European Aviation Safety Agency

Acceptable Means of Compliance and Guidance Material to Annex II Balloon Air Operations (Part-BOP) to Commission Regulation (EU) 2018/395

Issue 1[1]

23 March 2018

[1] For the date of entry into force of this Issue, refer to Decision 2018/004/R in the **Official Publication** of the Agency.

AMC AND GM TO ANNEX II TO COMMISSION REGULATION (EU) 2018/395

BALLOON AIR OPERATIONS

[PART-BOP]

SUBPART BAS — BASIC OPERATIONAL REQUIREMENTS

SECTION 1 — GENERAL REQUIREMENTS

AMC1 BOP.BAS.001 Scope

AERIAL ADVERTISING FLIGHT

An aerial advertising flight, displaying a logotype or an advertisement on the balloon, should only be considered a commercial operation, when:

(a) especially conducted at a specific time and for an advertising purpose; and

(b) conducted in return for remuneration or other valuable consideration from the principal, with or without the existence of a contract.

GM1 BOP.BAS.001 Scope

MIXED BALLOONS

Mixed balloons are operated in accordance with the requirements for hot-air balloons, unless otherwise specified.

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

GENERAL

In accordance with the essential requirements for air operations, which are laid down in Annex IV to Regulation (EC) No 216/2008[2], the pilot-in-command is responsible for the operation and safety of the balloon and for the safety of all passengers on board. This includes the following:

(a) the safety of all passengers on board, as soon as he or she arrives on board until he or she leaves the balloon at the end of the flight; and

(b) the operation and safety of the balloon from the moment the balloon is unloaded from the retrieve vehicle or trailer to the moment the balloon is reloaded, unless the preparation of the flight is delegated to a crew member.

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

CHECKLISTS

(a) The pilot-in-command should use the latest checklists provided by the manufacturer or the operator.

(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.

GM1 BOP.BAS.030(a)(7) Responsibilities of the pilot-in-command

PROTECTIVE CLOTHING

Protective clothing includes:

---

[2] Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1).

(a) long sleeves and trousers preferably made of natural fibres;

(b) stout footwear; and

(c) gloves.

GM1 BOP.BAS.030(a)(14) Responsibilities of the pilot-in-command
RECORDING UTILISATION DATA

Where a balloon 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 balloon logbook as a single entry.

AMC1 BOP.BAS.030(a)(17) Responsibilities of the pilot-in-command
REPORTING OF HAZARDOUS FLIGHT CONDITIONS

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

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

AMC1 BOP.BAS.030(b)(1) & AMC1 BOP.BAS.040(b) Responsibilities of the pilot-in-command & responsibilities of crew members
ALCOHOL CONSUMPTION

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

(a) no alcohol should be consumed less than 8 hours prior to an operation;

(b) the blood alcohol level should not exceed the lower of the national requirements or 0.2 grams of alcohol in 1 litre of blood at the start of an operation; and

(c) no alcohol should be consumed during the operation.

GM1 BOP.BAS.030(b)(1);(2) & GM1 BOP.BAS.040(b) Responsibilities of the pilot-in-command & responsibilities of crew members
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[3].

GM1 BOP.BAS.040 Responsibilities of crew members
DESIGNATION OF PERSONS AS CREW MEMBERS

(a) The pilot-in-command or the operator may designate any person as a crew member provided that:

(1) the role, according to the reasonable expectation of the pilot-in-command or the operator, will enhance the safety of the flight or achieve an operational objective of the flight;

[3] 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, 25.11.2011, p. 1).

(2) the person, according to the reasonable expectation of the pilot-in-command or the operator, is capable of fulfilling the role;

(3) the person has been briefed on the role as a crew member and informed that he or she is crew, not a passenger; and

(4) the person agrees to the role as 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 or examiner, in certain circumstances.

GM1 BOP.BAS.050 Documents, manuals and information to be carried

GENERAL

(a) In case of loss or theft of documents specified in BOP.BAS.050, the operation may continue until the balloon has landed. The operator provides replacement documentation within the shortest possible time frame.

(b) 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 is assured.

AMC1 BOP.BAS.050(a)(1) Documents, manuals and information to be carried

OPERATING LIMITATIONS, NORMAL, ABNORMAL AND EMERGENCY PROCEDURES

The operating limitations, as well as normal, abnormal and emergency procedures should be available to the pilot during the operation by providing the specific sections of the aircraft flight manual (AFM) or by other means that effectively accomplish the purpose.

AMC1 BOP.BAS.050(a)(3) 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 the carriage of textual and graphic representations of:

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

(i) airspace structure;

(ii) communication frequencies;

(iii) prohibited, restricted and danger areas;

(iv) 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 relevant for the current aeronautical information regulation and control (AIRAC) cycle.

(d) The topographical data should be reasonably recent, as regards the nature of the planned operation.

AMC1 BOP.BAS.050(b)(2) Documents, manuals and information to be carried
CERTIFICATE OF AIRWORTHINESS

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

GM1 BOP.BAS.050(b)(3) Documents, manuals and information to be carried
AFM OR EQUIVALENT DOCUMENT

'AFM or equivalent document(s)' means the flight manual for the balloon or other documents containing information required for the operation of the balloon within the terms of its certificate of airworthiness.

GM1 BOP.BAS.050(b)(6) Documents, manuals and information to be carried
BALLOON LOGBOOK OR EQUIVALENT DOCUMENT

'Balloon logbook or equivalent document(s)' means that the required information may be recorded in documentation other than a logbook, such as the operational flight plan or the balloon technical log.

