment, reporting procedures, search and rescue information; and

(v) other areas.

(b) Equipment

All equipment required for the activity should be listed. This includes installed equipment certified in accordance with Annex I (Part 21) to Regulation (EU) No 748/2012 and equipment approved in accordance with other, officially recognised standards.

(c) Crew members and/or task specialists

(1) The crew composition and the duties of crew members should be specified.

(2) In addition, for flight crew members, the following should be specified:

(i) selection criteria (initial qualification, flight experience, experience in the activity),

(ii) initial training (volume and content of the training), and

(iii) recent experience requirement and recurrent training (volume and content of the training).

(3) The criteria listed in (2) should take into account the operational environment and the complexity of the activity, and should be detailed in the training programmes.

(d) Performance

Details on applicable, specific performance requirements should be provided.

(e) Normal, abnormal and emergency procedures

The normal, abnormal and emergency procedures to be applied in-flight and on the ground should be described.

(f) Ground-handling equipment

Details on the nature, amount and location of ground-handling equipment required for the activity should be provided.

(g) Records

It should be determined which records specific to the flight(s) are to be kept, such as task details, airship registration, pilot-in-command details, flight times, weather and any remarks, including a record of occurrences affecting flight safety or the safety of persons or property on the ground.

Rationale

This proposed AMC is equivalent to AMC2 SPO.OP.230 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.655(b) Specialised operations with airships — standard operating procedures

DEVELOPMENT OF CHECKLISTS

In order to develop a checklist, the operator should take into account at least the following items:

(a) the nature and complexity of the activity:

(1) the nature of the flight and risk exposure;

(2) the complexity of the activity, taking into account the necessary piloting skills and level of experience, ground support and individual protective equipment;

(3) the operational environment and geographical area; and

(4) the result of the risk assessment and evaluation;

(b) the airship and equipment — all equipment required for the activity should be listed;

(c) crew members:

(1) crew composition;

(2) duties of crew members;

(3) minimum crew experience and training provisions; and

(4) recency provisions;

(d) task specialists:

(1) description of the task specialists' function(s);

(2) minimum experience and training provisions;

(3) recency provisions; and

(4) briefing;

(e) airship performance — it should be determined which specific performance requirements are to be applied, in order to ensure an adequate power margin;

(f) normal, abnormal and emergency procedures:

(1) operating procedures for the flight crew; and

(2) ground procedures for crew members;

(g) ground equipment — the nature, amount and location of ground equipment required for the activity should be detailed;

(h) records — it should be determined which records specific to the flight(s) are to be kept, such as task details, airship registration, pilot-in-command details, flight times, weather and any remarks, including a record of occurrences affecting flight safety or the safety of persons or property on the ground.

