

**The Republic of the Union of Myanmar**  
**Ministry of Transport and Communications**  
**Department of Civil Aviation**



**Myanmar Civil Aviation Requirements**  
**Part 15 – Balloons used for Commercial Operations**

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**CIVIL AVIATION REQUIREMENTS**

**MYANMAR**

**MCAR PART – 15 – Balloons used for Commercial Operations**

**FIRST EDITION- 2018**

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## FOREWORD

- a) In exercise of the powers conferred by Section 5 (B) (C) of the Myanmar Aircraft Act (Amendment 15<sup>th</sup> October, 2013) and the delegated powers from Ministry of Transport and Communications as per Notification No.118/2009 dated 9<sup>th</sup> October 2009, the requirements for the MCAR Part 15- Balloons used for Commercial Operations, First Edition is prescribed and shall take effect from 1<sup>st</sup> August 2018.
- b) The content of this MCAR is intended to be conformity with contents of other related MCARs issued by the DCA Myanmar.
- c) “Safety is out top priority” and will never be compromised. That is hereby strongly encouraged to all safety concerns and sustainable development for all operators.



Min Lwin

Director General

Department of Civil Aviation

**Table of Distribution List**

<b>No</b>	<b>Description</b>	<b>Subject</b>	<b>Last issue</b>	<b>Distribution List</b>
1	MCAR Part-15	Balloons used for Commercial Operations	First Edition	DG Office DY-DG (Operations and Inspections) Office DY-DG (Planning and Safety Oversight) Office DCA Library All Divisions and All Balloon Operators

**Amendments**

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## **INTRODUCTION**

Myanmar Civil Aviation Requirements (MCAR) Part-15 – Balloons used for Commercial Operations issued by the DCA Myanmar and contains the requirements for Commercial Balloon Operations. The applicants, certificate holders, pilot-in-command and staff of Balloons involved in any Commercial Operations shall comply with this MCAR Part-15 and all other applicable requirements issued by the DCA Myanmar.



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**PART - 15 BALLOONS USED FOR COMMERCIAL OPERATIONS****15.1 GENERAL REQUIREMENTS****15.1.1 APPLICABILITY**

- (a) This part applies to the commercial operations of manned balloons and the certification of operators.
- (b) These activities include the operations of manned free balloons engaged in commercial operations authorized by a Certificate of Approval (Balloons), conducted:
  - (1) in or outside Myanmar territory, using Myanmar registered balloons.
- (c) These activities also include the operation of manned free balloons engaged in specialist roles such as filming, photography and surveillance.

**15.1.2 DEFINITIONS**

Definitions are contained in MCAR Part-8.

**15.1.3 ABBREVIATIONS**

- (a) The followings abbreviations are used in Part-15:
  - (1) **AD** - Airworthiness Directive
  - (2) **AIC** - Aeronautical Information Circular
  - (3) **ATC** – Air Traffic Control
  - (4) **CAA** - Civil Aviation Authority
  - (5) **C of A** - Certificate of Airworthiness
  - (6) **C of R** - Certificate of Registration
  - (7) **CPL (B)** - Commercial Pilot’s Licence (Balloons)
  - (8) **DDR** - Deferred Defect Record Page
  - (9) **DCA** - Department of Civil Aviation
  - (10) **FOI** - Flight Operations Inspector
  - (11) **FTL** - Flight Time Limitations
  - (12) **GM** - Guidance Material

- (13) **MEL** - Minimum Equipment List
- (14) **PIC** - Pilot in Command
- (15) **SMS** - Safety Management System
- (16) **VFR** - Visual Flight Rules

#### **15.1.4 Registration and Marking of Balloons**

- (a) A balloon that an empty mass of more than 70 kilograms must be registered:
  - (1) under Part 47 (Registration of aircraft and related matters), or
  - (2) if it is a foreign balloon authorized under Myanmar Certificate of Approval (B), the rules of its country of registration.
- (b) A balloon operating under this Part must carry a registration mark in accordance with:
  - (1) Part 47 (Marking of aircraft)

#### **15.1.5 Pilot must be qualified**

A person must not fly a balloon in commercial operations under this Part as pilot-in-command unless he or she:

- (a) holds an appropriate pilot qualification issued by the DCA Myanmar or other CAA which has then been validated by the Myanmar DCA for commercial passenger carrying operations within Myanmar; or
- (b) is acting as pilot-in-command under supervision (P1s) and is the holder of an appropriate commercially endorsed pilot certificate issued by the DCA and is undertaking training to hold a Myanmar qualification under the supervision, and instruction of a person who is permitted to conduct such training by the Myanmar DCA and who is appropriately qualified to act as pilot-in-command of the balloon in use and holds appropriate permission from the Myanmar DCA to do so.

#### **15.1.6 Pilot to be at controls**

- (a) The pilot-in-command of a balloon must ensure that an appropriately qualified person is at the controls of the balloon at all times from the commencement of inflation (or hot inflation for a hot air balloon) until the balloon is substantially deflated following the period of operation.

- (b) The pilot-in-command of a balloon shall on all commercial flights wear a pilot restraint harness from a time before launch and continuously until after final landing and deflation.