GM1 BOP.BAS.050(b)(7) Documents, manuals and information to be carried
DOCUMENTS THAT MAY BE PERTINENT TO THE FLIGHT AND STATES CONCERNED WITH THE FLIGHT

(a) Any other documents that may be pertinent to the flight or are required by the States concerned with the flight may include, for example, forms to comply with reporting requirements.

(b) The States concerned are those of origin, overflight and destination of the flight.

GM1 BOP.BAS.055 Dangerous goods
GENERAL

The carriage of dangerous goods is only permitted when:

(a) they are not subject to the 'Technical instructions for the safe transport of dangerous goods by air', ICAO Doc 9284-AN/905, in accordance with Part 1 of those instructions. Following the technical instructions, articles and substances which would otherwise be classified as dangerous goods, but which are required on board the balloon in accordance with the pertinent airworthiness requirements or the requirements of this Annex, are permitted;

(b) they are carried by crew members or passengers, or are in baggage, in accordance with Part 8 of the technical instructions; or

(c) they are required on board the balloon for specialised purposes in accordance with the technical instructions.

GM2 BOP.BAS.055 Dangerous goods
EXAMPLES

Dangerous goods include the following:

(a) explosives (fireworks, flares, detonators, fuses, dynamite, ammunition and materials for fireworks in general);

(b) compressed or refrigerated liquid, or dissolved gases (aerosols, self-defence sprays, camping gas, extinguishers, cryogenic liquids, bottles with cooling gases and compressed gas cylinders in general);

(c) flammable liquids and solids (fuel, equipment containing fuel, adhesives, solvents, paint, petrol, varnish, torches, cigarette lighters and lighter refills);

(d) substances that emit flammable gases in contact with water;

(e) oxidisers and organic peroxides (oxygen generators and bleaching powder); and

(f) substances liable to spontaneous combustion (strike-anywhere matches and phosphorous).

AMC1 BOP.BAS.065 Balloon logbook

GENERAL

The balloon logbook, or equivalent, should include the following items, where applicable:

(a) balloon nationality and registration;

(b) date;

(c) name(s) of flight crew member(s);

(d) place of departure;

(e) place of arrival;

(f) time of departure;

(g) time of arrival;

(h) hours of flight;

(i) type of operation;

(j) incidents and observations, if any; and

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

GM1 BOP.BAS.065 Balloon logbook

SERIES OF FLIGHTS

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

(1) within a 6-hour period;

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

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

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

SECTION 2 — OPERATING PROCEDURES

AMC1 BOP.BAS.110 Fuel and ballast supply and planning

GENERAL

(a) The pilot-in-command should only commence a flight if the reserve fuel or ballast is sufficient for 30 minutes of flight.

(b) Notwithstanding (a), the pilot-in-command should only commence a flight if the reserve fuel (for the burner, and, in case of hot-air airships, also for the engine) or ballast is sufficient for 15 minutes of flight for:

(1) hot-air balloons equipped with a single fuel tank; and

(2) hot-air airships, when the flight is conducted in the vicinity of the operating site.

(c) Fuel or ballast supply calculations should be based upon at least the following operating conditions under which the flight is to be conducted:

(1) data provided by the balloon manufacturer;

(2) anticipated masses;

(3) expected meteorological conditions; and

(4) air navigation services provider procedures and restrictions.

AMC1 BOP.BAS.115 Passenger briefing

GENERAL

(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 case of an emergency situation.

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

(1) safety in relation to ground equipment;

(2) use of internal handholds;

(3) wearing of suitable clothing;

(4) smoking regulations;

(5) in-flight use and stowage of personal belongings and baggage;

(6) importance to remain inside the basket at all times, particularly after landing;

(7) landing positions to be assumed to minimise the effect of the impact during landing;

(8) safe manoeuvring of the balloon on the ground after landing;

(9) use of oxygen-dispensing equipment, if applicable; and

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

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

(d) Before take-off, the correct landing position should be demonstrated.

(e) Before commencing the landing phase, passengers should be required to practise the correct landing position.

GM1 BOP.BAS.115 Passenger briefing

GENERAL

The pilot-in-command or a person designated by the operator is carrying out the passenger briefing.

AMC1 BOP.BAS.120 Carriage of special categories of passengers

CARRIAGE OF CHILDREN AND PERSONS WITH REDUCED MOBILITY

The pilot-in-command may exclude children or persons with reduced mobility from transportation in a balloon when:

(a) their presence may impede:

(1) the crew in their duties;

(2) access to emergency equipment; or

(3) the emergency evacuation of the balloon; or

(b) those persons are:

(1) unable to take a proper brace position;

(2) smaller than the inner height of the basket wall; or

(3) unable to understand the passenger briefing.

AMC1 BOP.BAS.125 Submission of the air traffic service flight plan

FLIGHTS WITHOUT ATS FLIGHT PLAN

(a) The operator should nominate a person to be responsible for alerting search and rescue services for flights without submitted ATS flight plans.

(b) The operator should establish procedures to ensure that the expected route of each flight is communicated to the ground crew, and should:

(1) provide the nominated person with at least the information required to be included in a visual flight rules (VFR) flight plan;

(2) notify the appropriate ATS or search and rescue facility when a balloon is overdue or missing; and

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

AMC1 BOP.BAS.150 Take-off conditions

FACILITIES AT THE TAKE-OFF SITE

At the balloon take-off site a means of assessing wind direction and wind speed should be available to the pilot-in-command.