GM1 AsOP.AOC.655 Standard operating procedures

TEMPLATE FORMS

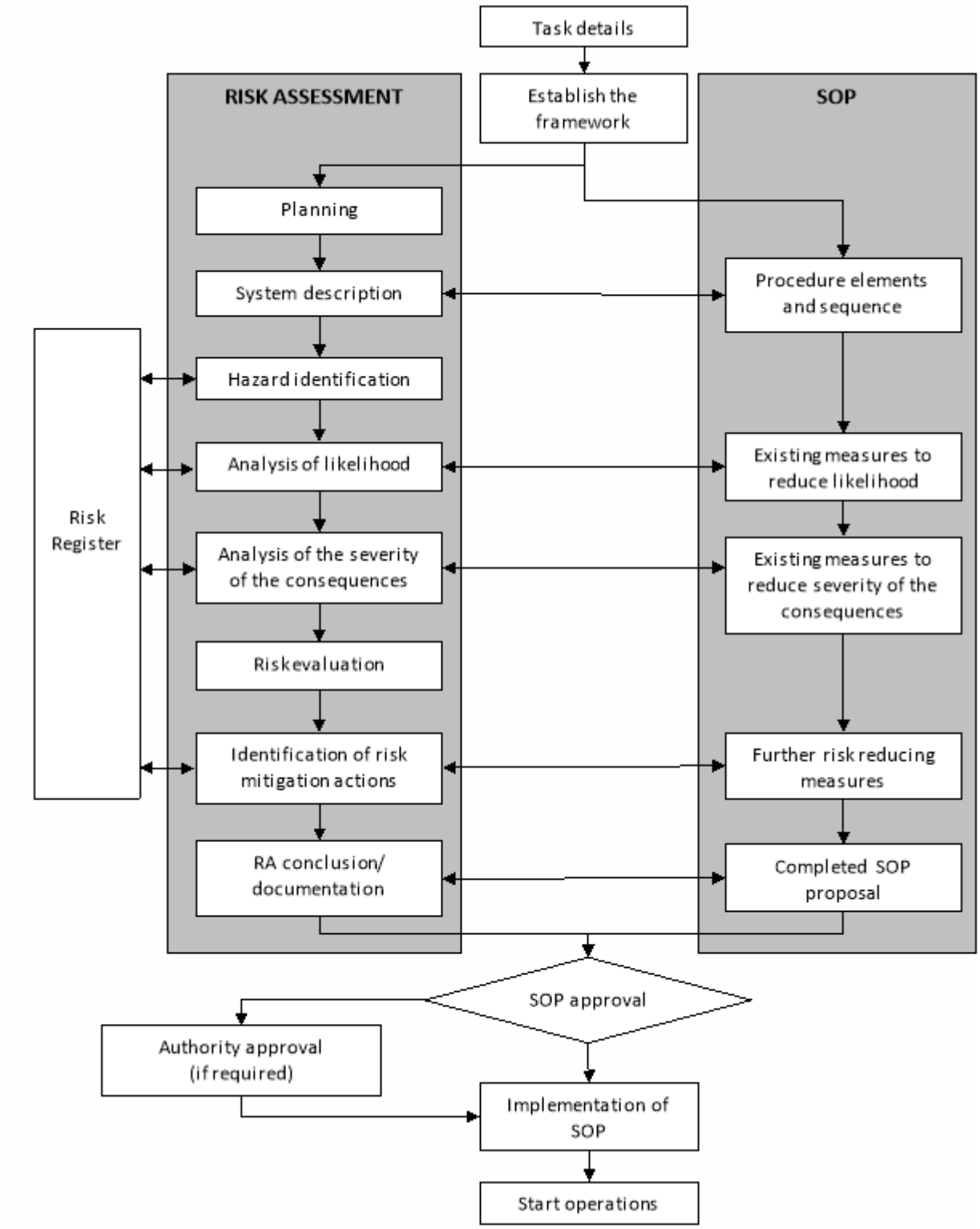


Figure 1 – Development of an SOP based on a risk assessment

Note: RA = risk assessment.

Template form A — risk assessment

Date:
Risk assessment of:
Responsible:
Purpose:
Type of operation and brief description:
Participants or working group:
Preconditions, assumptions and simplifications:
Data used:
Description of the analysis method:
External context:
• Regulatory requirements • Approvals • Environmental conditions (visibility, wind, turbulence, contrast, light, elevation, etc.) unless evident from the SOPs • Stakeholders and their potential interest
Internal context:
• Type(s) of aircraft • Personnel and qualifications • Combination/similarity with other operations/SOPs • Other risk assessment used / considered / plugged in
Existing barriers and emergency preparedness:
Monitoring and follow-up:
Description of the risk:

Risk evaluation:
Conclusions:

Template form B — hazard identification

Date: ……..Hazard identification of …… Responsible:

……

Phase of operation	Hazard reference	Hazard	Causes	Existing controls	Controls reference	Comments

Note: Controls reference = a unique number for the existing controls; hazard reference = a unique number for hazards (e.g. for use in a database).

Template form C — mitigating measures

Date: …….. Risk assessment of ……

Responsible:……

Phase of operation	Hazard reference	Consequence	Existing mitigation actions	Mitigation reference	L	S	Further mitigation required

Note: Hazard reference = a unique number for hazards (e.g. for use in a database); L = likelihood; mitigation reference = a unique number for the mitigation actions; S = severity.

Template register A — risk register

Reference	Operation/ procedure	Reference	Hazard	Reference	Consequences	Mitigation actions	L	S	Monitoring

Note: L = likelihood; S = severity.

Rationale

This proposed GM is equivalent to GM1 SPO.OP.230 of Regulation (EU) No 965/2012.

AsOP.AOC.660 Electronic flight bag

(a) Where an EFB is used on board an airship, the operator shall ensure that it does not adversely affect the performance of the airship's systems or equipment, or the ability of the flight crew to operate the airship.

(b) The operator shall not use a type B EFB application unless it is approved in accordance with Subpart M of Annex V (Part-SPA) to Regulation (EU) No 965/2012.

Rationale

This requirement is equivalent to point CAT.GEN.MPA.141 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.660 Electronic flight bag

All the AMC to point CAT.GEN.MPA.141 of Regulation (EU) No 965/2012 constitute AMC for the usage of an EFB.

Rationale

As there are no technical differences and there is no need to introduce minor adjustments, it is proposed that the AMC to CAT.GEN.MPA.141 are directly referred to as AMC to AsOP.AOC.660.

GM1 AsOP.AOC.660 Electronic flight bag

All the GM to point CAT.GEN.MPA.141 of Regulation (EU) No 965/2012 can be considered suitable GM for the usage of an EFB.