**15.1.7 Powers and duties of pilot-in-command**

- (a) The pilot-in-command of a balloon is directly responsible for, and is the final authority as to, the operation of the balloon.
- (b) In an emergency relating to a balloon, its pilot-in-command may deviate or authorize deviation from any rule of this Part to the extent necessary to meet the emergency.
- (c) If the pilot-in-command of a balloon takes action that results in a breach of a provision of this Part he or she must, within 10 days afterwards, or if the DCA Myanmar requires as soon as practicable, tell the DCA Myanmar in writing about the breach and how it occurred.
- (d) In an emergency that endangers the safety of a balloon, its pilot-in-command may maneuver contrary to an ATC direction to any extent necessary to preserve the safety of the balloon or anybody on board the balloon.
- (e) If a pilot needs to maneuver in a manner that is contrary to an ATC direction, he or she must, as soon as practicable:
  - (1) tell ATC about the contravention; and
  - (2) return to compliance with the ATC direction, or seek an alternative direction from ATC.

**15.1.8 DCA Myanmar may give direction about operation of particular balloons**

- (a) For the purpose of ensuring the safety of air navigation, or the safety of a particular balloon or kind of balloon, the DCA Myanmar may give a written direction about how the balloon is to be operated.
- (b) Such a direction may require a balloon to be operated in a specified way for:
  - (1) one or more specified flights; or
  - (2) flights of a specified kind or for a specified purpose.



**15.1.9 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 the DCA Myanmar.
- (b) The pilot-in-command shall be familiar with the laws, regulations, and procedures, pertinent to the performance of his or her duties, prescribed for the area to be traversed, the operating sites to be used.

**15.1.10 Documents, manuals and information to be carried**

- (a) All of the following documents, manuals and information shall be carried on each flight, as originals or copies:
  - (1) the operating limitations, normal and abnormal and emergency procedures and other relevant information specific to the balloon's operating characteristics;
  - (2) current and suitable aeronautical charts for the area of the intended flight.
- (b) All of the following documents, manuals, and information shall be carried on each flight or shall be stowed in the retrieve vehicle, as originals or copies:
  - (1) the Certified True Copy of the Certificate of Approval (B) and the Operations Specification
  - (2) the certificate of registration
  - (3) the certificate of airworthiness, including the annexes;
  - (4) the AFM or equivalent document(s);
  - (5) the aircraft radio licence, where the balloon is equipped with the radio communication equipment;
  - (6) the third party liability insurance certificate(s);
  - (7) the operation manual;
  - (8) the balloon logbook or equivalent document(s).
  - (9) the operational flight plan;
  - (10) passenger lists, when passengers are carried.

**15.1.11 Smoking or creating fire hazard near balloons**

A person who is on board, or within 15 meters of, a balloon must not smoke or create fire hazard.

Note: Proper operation of the burner of a hot air balloon by the pilot is not creating a fire hazard.

**15.1.12 Operating near other aircraft**

The pilot-in-command of a balloon must keep a proper lookout and exercise vigilance to enable him or her to see and avoid other aircraft, whether in flight or on the surface. (Vigilance includes monitoring radio transmission)

**15.1.13 Radio communication equipment**

- (a) All commercially operated balloons shall have appropriate radio communication equipment in order to communicate and retain a listening watch with Air Traffic Control, ground crew and other aircraft including balloons flown by other operators.
- (b) The radio communication equipment shall provide for communication on the aeronautical emergency frequency 121.5 MHz.

**15.1.14 Use of distress and urgency signals**

- (a) The pilot-in-command of a balloon may make an invitation distress signal only if he or she believes that the balloon or its passengers or both are in grave and imminent danger and require immediate assistance.
- (b) A person on board a balloon, other than its pilot-in-command, may make an aviation distress signal only if the balloon's pilot-in-command directs or authorizes the person to make the signal, unless the pilot is incapacitated.
- (c) A balloon's pilot-in-command may give a direction or authorization only if he or she believes that the balloon or its passenger or both are in grave and imminent danger.
- (d) A person does not commit an offence if all of the following conditions are satisfied:
  - (1) at the time, the person believed that the balloon or its passengers or both were in grave and imminent danger;

- (2) according to the person's knowledge at the time of the circumstances, the belief was reasonable;
  - (3) there was no practicable way in which the person could have obtained more information.
- (e) If an aviation distress signal is used and the danger passes, the person who made the signal must try to cancel it;
  - (f) The pilot-in-command of a balloon may use an aviation urgency signal only to give an urgent message concerning the safety of an aircraft, or a ship, person or vehicle.

**15.2 OPERATOR CERTIFICATION****15.2.1 Operations are a prescribed for the purpose of:**

Commercial operations, these must be authorized by a Certificate of Approval (Balloons).