GM1 BOP.BAS.170 Refuelling with persons on board

REPLACEMENT OF FUEL CYLINDERS

The definition of ‘refuelling’ in Annex I excludes the replacement of fuel cylinders. Therefore, the replacement of fuel cylinders may be conducted, observing the appropriate precautions, when persons are on board.

AMC1 BOP.BAS.180 Use of supplemental oxygen

GENERAL

When the pilot-in-command cannot determine how the lack of oxygen might affect all occupants on board, he or she should ensure that:

(a) all flight crew members engaged in performing duties essential to the safe operation of a balloon use supplemental oxygen for any period in excess of 30 minutes when the pressure altitude is between 10 000 and 13 000 ft; and

(b) all occupants use supplemental oxygen for any period when the pressure altitude is above 13 000 ft.

GM1 BOP.BAS.185(a);(b) Operational limitations at night

AVOIDANCE OF NIGHT LANDING

(a) The intent of the rule is to ensure that when the balloon takes off during night, sufficient fuel is on board for landing under VFR by day.

(b) The risk of collision with overhead lines or other obstacles is considerable and cannot be overstated. The risk is considerably increased during night flights, in conditions of failing light and visibility, when there is increasing pressure to land. A number of incidents have occurred in the late evening in such conditions, and may have been avoided had an earlier landing been planned.

AMC1 BOP.BAS.190 Balloon specialised operations — Risk assessment and checklist

CRITERIA FOR BALLOON SPECIALISED OPERATIONS

The pilot-in-command or the operator should consider the following criteria to determine whether an activity falls within the scope of balloon specialised operations:

(a) special equipment is necessary to fulfil the task and which affects the behaviour of the balloon in flight;

(b) external loads are lifted; or

(c) persons enter or leave the balloon during flight.

AMC2 BOP.BAS.190 Balloon specialised operations — Risk assessment and checklist

DEVELOPMENT OF CHECKLIST

In order to develop a checklist, the pilot-in-command should take into account at least the following items:

(a) 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 pilot 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) balloon 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) normal, abnormal and emergency procedures:

  (1) operating procedures for the flight crew; and

  (2) ground procedures for crew members; and

(e) records:

it should be determined which records specific to the flight(s) are to be kept, such as task details, balloon registration, pilot-in-command, flight times, weather and any remarks, including a record of occurrences affecting flight safety or the safety of persons or property on the ground.

AMC3 BOP.BAS.190 Balloon specialised operations — Risk assessment and checklist
CHECKLIST FOR PARACHUTE OPERATIONS

The checklist for parachute operations should include:

(a) normal, abnormal and emergency procedures;

(b) relevant performance data;

(c) required equipment;

(d) any limitations such as maximum take-off mass and minimum landing mass; and

(e) responsibilities and duties of the pilot-in-command and, if applicable, of crew members.

GM1 BOP.BAS.190 Balloon specialised operations — Risk assessment and checklist
LIST OF OPERATIONS

(a) Balloon specialised operations include the following activities:

(1) parachute operations;

(2) hang-gliding dropping; and

(3) special events flights, including flying displays and competition flights.

(b) The following operations are not considered balloon specialised operations, but normal operations:

(1) aerial advertising flights; and

(2) news media flights, television and movie flights.

GM2 BOP.BAS.190 Balloon specialised operations — Risk assessment and checklist
CATEGORISATION OF OPERATIONS

The pilot-in-command or the operator determines whether the main purpose of an operation is passenger ballooning, commercial or not, or whether the activity falls within the scope of a balloon specialised operation. As regards a balloon specialised operation, the pilot-in-command or the operator applies the criteria in AMC1 BOP.BAS.190 and the activities listed in GM1 BOP.BAS.190.

SECTION 3 — PERFORMANCE AND OPERATING LIMITATIONS

GM1 BOP.BAS.200 Operating limitations
GENERAL

In most cases the operating limitations are documented in the AFM, and in certain cases in the operations manual.

GM1 BOP.BAS.205 Weighing

GENERAL

(a) New balloons that have been weighed at the factory may be placed into operation without reweighing if the mass records have been adjusted for alterations or modifications to the balloon. Balloons transferred from one EU operator to another EU operator do not have to be weighed prior to use by the receiving operator, unless the mass cannot be accurately established by calculation.

(b) The initial empty mass for a balloon is the balloon empty mass determined by a weighing performed by the manufacturer of the balloon before the initial entry into service.

(c) The mass of a balloon is revised whenever the cumulative changes to the balloon empty mass due to modifications or repairs exceed ± 10 % of the initial empty mass. This may be done by weighing the balloon or by calculation.

SECTION 4 — INSTRUMENTS, DATA AND EQUIPMENT

GM1 BOP.BAS.300(a) Instruments and equipment — General

APPLICABLE AIRWORTHINESS REQUIREMENTS

The applicable airworthiness requirements for the approval of instruments and equipment required by this Annex are the following:

(a) Annex I (Part 21) to Regulation (EU) No 748/2012[4] for balloons registered in the EU; and

(b) airworthiness requirements of the State of registry for balloons registered outside the EU.

GM1 BOP.BAS.300(a)(2) Instruments and equipment - General

PERMANENTLY INSTALLED

'Permanently installed' means an instrument or equipment that requires a specific kind of installation to:

(a) perform its intended function;

(b) be operated according to its specified limitations; and

(c) minimise the hazards to the balloon in the event of a probable malfunction or failure.