Rationale

As there are no technical differences and there is no need to introduce minor adjustments, it is proposed that the GM to CAT.GEN.MPA.141 is directly referred to as GM to AsOP.AOC.660.

AsOP.AOC.665 Minimum flight altitudes

The pilot-in-command shall not fly below specified minimum altitudes except when:

(a) necessary for take-off or landing; or

(b) descending in accordance with procedures approved by the competent authority.

Rationale

This requirement is equivalent to point CAT.OP.MPA.270 of Regulation (EU) No 965/2012.

AsOP.AOC.670 Minimum obstacle clearance altitudes for operations conducted under instrument flight rules

(a) The operator shall specify a method to establish minimum flight altitudes that provide the required terrain clearance for all route segments to be flown in IFR.

(b) The pilot-in-command shall establish minimum flight altitudes for each flight based on this method. The minimum flight altitudes shall not be lower than those published by the State overflown.

Rationale

This requirement is equivalent to point NCC.OP.125 of Regulation (EU) No 965/2012.

AMC1 AsOP.AOC.670 Minimum obstacle clearance altitudes for operations conducted under instrument flight rules

GENERAL

Commercially available information specifying minimum obstacle clearance altitudes may be used.

Rationale

This proposed AMC is equivalent to AMC1 NCC.OP.125 of Regulation (EU) No 965/2012.

Section 8 — Performance and operating limitations

AsOP.AOC.700 Take-off

(a) The mass limitations specified in the AFM shall be complied with at take-off.

(b) The operator shall ensure that the combination of heaviness, atmospheric conditions and characteristics of the aerodrome or operating site enables a safe take-off and departure with reference to obstacle clearance.

(c) For airships with an MOPSC of more than 19, the operator shall establish procedures to ensure that, in the event of a CFP occurring during the take-off phase, the airship can either return safely to the mooring system or continue a safe take-off with reference to obstacle clearance.

Rationale

The intent of this proposed requirement is equivalent to that of point CAT.POL.H.205 of Regulation (EU) No 965/2012. However, considering the limited experience in the certification of modern airships and considering the variety of possible configurations and design principles, a performance-based approach is proposed here to address the differences in performance and flight characteristics. This approach is also mirrored in the initial airworthiness domain.

AsOP.AOC.705 En route — passenger transportation

For airships with an MOPSC of more than 19, the operator shall establish procedures to ensure that, in the event of a CFP occurring at any point along the route, the airship can continue operating to an adequate aerodrome or operating site, including safe mooring. The airship shall not be operated below the minimum obstacle clearance altitude at any point.

Rationale

This proposed requirement is equivalent to point SPO.POL.135 of Regulation (EU) No 965/2012.

AsOP.AOC.710 Landing without mooring

(a) The mass limitations specified in the AFM shall be complied with at landing.

(b) The operator shall establish procedures to ensure that at the destination or alternate aerodrome or operating site, after clearing all obstacles in the approach path, it shall be possible to land the airship in the safe area designated for it. Allowances shall be made for expected

variations in the approach and landing techniques if such allowances are expected to be required considering local weather phenomena or have not been made in the scheduling of performance data.

(c) The requirements and procedures referred to in points (a) and (b) shall include considerations related to heaviness, atmospheric conditions and characteristics of the destination and alternate aerodrome or operating site.

Rationale

The proposed requirement in (b) is equivalent to point NCC.POL.135 of Regulation (EU) No 965/2012, which is applicable to aeroplanes.

AsOP.AOC.715 Landing with mooring

(a) The mass limitations specified in the AFM shall be complied with at landing.

(b) The operator shall establish procedures to ensure that at the destination or alternate aerodrome or operating site, after clearing all obstacles in the approach path, it shall be possible for the airship to be moored, and to rest, in the safe area designated for it. Allowances shall be made for expected variations in the approach and landing techniques if such allowances are expected to be required considering local weather phenomena or have not been made in the scheduling of performance data.

(c) For airships with an MOPSC higher than 19, the operator shall establish procedures to ensure that, in the event of a CFP occurring during approach, it shall be possible for the airship to continue the flight avoiding ground obstacles until safe mooring.

(d) The requirements and procedures referred to in points (a), (b) and (c) shall include considerations related to heaviness, atmospheric conditions and characteristics of the destination and alternate aerodrome or operating site.

Rationale

The proposed requirement in (b) is equivalent to point NCC.POL.135 of Regulation (EU) No 965/2012, which is applicable to aeroplanes, and it is similar to the requirement in point AsOP.AOC.710. It is to be noted that airships can perform landings without mooring for the purpose of embarking/disembarking passengers or other purposes. In these cases, there are possibly different limitations to the airship operation; therefore, the relevant requirements have been separated.