**15.2.2 Particulars of a Certificate of Approval (Balloons)**

- (a) A Certificate of Approval (B) will contain two documents:
  - (1) a one-page certificate for public display signed by the DCA Myanmar, and
  - (2) Operations Specifications containing terms and conditions applicable to the Certificate Holder.
- (b) The DCA Myanmar will issue a Certificate of Approval (B) which will contain:
  - (1) The State of the Operator and the issuing Authority;
  - (2) The Certificate of Approval number and its expiration date;
  - (3) The Operator name, trading name (if different) and address of the principal place of business;
  - (4) The date of issue and the name, signature and title of the Authority representative; and
  - (5) The location in a controlled document carried on board, where the contact details of operational management can be found.
- (c) See Annex-A for detailed requirements on the layout and contents of the Certificate of Approval (Balloons);
- (d) The operations specifications associated with the Certificate of Approval (Balloons) shall contain the authorizations, conditions, limitations and approvals issued by the DCA Myanmar in accordance with the standards which are applicable to operations and maintenance conducted by the Certificate holder.
- (e) See Appendix 1 to Annex-A for the layout and contents of the Operations Specifications.

**15.2.3 Conditions on a Certificate of Approval (Balloons)**

A Certificate of Approval (B) must contain the following mandatory conditions:

- (a) Each balloon operated in commercial operations must have a standard certificate of airworthiness in the manned free balloons category or a special certificate of airworthiness in the restricted category;
- (b) The operator's key personnel must continue to meet the requirements of this Part;
- (c) The operator must tell the DCA Myanmar in writing as soon as practicable of any change to the information submitted.

#### **15.2.4 Duration of a Certificate of Approval (Balloons)**

- (a) Subject to this Part, a Certificate of Approval remains in force for a period not exceeding two years unless it is cancelled or varied.
- (b) A Certificate of Approval (B) is not in force during any period in which it is suspended.

#### **15.2.5 Application for a Certificate of Approval (Balloons)**

- (a) An applicant applying to the DCA Myanmar for a Certificate of Approval (B) must submit an application-
  - (1) in an appropriate form and manner prescribed by the DCA Myanmar; and
  - (2) containing any information the DCA Myanmar requires the applicant to submit.
- (b) Each applicant must make the application for an initial issue of a Certificate of Approval (B) at least 90 days before the date of intended operation except that the Operations Manual may be submitted less than 60 days before the date of intended operation.
- (c) At the time of application, the applicant must provide all information and manuals required under this Part, and the safety management system documentation required by this Part.
- (d) The application for the variation of a Certificate of Approval (B) must be submitted at least 30 days, or otherwise agreed, before the date of intended operation.
- (e) Other than in exceptional circumstances, the DCA Myanmar must be given at least 14 days notice of a proposed change of a nominated key person.

**15.2.6 Issuance or Denial of Certificate of Approval (Balloons)**

- (a) The DCA Myanmar may issue a Certificate of Approval (B) if, after investigation, the DCA finds that the applicant-
  - (1) is a citizen of Myanmar;
  - (2) has its principle place of business and its registered office, if any, located in Myanmar;
  - (3) meets the applicable regulations and standards for the holder of a Certificate of Approval (B);
  - (4) is properly and adequately equipped for safe operations in commercial operations and maintenance of the balloon; and
  - (5) holds the economic authority issued by Myanmar under the provisions of the Act.
- (b) The DCA Myanmar may deny application for a Certificate of Approval (B) if the DCA Myanmar finds that-
  - (1) the applicant is not properly or adequately equipped or is not able to conduct safe operations in commercial operations;
  - (2) the applicant previously held a Certificate of Approval (B) which was revoked; or
  - (3) an individual that contributed to the circumstances causing the revocation process of a Certificate of Approval (B) obtains a substantial ownership or is employed in a position required by this regulation.

**15.2.7 Amendment of a Certificate of Approval (Balloons)**

- (a) The DCA may amend any Certificate of Approval if — The DCA determines that safety in commercial operations and the public interest require the amendment; or the Certificate holder applies for an amendment, and the DCA determines that safety in commercial operations and the public interest allows the amendment.
- (b) If the DCA stipulates in writing that an emergency exists requiring immediate amendment in the public interest with respect to safety in commercial operations, such an amendment is effective immediately.
- (c) A Certificate of Approval (B) holder may appeal the amendment, but shall operate in accordance with it, unless it is subsequently withdrawn.
- (d) Amendments proposed by the DCA, other than emergency amendments, become effective 30 days after notice to the Certificate of Approval (B)

holder, unless the Certificate of Approval (B) holder appeals the proposal in writing prior to the effective date. The filing of an appeal stays the effective date until the appeal process is completed.

- (e) Amendments proposed by the Certificate of Approval (B) holder shall be made at least 30 days prior to the intended date of any operation under that amendment.
- (f) No person may perform a commercial operation for which Certificate of Approval amendment is required, unless it has received notice of the approval from the DCA.

### **15.2.8 Additional Balloon Groups**

- (a) The Certificate of Approval (B) holder must confirm that the company Chief Pilot meets the criteria to operate balloons of the additional group proposed.
- (b) The company Operations Manual will need to be amended, to give details of the additional balloon group, new balloon(s), fuel required figures and load calculation ready reckoner.
- (c) A copy of the Maintenance and Continuing Airworthiness management arrangements for the new balloon will be required for DCA approval.
- (d) Confirmation will be required that the additional balloon has a C of A, with a current DCA Approved Maintenance Programme.