GM1 BOP.BAS.300(b) Instruments and equipment — General

REQUIRED INSTRUMENTS AND EQUIPMENT THAT DO NOT NEED TO BE APPROVED

The functionality of non-installed instruments and equipment, required by this Subpart and that do not need an equipment approval, are checked against recognised industry standards appropriate to the intended purpose. The operator is responsible for ensuring the maintenance of these instruments and equipment.

[4] Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 224, 21.8.2012, P.1).

GM1 BOP.BAS.300(c) Instruments and equipment — General

NOT REQUIRED INSTRUMENTS AND EQUIPMENT THAT DO NOT NEED TO BE APPROVED

(a) The provision of this paragraph does not exempt any installed instrument or item of equipment from complying with the applicable airworthiness requirements. In this case, 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 balloon.

AMC1 BOP.BAS.305 Minimum instruments and equipment for flight

GENERAL

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 (TCDS) 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.

AMC1 BOP.BAS.310 Operating lights

ANTI-COLLISION LIGHTS AND ILLUMINATION FOR INSTRUMENTS AND EQUIPMENT

(a) An acceptable means of compliance for free manned balloons should be the anti-collision light required for VFR at night approved in accordance with CS-31HB/CS-31GB or with the applicable provisions for hot-air airships.

(b) A means of providing adequate illumination to instruments and equipment essential to the safe operation of the balloon may be an independent portable light.

AMC1 BOP.BAS.315(a) Flight and navigational instruments and associated equipment

MEANS OF DISPLAYING DRIFT DIRECTION

The drift direction may be determined by using a map and reference to visual landmarks.

AMC1 BOP.BAS.315(b)(1) Flight and navigational instruments and associated equipment

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.

GM1 BOP.BAS.315(b)(3) Flight and navigational instruments and associated equipment

MEANS OF MEASURING AND DISPLAYING PRESSURE ALTITUDE

A means of measuring and displaying pressure altitude is needed when required by air traffic control or when altitude needs to be checked for flights where oxygen is used, or the limitations in the AFM require to limit altitude or rate of climb or descent.

GM1 BOP.BAS.320 Restraint system

EQUIPMENT REQUIREMENTS

A pilot restraint harness mounted to the basket is considered to meet the requirements of CS-31HB/CS-31GB for a restraint system.

AMC1 BOP.BAS.330 First-aid kit

CONTENT OF THE FIRST-AID KIT

(a) The first-aid kit should be equipped with appropriate and sufficient medications and instrumentation. However, the kit should be amended by the operator according to the characteristics of the operation (scope of operation, flight duration, number and demographics of passengers, etc.).

(b) The following should be included in the first-aid kit:

(1) bandages (assorted sizes);

(2) burns dressings (large and small);

(3) wound dressings (large and small);

(4) adhesive dressings (assorted sizes);

(5) antiseptic wound cleaner;

(6) safety scissors; and

(7) disposable gloves.

AMC2 BOP.BAS.330 First-aid kit

MAINTENANCE OF 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 where replacement items are available.

GM1 BOP.BAS.330(a) First-aid kit

ADDITIONAL FIRST-AID KIT

An additional first-aid kit may be carried in the retrieve vehicle or trailer.

AMC1 BOP.BAS.335 Hand fire extinguishers

CERTIFICATION SPECIFICATIONS

The applicable certification specification for hot-air balloons should be CS-31HB or equivalent.

GM1 BOP.BAS.335 Hand fire extinguishers

ADDITIONAL HAND FIRE EXTINGUISHER

An additional hand fire extinguisher may be carried in the retrieve vehicle or trailer.

AMC1 BOP.BAS.340 Life-saving and signalling equipment – Flights over water

RISK ASSESSMENT

In order to determine the risk, the pilot-in-command should take the following 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.

AMC2 BOP.BAS.340 Life-saving and signalling equipment – Flights over water
EQUIPMENT

Based on the risk assessment, the pilot-in-command should determine the carriage of:

(a) a life jacket or equivalent individual flotation device for each person on board that should:

(1) be worn or 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 persons;

(b) when carrying up to six persons, an emergency locator transmitter (ELT) or a personal locator beacon (PLB), carried by a crew member or a passenger, capable of transmitting simultaneously on 121.5 and 406 MHz;

(c) when carrying more than six persons, an ELT capable of transmitting simultaneously on 121.5 and 406 MHz; and

(d) signalling equipment for making distress signals.

AMC3 BOP.BAS.340 Life-saving and signalling equipment – Flights over water
BRIEFING ON PLB USE

When a PLB is carried by a passenger, he or she should be briefed on its characteristics and use by the pilot-in-command before the flight.

AMC4 BOP.BAS.340 Life-saving and signalling equipment – Flights over water
ELT AND PLB REGISTRATION AND OPERATION PROVISIONS

(a) Any ELT and PLB carried should be registered with the national agency responsible for initiating search and rescue, or another nominated agency.

(b) Any ELT carried should operate in accordance with the relevant provisions of Volume III of ICAO Annex 10 to the Chicago Convention, 'Aeronautical telecommunications'.

GM1 BOP.BAS.340 Life-saving and signalling equipment – Flights over water
TERMINOLOGY

(a) An ELT is a generic term describing equipment that broadcasts distinctive signals on designated frequencies and, depending on application, may be activated by impact or may be manually activated.