The proposed point (c) can be interpreted as a lighter version of the CAT.POL.H (Regulation (EU) No 965/2012) requirements for rotorcraft, which, unlike the requirements for aeroplanes, take into account the possible failures during approach. Some further adaptations have been made to consider the airship mooring system.

Section 9 — Instruments and equipment

AsOP.AOC.800 Flight recorder

(a) A flight recorder shall be installed in:

(1) large airships;

(2) airships used in CAT operations with an individual CofA first issued after DDMMYYYY [=> 2 years after the entry into force of this regulation].

(b) The flight recorder shall record, by means of flight data and/or images, information that is sufficient to determine any of the required parameters as established during the type certification of the airship, and:

(1) the flight path and aircraft speed;

(2) audio exchanges between crew members and task specialists, where applicable; and

(3) voice or data radio communications with ATS units.

(c) The flight recorder shall be capable of retaining:

(1) the flight data recorded during at least the preceding 25 hours;

(2) the images and audio recorded during at least the preceding 2 hours.

(d) The flight recorder shall automatically start to record prior to the airship being released from the mast for the purpose of taking off and shall stop automatically within 10 minutes of the airship being secured to the mast.

(e) If the flight recorder records images or audio of the flight crew compartment, a function to modify image and audio recordings shall be at the disposal of the pilot-in-command, so that the recordings made prior to the operation of that function cannot be retrieved using normal replay or copying techniques.

(f) Flight recorders installed on airships with an MOPSC of more than 60 shall be crash protected.

Rationale

This requirement is equivalent to point CAT.IDE.A.191 of Regulation (EU) No 965/2012, with some adaptations that were considered necessary to better suit airship operations.

Any airship operated in accordance with Annex II must have a flight recorder installed. The only derogation is for airships produced before the transition period of this Regulation.

The proposal refers to flight recorders instead of flight data recorders to open the door for the usage of lightweight recorders that are considered suitable for airships with an MOPSC of 60 or below.

If the airship has an MOPSC above 60, it is proposed that a crash-protected recorder is installed (i.e. a recorder compliant with EUROCAE ED-112, as clarified in the proposed AMC1 AsOP.AOC.800(f)).

It should be noted that point (c) has been drafted on the basis of EUROCAE ED-155, which has been endorsed by ETSO-2C197. However, it is known that some airship operators that will be subject to these requirements will operate flights exceeding two hours of duration. Indeed, some of them will also target the life-on-board concept. In order to better manage this type of flight, EASA will assess the opportunity to amend point (c) on the basis of the new version of EUROCAE ED-155A, which was under preparation when this NPA was initially drafted.

AMC1 AsOP.AOC.800 Flight recorder

OPERATIONAL PERFORMANCE REQUIREMENTS

(a) The flight recorder should record the required parameters as established during the type certification of the airship.

(b) If the flight recorder records a combination of images and flight data, each flight parameter established in accordance with point (a) should be recorded as flight data or by means of images.

(c) The parameters to be recorded as flight data should meet the performance specifications (range, sampling intervals, accuracy limits and resolution in read-outs) as defined in the relevant tables of

(1) EUROCAE ED-112b, or any later equivalent standard accepted by EASA; or

(2) EUROCAE ED-155, dated July 2009, or any later equivalent standard accepted by EASA.

(d) The operational performance requirements for the flight recorder should be those laid down in:

(1) EUROCAE ED-155 or any later equivalent standard accepted by EASA for lightweight flight recorders; or

(2) EUROCAE ED-112b or any later equivalent standard accepted by EASA for crash-protected flight recorders.

Rationale

The provisions contained in this proposed AMC are equivalent to those of AMC1 CAT.IDE.A.191 of Regulation (EU) No 965/2012. It is to be noted that the full list of parameters to be monitored is not included in this AMC as this will be established during the certification process. It is also to be noted that ICAO Annex 6 does not address airships.

GM1 AsOP.AOC.800 Flight recorder

For additional guidance, the operator could refer to the following GM to CAT.IDE.A.191 of Regulation (EU) No 965/2012:

— GM1 CAT.IDE.A.191 for additional useful information on lightweight flight recorders;

— GM2 CAT.IDE.A.191 for the installation of cameras;

— GM3 CAT.IDE.A.191 for recording accuracy of attitude rate parameters;

— GM1 CAT.IDE.A.191(e) for the function to modify image and audio recordings.

Rationale

From a technical standpoint, the type of aircraft on which the flight recorder is installed does not play a relevant role in the guidance related to the usage of the device. It is expected that the same considerations remain valid regardless of aircraft type. That is why it is proposed that the GM already published in relation to the relevant provisions of Regulation (EU) No 965/2012 is referred to rather than copying it in this Regulation without substantially changing any elements.