### **15.2.9 Additional Region of Operation**

- (a) The Certificate of Approval (B) holder must submit written confirmation that permission has been obtained for the proposed operations from the authorities in the state concerned. Arrangements for obtaining aeronautical information and appropriate weather forecasts for the proposed region must be clearly defined.
- (b) A detailed map showing the proposed operating area must be submitted to the DCA. The necessary amendments to the company Operations Manual must be forwarded to the DCA.
- (c) Details of proposed changes to the maintenance arrangements, along with written confirmation from the company's maintenance organization that they are able to supply maintenance support in the proposed Region of Operation, must be submitted to the DCA for agreement.

**15.2.10 Production of documents and records**

- (a) The operator of a balloon must give an Authorized Person or an assigned Flight Operation Inspector (FOI) or Airworthiness Inspector (AWI) access to at any reasonable time to any documents and records that are related to flight operations or maintenance; and produce such documents and records on demand by the DCA Myanmar;
- (b) The pilot-in-command of a balloon must, when asked to do so by an authorized person or an assigned FOI or AWI produce to that person the documents required to be carried on board.

**15.2.11 Access for inspection**

To determine continued compliance with the applicable regulations, the Certificate of Approval (B) holder shall-

- (a) grant the DCA Inspectors access to and co-operation with any of its organizations, facilities and aircraft;
- (b) ensure that the DCA Inspectors are granted access to and co-operation with any organization or facilities that it has contracted for services associated with commercial operations and maintenance for services; and
- (c) grant the DCA Inspectors free and uninterrupted access to the basket during flight operations;
- (d) each Certificate holder shall provide to the DCA a forward observer's position on each of the Certificate holder's aircraft from which the flight crew's actions and conversations may be easily observed.

**15.2.12 Conducting test and inspections**

- (a) The DCA will conduct on-going validation of the Certificate of Approval (B) holder's continued eligibility to hold its Certificate and associated approvals.
- (b) The Certificate of Approval (B) holder shall allow the DCA to conduct tests and inspections, at any time or place, to determine whether a Certificate holder is complying with the applicable laws, regulations and Certificate of Approval terms and conditions.
- (c) The Certificate of Approval (B) holder shall make available at its principal base of operations:



- (1) All portions of its current Certificate of Approval;
  - (2) All portions of its Operations and Maintenance Manuals; and
  - (3) A current listing that includes the location and individual positions responsible for each record, document and report required to be kept by the Certificate holder under the applicable aviation laws, regulations and standards.
- (d) Failure by any Certificate holder to make available to the DCA upon request, all portions of the Certificate, Operations and Maintenance Manuals and any required record, document or report is grounds for suspension of all or part of the Certificate of Approval.

#### **15.2.13 Training Required for Authority**

The Certificate of Approval (B) holder shall make available Ground Schooling Facilities, if required, to DCA personnel.

#### **15.2.14 Key Personnel**

- (a) The holder of Certificate of Approval (B) must have nominated an accountable manager who has corporate authority for ensuring that all operations and maintenance activities can be financed and carried out to the standard required by the DCA Myanmar.
- (b) The holder of Certificate of Approval (B) must nominate persons, acceptable to the DCA Myanmar, to be responsible to the accountable manager for each of the following;
  - (1) Flight Operations
  - (2) Chief Pilots
  - (3) Balloon Maintenance Control
  - (4) Safety Management
  - (5) Quality Management

#### **15.2.15 Change of Nominated Post-holders**

- (a) A request from an Operator to change the names or the listed duties of the Accountable Manager or a nominated post holder will not be regarded by the DCA as a request for variation of the Certificate of Approval (Balloons).

- (b) When the Operator submits the name of a new nominee for any of the nominated post holders listed in the Operations Manual, the DCA will require the Operator to produce a written resume of the proposed person's qualifications. The DCA reserves the right to interview the nominee or call for additional evidence of his suitability before agreeing the change.

#### **15.2.16 Loss of Certificate of Approval (Balloons)**

- (a) Operators are reminded that the Certificate of Approval (Balloons) is an official document and special care should be taken with it. A charge will be made if the Certificate has to be re-issued at the request of the holder.
- (b) If an Operator ceases operations, or if the DCA revokes or suspends the Certificate, it must be returned immediately to the office of issue.

#### **15.2.17 Variation, Suspension or Revocation of a Certificate of Approval (B)**

- (a) A Certificate of Approval (B) may be varied, suspended or revoked if the DCA can no longer be satisfied that the operation is safe. In the event, the Operator will be informed in writing of the details of the conduct of his operation which are causing the concern. The DCA will require remedial action to be taken within a specified period.
- (b) In the event that an operator fails to satisfy the DCA's concerns, a final written warning will, whenever possible be given to the Operator together with a firm date by which specified action to satisfy the DCA must be taken. It will be made clear that failure to satisfy the DCA may result in enforced variation or suspension of the Certificate of Approval (B).
- (c) Circumstances may preclude recourse to the process described in (a) and (b) above. In such cases the DCA's duty to preserve safety is of paramount importance and therefore the DCA may immediately vary or suspend any Certificate of Approval (B) which it has issued.
- (d) When a decision has been taken to suspend or vary an AOC(B), the Operator will be informed by the quickest available means. In the event of full suspension of the Certificate of Approval (B), the Operator will be instructed that no public transport operations can continue or, if an enforced variation of the Certificate of Approval (B) is intended, those elements of the operation which are affected by the suspension cannot continue.