(b) A PLB is an emergency beacon, other than an ELT, that broadcasts distinctive signals at designated frequencies, is stand-alone, portable, and is manually activated by the survivors.

AMC1 BOP.BAS.345 Life-saving and signalling equipment – Search and rescue difficulties
GENERAL

Balloons operated across land areas in which search and rescue would be especially difficult should be equipped with the following:

(a) at least one ELT or a PLB;

(b) signalling equipment for making distress signals; and

(c) additional survival equipment adequate for the route to be flown taking account of the number of persons on board.

AMC2 BOP.BAS.345 Life-saving and signalling equipment – Search and rescue difficulties
ADDITIONAL SURVIVAL EQUIPMENT

(a) The following additional survival equipment should be carried:

(1) 500 ml of water for each four, or fraction of four, persons on board;

(2) one knife; and

(3) first-aid equipment.

(b) If any item of equipment in (a) is already carried on board in accordance with other requirements, the carriage does not need to be duplicated.

GM1 BOP.BAS.345 Life-saving and signalling equipment – Search and rescue difficulties
SIGNALS

The distress signals are described in Regulation (EU) No 923/2012[5].

GM2 BOP.BAS.345 Life-saving and signalling equipment – Search and rescue difficulties
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.

AMC1 BOP.BAS.350(b)(3) Miscellaneous equipment
FIRE BLANKET

A fire blanket should comply with the European Norm EN 1869 or equivalent. The size should be at least 1.5 m × 1.8 m. Smaller sizes are not recommended as they cannot sufficiently cover the source of developing propane fire.

AMC1 BOP.BAS.350(c)(1) Miscellaneous equipment
KNIFE

The knife, hook knife or equivalent, should be capable of cutting any control line or handling rope that is accessible to the pilot-in-command or a crew member from the basket.

GM1 BOP.BAS.355 Radio communication equipment
APPLICABLE AIRSPACE REQUIREMENTS

For balloons being operated under European air traffic control, the applicable airspace requirements include the single European sky legislation.

[5] Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.12.2012, p. 1).

AMC1 BOP.BAS.360 Transponder

GENERAL

(a) The secondary surveillance radar (SSR) transponders of balloons being operated under European air traffic control should comply with any applicable single European sky legislation.

(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 to the Chicago Convention, 'Aeronautical telecommunications'.

SUBPART ADD — ADDITIONAL REQUIREMENTS FOR COMMERCIAL OPERATIONS

SECTION 1 — GENERAL ORGANISATION REQUIREMENTS

AMC1 BOP.ADD.010 Notification of alternative 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.

AMC1 BOP.ADD.020(b) 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.

GM1 BOP.ADD.020(b);(c) Findings

CORRECTIVE ACTION

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

AMC1 BOP.ADD.025(a) Occurrence reporting

GENERAL

Additionally to reporting all occurrences required by Regulation (EU) No 376/2014[6], the operator should also report those specified in Regulation (EU) 2015/1018[7].

AMC1 BOP.ADD.030(a)(2) Management system

SAFETY POLICY

The safety policy should include a commitment to improve towards the highest safety standards, comply with all applicable legal requirements, meet all applicable standards, consider best practices, and provide appropriate resources.

AMC1 BOP.ADD.030(a)(3) Management system

SAFETY RISK MANAGEMENT

Hazard identification and safety risk management should:

(a) be performed using internal safety or occurrence reports, hazard checklists, risk registers or similar risk management tools or processes, integrated into the activities of the operator;

(b) in particular address safety risks related to a change; by making use of the existing hazard identification, risk assessment and mitigation tools or processes; and

---

[6] Regulation (EU) No 376/2104 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

[7] Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council (OJ L 163, 30.6.2015, p. 1).

(c) include provisions for emergency response or a formal emergency response plan (ERP) to define the actions to be taken by the operator or specified individuals in an emergency.

GM1 BOP.ADD.030(a)(4) Management system
TRAINING ON SAFETY

The safety training programme may consist of self-instruction via the media (newsletters, flight safety magazines, etc), classroom training, e-learning or similar training provided by training service providers.

AMC1 BOP.ADD.030(a)(5) Management system
MANAGEMENT SYSTEM DOCUMENTATION

(a) The operator's management system documentation should at least include the following information:

(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 BOP.ADD.040(a) and (c);

(4) an organisation chart showing the lines of responsibility among the persons referred to in BOP.ADD.040;

(5) a general description and location of the facilities referred to in BOP.ADD.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 in this Annex. A cross reference should be included.

AMC1 BOP.ADD.030(a)(6) Management system
COMPLIANCE MONITORING — AUDIT AND ORGANISATIONAL REVIEW

(a) Methodology

(1) The operator should accomplish the compliance monitoring by means of internal auditing.

(2) Notwithstanding (1), an operator with five or less full-time equivalents (FTEs), involved in the activity subject to this Subpart, may choose to accomplish compliance monitoring through an organisational review.

(b) General provisions for compliance monitoring

(1) The operator should specify the basic structure of the compliance monitoring function applicable to the activities conducted.

(2) The operator should ensure that personnel performing an audit or an organisational review, either internal to the operator or external, have relevant knowledge, background and experience as appropriate to the activities being audited or reviewed, including knowledge and experience in compliance monitoring.

(3) The operator should monitor compliance with the procedures it has designed to ensure safe activities. In doing so, the operator should as a minimum, and where appropriate, monitor compliance with:

(i) all activities for which the declaration is required;

(ii) manuals, logs and records;

(iii) training standards;

(iv) management system procedures; and

(v) standard operating procedures (SOPs).