AMC1 AsOP.AOC.800(f) Flight recorder

OPERATIONAL PERFORMANCE REQUIREMENTS

The operational performance requirements for crash-protected flight data recorders should be those laid down in EUROCAE ED-112 (*Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems*), dated March 2003, including Amendments No 1 and No 2, or any later equivalent standard produced by EUROCAE.

Rationale

This proposed AMC is equivalent to AMC1.1 CAT.IDE.A.190 of Regulation (EU) No 965/2012.

AsOP.AOC.805 Data link recording

(a) Airships with an individual CofA first issued after DDMMYYYY [=> 2 years after the entry into force of this regulation] that have the capability to operate data link communications and that are required to be equipped with a flight recorder in accordance with AsOP.AOC.800 shall record data link messages used for communication to and from the airship and ATS to comply with airspace usage or operational requirements.

(b) The recorder shall use a digital method of recording and storing data and information and a method for retrieving that data. The recording method shall allow the data to match the data recorded on the ground.

Rationale

This proposed conditional requirement is equivalent to points CAT.IDE.A.195 and NCC.IDE.A.170 of Regulation (EU) No 965/2012. Only airships equipped with specific devices for data link communications will have to comply with this requirement.

The scope of this proposed requirement has been limited to the exchanges that are relevant to air traffic management. A similar approach was under development at EASA when this NPA was initially prepared with respect to certification of electric vertical take-off and landing (eVTOL) aircraft.

AMC1 AsOP.AOC.805 Data link recording

GENERAL

(a) The recorder on which the data link messages are recorded should meet the performance requirements defined in AMC1 AsOP.AOC.800(f).

(b) Further details on the recording requirements can be found in the recording requirement matrix in Appendix D.2 to EUROCAE ED-93 (*Minimum aviation system performance specification for CNS/ATM message recording systems*), dated November 1998.

Rationale

This proposed AMC is equivalent to AMC1 CAT.IDE.A.195 of Regulation (EU) No 965/2012. It should be noted that the proposed wording encompasses the possibility of using lightweight recorders.

GM1 AsOP.AOC.805(a) Data link recording

APPLICABILITY OF THE DATA LINK RECORDING REQUIREMENT

(a) If it is certain that the airship cannot use data link communication messages for ATS communications corresponding to any application designated by point AsOP.AOC.805(a), then the data link recording requirement does not apply.

(b) Examples where the airship cannot use data link communication messages for ATS communications include but are not limited to cases where:

(1) the aircraft data link communication capability is disabled permanently and in a way that it cannot be enabled again during the flight;

(2) data link communications are not used to support ATS in the area of operation of the aircraft; and

(3) the aircraft's data link communications equipment cannot communicate with the equipment used by ATS in the area of operation of the aircraft.

Rationale

This proposed GM is equivalent to GM1 CAT.IDE.A.195(a) of Regulation (EU) No 965/2012.

AsOP.AOC.810 Aircraft tracking system

Operators of airships with an MOPSC of more than 19 shall comply with the following requirements.

(a) By DDMMYYYY [=> 4 years after the entry into force of this regulation] at the latest, the operator shall establish and maintain, as part of the system for exercising operational control, an aircraft tracking system, which includes the flights referred to in (b) when performed with airships with an individual CofA issued on or after DDMMYYYY [=> entry into force of this regulation].

(b) Flights shall be tracked by the operator from take-off to landing, except when the planned route and the planned diversion routes are fully included in airspace blocks where:

(1) ATS surveillance service is normally provided and is supported by ATC surveillance systems locating the aircraft at time intervals of adequate duration; and

(2) the operator has provided necessary contact information to competent air navigation service providers.

Rationale

This proposed requirement is equivalent to point CAT.GEN.MPA.205 of Regulation (EU) No 965/2012.

The applicability is focused on the passenger capacity of the airship to maintain proportionality when comparing cargo and passenger operations.

AMC1 AsOP.AOC.810 Aircraft tracking system

EQUIPMENT, PERFORMANCE AND PROCEDURES WHEN AIRCRAFT TRACKING IS REQUIRED

(a) Automatic tracking of airship position

The aircraft tracking system should rely on equipment capable of automatically detecting and transmitting a position report to the aircraft operator, except if (d)(2) applies.

(b) Position reporting period

The tracking of an individual flight should provide a position report at time intervals that do not exceed 60 minutes.

(c) Content of position reports

Each position report should contain at least the latitude, the longitude, the time of position determination and, whenever available, an indication of the airship altitude, except that for each flight:

(1) one of the position reports may contain only time-stamped data indicating that the airship has been released from the mast; and

(2) one of the position reports may contain only time-stamped data indicating that the airship has been secured to the mast.