- (e) A Certificate of Approval (B) cannot remain suspended indefinitely. Steps may be taken by the Operator to reinstate the Certificate of Approval (B) or, by default, will be taken by the DCA to revoke the AOC(B). Should an Operator wish to dispute the suspension he will be informed of such rights of appeal as exist under the DCA regulations for the time being in force. If an appeal is lodged, the Certificate of Approval (B) will remain suspended until the appeal process is complete.
- (f) Suspension of the Certificate of Approval (B) may be lifted on appeal or if the Operator satisfies the DCA as to his competence. Operations will not be permitted to restart until necessary inspections have been made. In particular, checks on flight crew recency and on the maintenance state of the balloon will be carried out. The DCA will issue a formal notice of the lifting of suspension before operations are permitted to resume.
- (g) The DCA will give an Operator notice that it intends to revoke the Certificate of Approval (B) followed by a formal letter of revocation to the Operator. Should an Operator wish to dispute the revocation of his Certificate of Approval (Balloons), he will be informed of such rights of appeal as exist under DCA regulations. Once revoked, there can be no further operations under the terms of the Certificate of Approval (B).
- (h) If an Operator ceases operations for which the Certificate of Approval (B) was issued, or if the DCA revokes or suspends the Certificate, it must be returned immediately to the office of issue.

### 15.2.18 Retention of records

Each Certificate of Approval (B) holder shall retain the following records for the period specified in below table:

<b>Document</b>	<b>Period</b>
Flight duty and rest time	24 months
Balloon Log Book	24 months after the balloon destroyed/ permanently withdrawn from use
Operational flight plans	3 months after completion of the flight

Passenger manifests	3 months after completion of the flight
Weather reports	3 months after completion of the flight
Journey records	At least 6 months
Maintenance records	According to MCAR part-M
Technical log/ Certificate of release to service	24 months after the balloon destroyed/ permanently withdrawn from use
Load sheets	6 months (not in the aircraft)
Personal flying log book (Pilot's responsibility)	24 months after last entry
Training records	24 months from the last commercial transport flight for which the records were required

**15.3 Organisation****15.3.1 Management of Executive staff**

- (a) An effective management structure is essential; it is particularly important that the operational management has proper status in the organisation and is in suitably experienced and competent hands. The duties and responsibilities of managers must be clearly defined in writing and the chain of responsibility firmly established. The DCA will wish to be satisfied that the management organisation is adequate and properly matched to operational commitments and gives priority to the maintenance of a high standard of safety. Managers who also undertake flying duties must spend an appropriate amount of time on their ground duties.
- (b) The positions held by the key personnel must be listed in each Operator's Operations Manual and it will be a condition of the Certificate that the DCA shall be given 14 days notice of any intended change in appointments or functions.
- (c) Where maintenance is performed by a contractor and not directly by the Operator, a person employed by the Operator must be nominated to coordinate arrangements and to provide continuous liaison with the maintenance contractor on airworthiness matters.

**15.3.2 Accountable Manager**

- (a) The name and status of the Accountable Manager must be included in the Operations Manual.
- (b) The Accountable Manager shall have corporate authority for ensuring that all operations activities can be financed and carried out to the standard required.
- (c) The Accountable Manager should have knowledge of the applicable regulations.

**15.3.3 Adequacy of supervision of staff****15.3.3.1 Pilots**

- (a) It will be necessary for Operators to satisfy the DCA that they have a sufficient number of pilots for the operations to be undertaken. The

adequacy of the number of pilots will be assessed, as there will be a wide variation in requirements according to particular circumstances.

- (b) Pilots must be aware of their individual responsibilities in relation to the legality and currency of any Flight Crew Licences and associated ratings and certificates held. Flying with an applicable element of a licence out of date is illegal.
- (c) Tests conducted on behalf of another Operator may be accepted under arrangements set out in the company's Training Manual. These arrangements must ensure that the pilot is competent to perform all the duties and responsibilities laid upon him by the Operator.

### **15.3.3.2 Chief Pilots**

Arrangements must be made for the supervision of pilots by a person having the experience and qualities necessary to ensure the maintenance of high professional standards. This will necessitate the appointment of a Chief Pilot. The duties and responsibilities of the Chief Pilot must be carefully defined. The DCA will require verification that arrangements for the professional supervision of balloon pilots are properly related to the size and nature of the Operator's organisation.

### **15.3.3.3 Ground Staff**

The number of ground staff will depend primarily upon the nature and the scale of the operations; the DCA will take full account of an Operator's particular circumstances. Operations staff must be suitably trained personnel who have a complete understanding of their responsibilities. Retrieve crews must be trained for, and experienced in, all aspects of normal and emergency operations. Responsibility for the training and supervision of ground staff rests with the company Operations Manager.

### **15.3.4 Quality System**

- (a) Each Certificate of Approval (B) holder shall establish a quality system and designate a quality manager to monitor compliance with, and adequacy of, procedures required to ensure safe operational practices and airworthy aircraft. Compliance monitoring shall include a feedback system to the accountable manager to ensure corrective action as necessary.