(4) The operator should ensure that the status of all corrective and preventive actions is monitored and that these actions are implemented within a specified time frame. Action closure should be recorded along with a summary of the action taken.

(5) Based on the results of the audit or the organisational review, the accountable manager should determine the need for and initiate, as appropriate, further actions to address deficiencies or to further improve the operator's management system.

(c) Provisions, in addition to (b), for auditing

(1) The independence of the audit function should be ensured, in particular in cases where those performing the audit are also responsible for other functions for the operator.

(2) The operator should establish a compliance monitoring programme, defining a calendar for the audits to be performed. The frequency and depth of such audits should be determined with due regard to:

(i) the volume and complexity of operations;

(ii) results of the safety risk management processes;

(iii) results of past compliance monitoring;

(iv) findings raised by the competent authority; and

(v) the scope of changes not requiring prior competent authority approval.

(d) Provisions, in addition to (b), for the organisational review

(1) The organisational review should be performed at intervals not exceeding 12 months.

(2) As part of the management system documentation, the operator should describe the organisational review programme and related responsibilities.

(3) The organisational review programme may consist of:

(i) checklist(s) covering all items necessary to be addressed in order to demonstrate that the operator ensures effective compliance with the applicable requirements; and

(ii) a schedule for the accomplishment of the different checklist items, where each item should be checked at least at intervals not exceeding 12 months.

GM1 BOP.ADD.030(a)(6) Management system

COMPLIANCE MONITORING — AUDIT AND ORGANISATIONAL REVIEW

(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) 'organisational review' means a systematic and documented process for obtaining evidence and evaluating it to determine the extent to which requirements are complied with.

GM2 BOP.ADD.030(a)(6) Management system

COMPLIANCE MONITORING CHECKLIST

(a) Compliance monitoring audits or organisational reviews may be documented using a compliance monitoring checklist. The following provides a basic checklist, to be adapted as necessary to address the particular type of operations and to cover all relevant procedures described in the management system documentation and operations manual.

(b) Each checklist item may be addressed using an appropriate combination of:

(1) review of records and documentation;

(2) interview of the personnel involved; and

(3) feedback provided by contractors.

COMPLIANCE MONITORING CHECKLIST Year:			
Subject	Date checked	Checked by	Comments/non-compliance Report No
Declaration change management			
Operations have been performed in accordance with the declaration			
Changes have been properly managed in accordance with the defined process			
Flight operations			
Balloon checklists checked for accuracy and validity			
Flight plans checked for proper and correct information			
Ground handling			
Instructions regarding fuelling, if applicable			
Instructions regarding dangerous goods issued and known by all relevant personnel, if applicable			
Mass			
Load sheets checked for proper and correct information, if applicable			
Pilot training			
Updated and accurate training records			
Pilot licences current, correct ratings and valid medical certificates			

Pilots received recurrent training			
Training facilities and instructors approved			
Pilots received pre-flight inspection training, as applicable			
Documentation related to operations			
Operations manual checked for correct amendment status			
Flight documents record checked and updated			
Personnel			
Correctly identified current accountable manager and other nominated persons			
The organisation chart accurately indicates lines of responsibility and accountability throughout the organisation			
Qualifications of all new personnel (or personnel with new functions) have been appropriately assessed			
Proper training has been provided to staff involved in any safety-management-related processes and tasks			
Proper training has been provided to staff involved in any compliance-monitoring-related processes and tasks			
Training provided to staff, as necessary, to cover changes in regulations, in competent authority publications, in the management system documentation and in associated procedures, etc.			
Contracted activities (if applicable)			
Assessment of any new providers prior to the establishment of any contract			
For existing providers: check that the service provided conforms to the applicable requirements of this Annex			
Training and communication on safety			
All personnel are aware of safety management policies, processes and tasks			
Availability of safety-related documentation and publications			

Safety-critical information derived from internal safety or occurrence reporting, hazard identification or compliance monitoring have been timely communicated to all staff concerned			
Management system documentation			
Adequate and updated documentation			
Staff can easily access such documentation when needed			
Record-keeping			
The records cover all the activities and management system processes			
Compliance with minimum record-keeping periods (random checks)			
Emergency response provisions or emergency response plan (ERP)			
Emergency response information or ERP, as applicable, is up to date and readily available			
All staff is aware of the emergency response information or ERP (random checks)			
If an ERP has been activated, how effective was it?			
Internal safety reporting procedures			
Check the number of reports received since the last audit or organisational review			
Internal reporting and external occurrence reporting are properly performed			
The safety or occurrence reports are analysed			
Feedback is provided to reporters			

AMC1 BOP.ADD.035 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.

GM1 BOP.ADD.035 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) manual preparation.

(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 declaration.

(c) The ultimate responsibility for the product or service provided by external organisations always remains with the operator.

GM2 BOP.ADD.035 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 BOP.ADD.030(a)(3), and to compliance monitoring as required by BOP.ADD.030(a)(6).

(b) When the contracted organisation is itself declared or certified to carry out the contracted activities, the operator's compliance monitoring at least checks that the declaration effectively covers the contracted activities.

GM1 BOP.ADD.040 Personnel requirements

SMALLEST OPERATOR

The smallest operator that can be considered is the one-person operator where all of the nominated posts are filled by the accountable manager.

AMC1 BOP.ADD.040(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 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 meet his or her 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 his or her 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 which may be acceptable in other circumstances.