(d) Source of position data

The data contained in a position report may come from:

(1) ATC surveillance systems, if the ATC surveillance data source is capable of providing these data with a delay equal to or less than 40 minutes;

(2) the flight crew, if the planned flight duration is less than two position reporting periods;

(3) airship systems, in which case:

(i) the source of time, latitude and longitude data should be the navigation system of the airship or an approved GNSS receiver;

(ii) the source of altitude data should be:

(A) the same source as for time, latitude and longitude data; or

(B) an approved source of pressure altitude; and

(iii) the delivery time of position reports from the airship to the operational control over the flight should, to the extent possible, not exceed 10 minutes; or

(4) any data source when the position report is of a type designated by (c)(1), or (c)(2); in such cases, the delivery time of position reports from the data source to the operational control over the flight should, to the extent possible, not exceed 10 minutes.

(e) Temporary lack of aircraft tracking data

Aircraft tracking data may be incomplete due to a temporary or unexpected issue prior to or during the flight. However, the operator should:

(1) identify any loss of aircraft tracking data that is not due to a temporary issue; and

(2) address any systematic lack of aircraft tracking data affecting a given airship or a given route in a timely manner.

(f) Operational control over the flights

When abnormal flight behaviour is suspected, this should be checked and acted upon without delay.

(g) Recording of aircraft tracking data during normal operation

When the tracking of a flight is required, all related aircraft tracking data should be recorded on the ground, including position data from ATC surveillance systems when they are used. The aircraft tracking data of a given flight should be retained until confirmation that the flight is completed and no accident or serious incident occurred.

(h) Preserving aircraft tracking data after an accident or a serious incident

Following an accident or a serious incident, the operator should retain the aircraft tracking data of the involved flight for at least 30 days. In addition, the operator should be capable of providing a copy of this data without delay and in an electronic format that is human-readable using a common text file editor.

(i) Procedures

The operator should establish procedures describing its aircraft tracking system, including the identification of abnormal flight behaviour and the notification of the competent ATS unit (i.e. the ATS unit responsible for providing the alerting service in the airspace where the aircraft is believed to be), when appropriate. These procedures should be integrated with the ERP of the operator.

Rationale

This proposed AMC is equivalent to AMC1 CAT.GEN.MPA.205 of Regulation (EU) No 965/2012. It is to be noted that the reporting interval times have been increased approximately fourfold to properly compensate for the lower average ground speed that can be achieved by an airship compared with an aeroplane.

AMC2 AsOP.AOC.810 Aircraft tracking system

ROUTES INCLUDED IN AIRSPACE COVERED BY AIR TRAFFIC SERVICES SURVEILLANCE

(a) Trajectory points located at a distance of less than 50 NM from the departure aerodrome or operating site and trajectory points located at a distance of less than 50 NM from the destination aerodrome or operating site may be considered not part of the ‘planned route’.

(b) Trajectory points located at a distance of less than 50 NM from any diversion aerodrome or operating site may be considered not part of the ‘planned diversion routes’.

(c) An ATS surveillance service may be considered ‘supported by ATC surveillance systems locating the aircraft at time intervals of adequate duration’ if those ATC surveillance systems are capable of locating aircraft at time intervals not exceeding 15 minutes when operated normally.

(d) When applicable, the operator should check that the conditions required for using the exception defined by point AsOP.AOC.810(b) are fulfilled before operating in new airspace blocks.

(e) When applicable, the operator should check at time intervals not exceeding 180 calendar days that the conditions required for using the exception defined by point AsOP.AOC.810(b) are maintained.

Rationale

This proposed AMC is equivalent to AMC2 CAT.GEN.MPA.205 of Regulation (EU) No 965/2012.

GM1 AsOP.AOC.810 Aircraft tracking system

EXPLANATION OF TERMS

The following definitions of the terms used in point AsOP.AOC.810 are provided to aid understanding:

(a) 'capability to provide a position additional to the SSR transponder' means airborne equipment other than the SSR transponder, that is operative and that can be used to automatically transmit time-stamped position data without changing the approved airborne systems; and

(b) 'abnormal flight behaviour' means, in the context of an aircraft tracking system, an event affecting a flight:

(1) that is outside the parameters defined by the operator for normal operation or that indicates an obvious deviation from normal operation; and

(2) for which the operator has determined that it poses a risk for the safe continuation of the flight or for third parties.

Rationale

This proposed GM is equivalent to GM1 CAT.GEN.MPA.205 of Regulation (EU) No 965/2012.

GM2 AsOP.AOC.810 Aircraft tracking system

DETERMINING WHETHER A FLIGHT NEEDS TO BE TRACKED

Table 1 provides a summary of the cases applicable to an airship that is within the scope of AsOP.AOC.810(a).