- (b) Each Certificate of Approval (B) holder shall ensure that the quality system includes a quality assurance programme that contains procedures designed to verify that all operations are being conducted in accordance with all applicable requirements, standards and procedures.
- (c) The quality system, and the quality manager, shall be acceptable to the Authority.
- (d) Each Certificate of Approval (B) holder shall describe the quality system in relevant documentation.
- (e) Notwithstanding (a) above, the Authority may accept the nomination of two Quality Managers, one for operations and one for maintenance, provided that the operator has designed one Quality Management Unit to ensure that the Quality System is applied uniformly throughout the entire operation.
- (f) Where the Certificate of Approval (B) holder is also an AMO, the Certificate of Approval holder's quality management system may be combined with the requirements of an AMO and submitted for acceptance to the Authority.

### **15.3.5 Safety Management**

- (a) Safety is of paramount importance in all areas of aviation. High safety standards are achieved not only by the imposition of rules and regulations but through the development of a positive safety culture or attitude in the minds of all connected with the operation of aircraft. The development of such a culture can be achieved in a number of ways, but that recommended by the DCA is the adoption of a Safety Management System (SMS). SMS allows an Operator to assess his approach to safety and assess the risks to which his operation is open.
- (b) During audits the DCA Inspectors will discuss SMS with operators.

### **15.3.6 Facilities**

The nature and scale of the office services required – clerical staff and equipment should be related to the number of other staff employed. It is particularly important that office services are sufficient to ensure that operational instructions and information of all kinds are produced and circulated to all concerned. Telephones must be manned or recorded while operations are in progress.

**15.3.7 Accommodation**

Office space at the operating base must be sufficient to provide a suitable working environment for the staff employed and for the use of crews between flights. Adequate provision must be made for operational planning, for the storage and display of essential records for the flight planning.

**15.3.8 Operations Library**

- (a) At the operating base, the Operator must maintain an adequate library of maps, charts, operations manuals and other documents needed for reference and planning purposes and for use in flight. The library must be kept in an orderly fashion and responsibility for its maintenance clearly defined.
- (b) Aeronautical charts and aeronautical frequency information will normally be required for the area over which the Operator is certificated to fly.
- (c) Arrangements must be made for the amendment of manuals, flight guides etc. and for bringing the amendments to the notice of pilots and other operating staff. A record should be kept of the distribution of manuals and amendments.

**15.3.9 Balloon Library**

- (a) There must be an effective system to ensure that each balloon is provided with an adequate library of manuals, maps and charts and other necessary documents, supported by an efficient amendment service. A check list should be provided for the balloon library.
- (b) A topographical aeronautical chart of the area of intended flight shall be carried. Sensitive area information for the planned route should also be appropriately marked and recorded.

**15.3.10 Instructions to pilots**

Operations Manual should be supplemented by a procedure for bringing urgent or temporary information to the notice of pilots. Full use should be made of this procedure to bring significant Aeronautical Information Circulars, NOTAMs etc. to the attention of pilots.



**15.3.11 Legislation and Aeronautical Information**

- (a) All pilots and operating staff who may be concerned should have access at their normal operating base to:
  - (1) Local pre-flight route and aerodrome information bulletins;
  - (2) Temporary Navigation Warning bulletins;
  - (3) MCARs and regulations currently amended to date;
  - (4) Aeronautical Information Circulars (AICs); and
  - (5) Local frequency guide.
- (b) Where this information is accessed by electronic means, a system must be in place to ensure that such information is accessed on a regular basis. For example, NOTAMs daily, prior to understanding any flying and AICs monthly, as issued.
- (c) Operators are recommended to keep a record (either paper or electronic) of relevant NOTAM information that has been accessed.

**15.3.12 Occurrence Reports**

Responsibility for making occurrence reports, must be assigned to a suitably qualified safety officer appointed for the purpose. Reports should be made to the DCA through this official.

**15.3.13 Disaster Management**

There must be an effective company policy on disaster management. This will require a written disaster management plan, regularly reviewed by the Chief Pilot.

**15.3.14 Ballooning maintenance**

- (a) All balloon maintenance must be conducted by an approved maintenance organization under the terms of MCAR Part M Subpart F Maintenance Organization by fully licensed and approved staff and in full accordance with the balloon manufacturer's maintenance manual.
- (b) Balloon Continuing Airworthiness Management and Maintenance Support Arrangements must be conducted according to Airworthiness Directive A/60.