GM1 BOP.ADD.040(c) Personnel requirements

COMPETENCE OF NOMINATED PERSONS

(a) Nominated persons in accordance with BOP.ADD.040 possess the experience and meet the licensing provisions that are listed below in (b) to (e). Exceptionally, in particular cases, the competent authority may accept a nomination that does not meet these provisions in full. In that case, the nominee has comparable experience and also the ability to perform effectively the functions associated with the post and with the scale of the operation.

(b) Nominated persons 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; and

(3) 3 years of relevant work experience.

(c) Flight operations

The nominated person:

(1) holds or has held a valid flight crew licence and the associated ratings appropriate to the relevant type of operation; or

(2) has demonstrated in another manner thorough knowledge of the relevant flight operations.

(d) Ground operations

The nominated person has a thorough knowledge of the operator's ground operations concept.

(e) Continuing airworthiness

The nominated person has the relevant knowledge and meets the appropriate experience requirements related to balloon continuing airworthiness as detailed in Regulation (EU) No 1321/2014[8].

[8] Commission Regulation (EU) No 1321/2014 of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 362, 17.12.2014, p. 1).

SECTION 2 — DECLARATION, AIRWORTHINESS AND WET AND DRY LEASE

GM1 BOP.ADD.100 Declaration

GENERAL

The intent of the declaration is to:

(a) have the operator acknowledge its responsibilities under the applicable safety regulations and that it holds all necessary approvals;

(b) inform the competent authority of the existence of an operator; and

(c) enable the competent authority to fulfil its oversight responsibilities.

AMC1 BOP.ADD.105(a) Changes to the declaration and cessation of commercial operations

NOTIFICATION OF CHANGES

The new declaration should be submitted before the change becomes effective, indicating the date as of which the change would apply.

AMC1 BOP.ADD.115 Wet lease and dry lease of a balloon registered in a third country

GENERAL

(a) The operator intending to lease-in a third-country balloon should provide the competent authority with the following information:

  (1) the name and address of the registered owner;

  (2) a copy of the valid certificate of airworthiness;

  (3) a copy of the lease agreement or description of the lease provisions, except financial arrangements; and

  (4) duration of the lease.

(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.

GM1 BOP.ADD.115(a) Wet lease and dry lease of a balloon registered in a third country

LEASE-IN AGREEMENT BETWEEN OPERATORS REGISTERED IN AN EU MEMBER STATE

The lessee notifies to the competent authority any lease agreement between operators having their principal place of business in an EU Member State.

SECTION 3 — MANUALS AND RECORDS

AMC1 BOP.ADD.200 Operations manual

GENERAL

(a) The operations manual may vary in detail according to the complexity of the operation and of the type of balloons 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 balloon.

(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, a balloon 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 given its status by a statement in the operations manual.

AMC2 BOP.ADD.200 Operations manual

CONTENT

The operations manual should include the following information, as relevant for the area and the type of operation:

(a) table of contents;

(b) amendment control status and list of effective pages or paragraphs, unless the entire manual is reissued and the manual has an effective date on it;

(c) duties, responsibilities, and succession of management and operating personnel;

(d) description of the management system;

(e) flight time limitations;

(f) standard operating procedures;

(g) weather limitations;

(h) emergency procedures;

(i) accident and incident considerations;

(j) personnel qualifications and training;

(k) record-keeping;

(l) normal flight operations;

(m) performance operating limitations; and

(n) handling of dangerous goods, if applicable.

GM1 BOP.ADD.200 Operations manual

MORE CONSERVATIVE DATA AND PROCEDURES

The operator may decide to publish data and procedures in the operations manual which are more conservative.

AMC1 BOP.ADD.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 on 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 last amended.

(c) Paper systems should use robust material which 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 they remain in good condition. When hardware or software changes take place, special care should be taken that all necessary data remains accessible at least through the full retention period.

AMC2 BOP.ADD.205 Record-keeping

STORAGE PERIODS AND AVAILABILITY

(a) The following records should be stored for at least 5 years:

(1) records of the activities referred to in BOP.ADD.030;

(2) a copy of the operator's declaration;

(3) details of approvals held; and

(4) operations manual.

(b) The following information used for the preparation and execution of a flight, and associated reports, should be stored for 3 months:

(1) the operational flight plan, if applicable;

(2) mass documentation;

(3) notification of special loads, including written information to the pilot-in-command about dangerous goods, if applicable; and

(4) flight report(s) for recording details of any occurrence, or any event that the pilot-in-command deems necessary to report or record.

(c) Flight crew records should be stored for the periods indicated below:

Flight crew licence	As long as the crew member is exercising the privileges of the licence for the balloon operator
Flight crew member training, checking and qualifications	3 years
Records on flight crew member recent experience	15 months

(d) The operator should make such records available, on request, to the crew member concerned.

(e) 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 balloon or the employer of that crew member, provided this is within the timescales prescribed in (c).

(f) 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 (c).

(g) A summary of training should be maintained by the operator to show every crew member's completion of each stage of training and checking.

SECTION 4 — FLIGHT CREW

AMC1 BOP.ADD.310(a) Provision of training and checking

ADDITIONAL TRAINING FOR THE PILOT-IN-COMMAND

The pilot-in-command should complete training in first-aid and in the use of the fire extinguisher, at intervals of maximum 36 months.

AMC1 BOP.ADD.315(b);(c) Recurrent training and checking

PROFICIENCY CHECK

The operator proficiency check should be conducted by an examiner.