Table 1 – Cases applicable to the flight of an airship subject to the aircraft tracking requirement

Condition 1:	Condition 2:	Condition 3:	Case considered:
The planned route and the planned diversion routes are included in airspace blocks where ATS surveillance service is normally provided.	The ATS surveillance service provided in all airspace blocks determined by condition 1 is supported by ATC surveillance systems locating the aircraft at time intervals of	The operator has provided all air navigation service providers competent for the airspace blocks determined by condition 1 with the necessary contact information.	An airship that is within the scope of point AsOP.AOC.810(a).

	adequate duration.		
Conditions 1, 2 and 3 are met altogether.			The flight does not need to be tracked (refer to point AsOP.AOC.810(b)). Note: The operator should check at regular time intervals that conditions 1, 2 and 3 are still met (refer to AMC2 AsOP.AOC.810).
Condition 1, 2 or 3 is not met:			The flight shall be tracked (refer to point AsOP.AOC.810(b)). Note: Lack of aircraft tracking data due to a temporary or unexpected issue may be acceptable (refer to AMC1 AsOP.AOC.810). Examples of issues (list is indicative and not exhaustive): airborne equipment found to be inoperative, transmission link disturbed by environmental factors and an issue with the ground-based infrastructure or the space-based infrastructure.

Rationale

This proposed GM is equivalent to GM2 CAT.GEN.MPA.205 of Regulation (EU) No 965/2012.

GM3 AsOP.AOC.810 Aircraft tracking system

METHOD FOR ASSESSING WHETHER A FLIGHT NEEDS TO BE TRACKED

The following gives an example of a method to assess whether flights performed along a given route need to be tracked.

(a) Determine the planned route and the planned diversion routes and consider only points of these routes located at a distance of greater than or equal to 50 NM from the departure aerodrome or operating site, the destination aerodrome or operating site and the diversion aerodrome or operating site. If there is no such point, then the flight does not need to be tracked. Otherwise, go to (b).

(b) Identify all airspace blocks crossed by the result of (a) and go to (c).

(c) If every airspace block meets all of the following conditions, then the flight does not need to be tracked:

(1) ATS surveillance service is provided in the airspace block;

(2) this ATS surveillance service relies on ATC surveillance systems that are normally capable of detecting aircraft in the airspace block at time intervals not exceeding 15 minutes; and

(3) the air navigation service provider competent for the airspace block has information sufficient to contact the on-duty staff of the operator.

Rationale

This proposed GM is equivalent to GM3 CAT.GEN.MPA.205 of Regulation (EU) No 965/2012.

GM4 AsOP.AOC.810 Aircraft tracking system

POSSIBLE SOURCES AND MINIMUM CONTENT OF A POSITION REPORT

Table 1 presents a summary of the possible sources and the minimum content of a position report in accordance with AMC1 AsOP.AOC.810.

Table 1 – Possible sources and minimum content of a position report

Planned flight duration	Possible sources of a position report	Minimum content of a position report
Flight duration < 2 × reporting period	— Airborne equipment (automatic transmission); — flight crew; or — ATC surveillance systems.	Latitude, longitude and time (and whenever available altitude), except for the position reports designated by points (c)(1),) and (c)(2) of AMC1 AsOP.AOC.810.
Flight duration ≥ 2 × reporting period	— Airborne equipment (automatic transmission); — ATC surveillance systems; — flight crew if the flight is not required to be tracked; or — any source for position reports designated by points (c)(1), and (c)(2) of AMC1 AsOP.AOC.810.	

Rationale

This proposed GM is equivalent to GM4 CAT.GEN.MPA.205 of Regulation (EU) No 965/2012.

GM5 AsOP.AOC.810 Aircraft tracking system

AIRCRAFT TRACKING — CHOICE OF THE POSITION REPORTING PERIOD

(a) Unless the aircraft tracking system includes functionalities enhancing the detection of deviations from normal operation (e.g. airborne systems capable of automatically transmitting more information under some conditions, possibility for operational control to adjust the position reporting period of an ongoing flight), the choice of the position reporting period has a significant influence on the effectiveness of the aircraft tracking system.

(1) Indeed, assuming that an operator has set itself the objective of detecting, within a given time, T, deviations from normal operation, and that the operator relies for this purpose only on position reports, then the position reporting period needs to be less than T.

(2) Furthermore, when no information other than position reports is available to locate a missing aircraft, then the search zone is a circle with a radius corresponding to the distance likely to have been covered since the last detection. The corresponding search area grows as the square of the time, until the position of the aircraft is detected again or the fuel on board is exhausted. Taking the example of an airship cruising at 80 km/h, after 15 minutes the search area is 1 250 km^2.