**15.4 Operations Manual****15.4.1 Purpose and Scope**

- (a) Each Certificate of Approval holder shall issue to the crewmembers and persons assigned operational control functions, an Operations Manual approved by the DCA.
- (b) The Operations manual shall contain the overall (general) company policies and procedures regarding the flight operations it conducts.
- (c) Each Certificate of Approval holder shall prepare and keep current an Operations Manual which contains the AOC procedures and policies for the use and guidance of its personnel.
- (d) Each Certificate of Approval holder shall issue the Operations manual, or pertinent portions, together with all amendments and revisions to all personnel that are required to use it.
- (e) No person may provide for use of its personnel in commercial operations any Operations Manual; or portion of this manual which has not been reviewed and found acceptable or approved for the Certificate holder by the DCA.
- (f) Each Certificate of Approval holder shall provide an Operations Manual containing information on operations administration and supervision, accident prevention and flight safety programme, personnel training, balloon performance, area guides and charts, minimum flight altitudes, aerodrome operating minima, search and rescue, dangerous goods, navigation, communications, security, and human factors. The Operations Manual shall encompass the matters set forth above. The Operations Manual may be published in parts, as a single document, or as a series of volumes.
- (g) Each copy of the Operations Manual shall bear a serial number, and a list of holders should be maintained by the person responsible for issuing amendments. Where this system is not used, an Operator must have satisfactory alternative arrangements for controlling the issue and amendment of manuals. Each manual must bear a title and list of contents, giving a clear indication of its scope. At the front, there must be an amendment page to indicate amendment number, date of incorporation and the signature or initials of the person(s) making the

amendment. All pages must be dated. The arrangements of pages, sections, paragraphs, etc. must be orderly and systematic to facilitate immediate identification of any part of the subject matter. The standard of printing, duplication, binding, section dividers, indexing of sections, etc. must be sufficient to enable the document to be read without difficulty and to ensure that it remains intact and legible during normal use.

- (h) The amendment of an Operations Manual in manuscript is not acceptable. Changes or additions, however slight, must be incorporated by the issue of a fresh or additional page, dated accordingly, on which the amendment material is indicated by a vertical line in the margin.
- (i) It is most important for operators to appreciate that it is their responsibility, to provide instructions and accurate information to their operating staff. Inspectors will check Operations Manuals lodged with the DCA and will advise where and when amendments become necessary. The primary purpose of these checks will be to verify the adequacy of the Operator's systems and procedures for keeping instructions and information under review, and for issuing timely amendments as necessary. There can be no question of the DCA or its Inspectors assuming responsibility for the detailed information provided in Manuals. This responsibility rests with the Operator, who should designate a suitably qualified person to see that it is properly discharged.

#### **15.4.2 Flight Crew**

The claimed experience of potential employees must be substantiated. Log book entries must be checked to see if they are realistic and further checks made with previous employers and where relevant the DCA's Flight Crew Licensing Section where a doubt arises.

#### **15.4.3 Responsibilities of pilots and other operating staff**

- (a) The operations Manual must state the appointment and responsibilities of the Chief Pilot, Operations Manager and Training Pilot. In a small company these posts may be combined.
- (b) It is important that the operating staff are made fully aware of the overriding responsibility and the ultimate authority of the pilot-in-command. Manuals must state that, in order to secure the safety of a

particular flight, the pilot-in-command is authorised to apply greater safety margins (e.g. higher fuel reserves, terrain clearance standards or lower wind speed limits) than those specified by the Operator for normal operations.

- (c) In defining the duties of the pilot-in-command, the Operator must include instructions on:
- (1) Company policy on appropriate safety clothing for pilots and the carriage of third parties in the pilot's compartment of a partitioned basket. This guidance must include the wearing of long trousers and sleeves, preferably in natural fibres, suitable footwear and gloves.
  - (2) Pre-flight briefing for ground crew;
  - (3) The briefing of passengers on emergency procedures and equipment, including suitable clothing and where appropriate, lifejackets, protective headgear and passenger landing position blocks. (Guidance on appropriate clothing must have been included in printed material given to passengers prior to the day of the planned flight. This advice should include the wearing of long trousers and sleeves, preferably in natural fibres and suitable footwear. Prior guidance may also be given on suitable headgear);
  - (4) The responsibility for supervising refueling and for ensuring that all tanks and hoses are secure and free of leaks.
  - (5) The responsibility for checking the condition and security of fire, safety and medical equipment;
  - (6) The responsibility for ensuring the correct completion of the Technical Log, both before and after the flight;
  - (7) The responsibility for supervising the loading of the balloon;
  - (8) The company policy on the carriage of children and aged or infirm or handicapped passengers should be stated; and
  - (9) The use of a pilot restraint harness that must be fitted to all company balloons. Instructions must state that such a harness must be worn and attached before the balloon quick release restraint is released, worn throughout the flight, and not released

until the end of the flight when the balloon has come to a complete and final standstill and is in an advanced state of deflation.

- (d) Pilots must not be under the influence of alcohol or drugs during flying duty periods. Operators must issue instructions to pilots on their personal responsibilities. They should include clear guidance on:
- (1) Abstention from alcoholic drinks for a suitable period prior to any flight duty period. Although pilots must not fly for at least eight hours after taking small amounts of alcohol and proportionately longer if larger amounts are consumed, it would be prudent if a pilot abstained from alcohol for at least 24 hours before flying;
  - (2) Drugs (including over the counter medications which do not require a doctor's prescription), many of which have adverse effects on the nervous system. As a rule, if a pilot finds it necessary to take, or has been prescribed, some form of medication, his fitness to fly may be suspect, and he should consider seeking appropriate medical advice before commencing or continuing flying duties;
  - (3) Acting as blood donors, pilots must not undertake flying duties for at least 24 hours after they have given blood; and
  - (4) Crew members whose sporting activities include deep sea diving to a depth exceeding 10 meters must not fly within 24 hours of completing such activity.