SECTION 5 — GENERAL OPERATING REQUIREMENTS

AMC1 BOP.ADD.410 Additional balloon crew member

TRAINING AND RECENCY

(a) For training, the additional crew member should have participated in:

(1) three practical training inflations with subsequent flights on a balloon with a basket of a capacity of more than 19 passengers;

(2) at least one landing under (1) with a ground speed of at least 8 kt; and

(3) training in first-aid and in the use of the fire extinguisher, at intervals of maximum 36 months.

(b) For recency, the additional crew member should perform at least 2 flights in this function in any 12-month period. Otherwise, he or she should, before resuming as additional crew member, fulfil again the training requirements of points (a)(1) and (a)(2).

GM1 BOP.ADD.415 Fitness relating to deep water diving and blood donation

ELAPSED TIME BEFORE RETURNING TO FLYING DUTY

24 hours is a suitable minimum length of time to allow after normal recreational (sport) diving or normal blood donation before a flight. This is considered by operators when determining a reasonable time period for the guidance of crew members.

GM1 BOP.ADD.435(a)(2) Documents, manuals and information to be carried

SEARCH AND RESCUE INFORMATION

This information is usually found in the States' aeronautical information publication.

GM1 BOP.ADD.435(a)(3) Documents, manuals and information to be carried

OPERATIONAL FLIGHT PLAN

(a) The operational flight plan used and the entries made may contain the following items:

(1) balloon registration;

(2) date of flight;

(3 name of the pilot-in-command;

(4) place of departure;

(5) time of departure;

(6) type of operation

(7) balloon type;

(8) balloon size;

(9) balloon empty mass;

(10) mass of the traffic load;

(11) mass of the fuel or ballast load;

(12) take-off mass;

(13) fuel or ballast calculation;

(14) relevant meteorological information; and

(15) special risk factors (e.g. power lines, wind turbines, airspace classification, etc.).

(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.

GM1 BOP.ADD.440 Dangerous goods

PROCEDURES AND INFORMATION TO CREW MEMBERS AND PASSENGERS

(a) The operator provides information in the operations manual to enable the pilot-in-command and other crew members to identify which dangerous goods may be permitted on board.

(b) Information should be given to the passengers as regards goods that are prohibited to take on board before the flight takes place. The crew may provide this information in a briefing before the flight.

(c) Procedures are established and described in the operations manual to respond to accidents or incidents involving dangerous goods. The relevant crew members are familiar with these procedures.

SECTION 6

Operating procedures

AMC1 BOP.ADD.510 Commercial balloon specialised operations — Standard operating procedures
DEVELOPMENT OF STANDARD OPERATING PROCEDURES

(a) Standard operating procedures (SOPs) should be developed to a standard format in accordance with AMC2 BOP.ADD.510 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 treat the associated risk.

AMC2 BOP.ADD.510 Commercial balloon specialised operations — 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:

(i) congested hostile environment: balloon performance standard, compliance with 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 as well as equipment approved in accordance with other, officially recognised standards.

(c) Crew members

(1) The crew composition and their duties 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 equipment

Details on the nature, number and location of ground 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, balloon registration, pilot-in-command, flight times, weather and any remarks, including a record of occurrences affecting flight safety or the safety of persons or property on the ground.

SECTION 7

Performance and operating limitations

AMC1 BOP.ADD.600(a)(2) System for determining the mass

TRAFFIC LOAD, AND MASS VALUES FOR PASSENGERS AND BAGGAGE

(a) Traffic load should be determined by actual weighing, or by calculating masses for passengers, persons other than flight crew members and baggage as follows:

(1) Passenger mass may be calculated on the basis of a statement by, or on behalf of, each passenger, adding to it a predetermined mass to account for hand baggage and clothing.

(2) The predetermined mass for hand baggage and clothing should be established by the operator on the basis of experience relevant to its particular operation. In any case, it should not be less than:

(i) 4 kg for clothing; and

(ii) 3 kg for hand baggage.

(b) The passengers' stated mass, the mass of passengers' clothing and hand baggage should be checked prior to boarding and adjusted, if necessary.

(c) When determining the actual mass by weighing, passengers' personal belongings and hand baggage should be included.

AMC1 BOP.ADD.600(a)(6) System for determining the mass

DOCUMENTATION

(a) Mass documentation should include the following:

(1) balloon registration and type;

(2) date and flight identification;

(3) name of the pilot-in-command;

(4) name of the person who prepared the document;

(5) empty mass;

(6) mass of the fuel or ballast at take-off;

(7) load components including passengers, baggage and, if applicable, freight;

(8) maximum take-off mass allowed by the AFM according to temperature and altitude; and

(9) limiting mass values.

(b) The mass documentation should enable the pilot-in-command to determine that the load is within the mass limits of the balloon.

(c) The information above may be available in flight planning documents, or other documents readily available for use, or mass systems.

(d) Any last-minute change should be brought to the attention of the pilot-in-command and entered in the documents containing the mass information. The operator should specify the maximum last-minute change allowed in passenger numbers. New mass documentation should be prepared if this maximum number is exceeded.

(e) Where mass documentation is generated by a computerised mass system, the operator should verify the integrity of the output data at intervals not exceeding 6 months.

(f) A copy of the final mass documentation should be made available to the pilot-in-command for his or her acceptance.

GM1 BOP.ADD.600(a)(6) System for determining the mass

LIMITING MASS VALUES

The limiting mass values contained in the mass documentation are those stipulated in the AFM.