(3) In the publication of the Australian Transportation Safety Bureau titled *The Operational Search for MH370* (dated October 2017), it is recommended that 'Aircraft operators, aircraft manufacturers, and aircraft equipment manufacturers investigate ways to provide high-rate and/or automatically triggered global position tracking in existing and future fleets.'

(b) It is advised that the above is taken into account when setting up the aircraft tracking system.

Rationale

This proposed GM is equivalent to GM5 CAT.GEN.MPA.205 of Regulation (EU) No 965/2012.

GM6 AsOP.AOC.810 Aircraft tracking system

PROVIDING CONTACT INFORMATION TO COMPETENT AIR NAVIGATION SERVICE PROVIDERS

A solution for the operator to make the necessary contact information available to all competent air navigation service providers could be to register with the global OPS Control Directory of ICAO. Another possible way is to provide in the ATS flight plan (item 18 'Other information') information sufficient to contact the on-duty staff of the aircraft operator.

Rationale

This proposed GM is equivalent to GM6 CAT.GEN.MPA.205 of Regulation (EU) No 965/2012.

GM7 AsOP.AOC.810 Aircraft tracking system

GUIDANCE

Additional guidance for the establishment of an aircraft tracking system is found in ICAO Circular 347, 'Aircraft tracking implementation guidelines', dated 2017.

Rationale

This proposed GM is equivalent to GM7 CAT.GEN.MPA.205 of Regulation (EU) No 965/2012.

AsOP.AOC.815 Terrain awareness system

Large airships in IFR operations shall be equipped with means to provide adequate terrain awareness to the crew.

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.150 of Regulation (EU) No 965/2012. It is to be noted that, at the time of drafting this proposal, there was no equipment designed to be installed specifically on airships (e.g. TAWS). This requirement is therefore presented in a more objective-based manner allowing installation of various technology solutions.

AMC1 AsOP.AOC.815 Terrain awareness system

ADEQUATE SYSTEM

A system achieving the same objective and functionalities of a (helicopter) terrain awareness warning system would be deemed adequate.

In particular, a ground proximity warning system should provide, as a minimum, warnings of at least the following circumstances:

(a) excessive descent rate,

(b) excessive terrain closure rate,

(c) excessive altitude loss after take-off or go-around,

(d) unsafe terrain clearance while not in landing configuration:

(1) gear not locked down,

(2) flaps not in a landing position, and

(e) excessive descent below the instrument glide path.

Rationale

This proposed AMC is meant to clarify the meaning of 'adequate' and it is proposed keeping in mind that, at the time of preparation of this NPA, due to the limited production, avionics suppliers do not support the airship-specific performance. Each airship manufacturer will have to develop or customise a dedicated means to provide the same functionalities of a (helicopter) terrain awareness warning system considering the specific performance of their airship.

AsOP.AOC.820 Emergency lighting and marking

In addition to point AsOP.BAS.495, the following requirements apply in relation to emergency lighting and marking.

(a) In the case of airships with an MOPSC of more than nine, the emergency lighting system required by point AsOP.BAS.495 shall have an independent power supply.

(b) In the case of airships with an MOPSC of more than 19, the emergency lighting system referred to in (a) shall include:

(1) sources of general cabin illumination;

(2) internal lighting in floor-level emergency exit areas;

(3) illuminated emergency exit marking and locating signs;

(4) when operated by night, exterior emergency lighting at all passenger emergency exits; and

(5) floor proximity emergency escape path marking system(s) in the passenger compartments.

(c) For airships with an MOPSC of 19 or less and type certified on the basis of the Agency's certification specification, the emergency lighting system referred to in point (a) shall include the equipment referred to in points (1), (2) and (3) of point (b).

(d) For airships with an MOPSC of 19 or less that are not certified on the basis of the Agency's certification specification, the emergency lighting system referred to in point (a) shall include the equipment referred to in point (b)(1).

Rationale

This proposed requirement is equivalent to point CAT.IDE.A.275 of Regulation (EU) No 965/2012.

Section 10 — Transport of dangerous goods

AsOP.AOC.900 Release and loading/unloading of dangerous goods

Without prejudice to point AsOP.BAS.600, the following requirements shall apply with respect to the release and loading/unloading of dangerous goods.

(a) The pilot-in-command shall not release dangerous goods when operating an airship.

(b) Notwithstanding point (a), parachutists may exit the airship for the purpose of parachute display while carrying smoke trail devices that were manufactured for that purpose.

(c) Controlled loading and unloading of dangerous goods is permitted when conducted under normal operations.

Rationale

This requirement is similar to point BOP.BAS.060 of Regulation (EU) 2018/395.

It is essential to note that release of dangerous goods has a different meaning from loading and unloading of dangerous goods. The latter may be part of normal operations, provided that these activities are supported by compliance with all the relevant requirements related to transportation of dangerous goods.