#### **15.4.4 Crew Composition**

The minimum flight crew to be carried shall never be less than is stipulated in the balloon Flight Manual. The standard crew for Company balloons is one pilot. For training and testing purposes, the training captain or examiner will normally be in command. If a crew consists of more than one pilot, then one pilot will be designed commander of the balloon.

#### **15.4.5 Flight Duty and Rest Period Limitations**

Operators must satisfy the DCA that they have in place a suitable system for flight duty and rest period limitations:

- (a) Operators' schemes for the prevention of fatigue must be approved by the DCA and incorporated in the Operations Manual. Any amendment to the

Operations Manual in this connection must be approved by the DCA in advance;

- (b) Operators are required to maintain and provide readily interpreted flight and duty time records for each pilot. It follows that suitable arrangements must exist for collecting the information necessary to compile the records. Accurate records are essential to persons responsible for the rostering of pilots.

#### **15.4.6 Balloon Technical particulars and operating procedures**

In meeting the requirement to provide these particulars, operators should take care to distinguish between specific information to be used in the course of operations and more general basic information that a pilot might need to prepare for a rating examination. Information of the following matters should be provided in a form suitable for use as immediate reference in day-to-day operations:

- (a) The effect on essential systems of serious faults. Information to be provided may vary with the type of balloon and should be in a readily identifiable section of the Manual;
- (b) Operational guidance on the actions to be taken in the event of a malfunction;
- (c) Procedure for carrying out the maintenance Check A, as required by the approved maintenance schedule; and for
- (d) The replenishment of fuel tanks;
- (e) Refueling from a bulk supply (where appropriate)
- (f) Refueling from cylinders (where appropriate)

##### **15.4.6.1 Performance and operating limitations**

- (a) The operator shall establish a system specifying how all of the following items are accurately determined for each flight, so as to enable the pilot-in-command to verify that the limitations of the AFM are complied with:
  - (1) balloon empty weight
  - (2) total passenger weight
  - (3) total fuel and fuel cylinder weight
  - (4) total take-off weight

- (b) The weight calculation shall be made or checked by the pilot-in-command prior to flight.
- (c) The weight documentation, specifying, the items listed in point (a), shall be prepared prior to each flight and documented in an Operational Flight Plan or Technical Log Sector Record Page (SRP).

#### **15.4.6.2 Operating Procedures**

Information must be given on:

- (a) Briefing of Passengers – to include approaching the balloon, precautions to be observed in flight, and before and during the landing, together with emergency and evacuation procedures. Written instructions for pilots must be provided;
- (b) Wind Speed Limits – to include the procedure to be followed before taking off in a surface wind speed exceeding 8 knots and restrictions for pilots upgrading to balloons, in excess of 50% larger than the largest envelope capacity upon which the pilot has undertaken 10 public transport flights within the past 24 months;
- (c) Selection of Landing Site – Identification of overhead lines and other obstructions;
- (d) Ground Handling – All ground crew are to be appropriately trained. Quick release tether. Retrieve procedure. Recovery on to trailer;
- (e) Emergency Procedures – Emergency landings, burner or pilot light failure, power line contact and ditching procedure. Fire in the air or on the ground. Loss of radio contact.

#### **15.4.7 Provision and use of oxygen and associated equipment**

If oxygen is not carried, or if a balloon is not correctly equipped either temporarily or permanently, instructions on restricting operating altitudes must be included.

#### **15.4.8 Life Jackets**

Life jackets must be provided for all persons on board a balloon when planning a flight that involves one or more of the following;

- (a) Flying over water where it is reasonably possible that the balloon might be forced to land onto water;

- (b) Taking off or landing at a site where the take-off or approach path is so disposed over water that in the event of a problem there would be a likelihood of ditching; or
- (c) When launching from a coastal area and the wind is less than five knots onshore at take-off from a site located within 1NM of water measured at the ordinary high water mark.

#### **15.4.9 Wake Turbulence from aircraft**

- (a) Advice must be included on the hazards of wake vortex turbulence from large (and even medium sized) aircraft;
- (b) Wake vortices emanate from the wingtips of an aircraft and form two horizontal spirals of rotating air behind the aircraft. They are nothing to do with the jet blast from the engines, which form a further hazard. These vortices increase to a diameter of about 200 feet, and descend at a rate of about 500 feet per minute until their hitting the ground or reaching about 1000 ft. beneath the aircraft flight path. Tests have measured the tangential velocity of the vortex at speeds of up to 133 knots, which would probably be more than sufficient to tear a balloon envelope. On reaching the ground, the vortices spread gently outwards at a speed of about 5 knots, so that with a 5-knot crosswind they actually stay directly below the aircraft flight path. Vortices can persist, in stable air conditions at sufficient strength to cause upset to other medium sized aircraft, for at least 5 minutes. Therefore, at strengths to cause serious balloon envelope distortion or damage, they may well persist for 10 to 15 minutes. Vortices are created at all times during flight, but are worse when the aircraft is heavy and slow.
- (c) Pilots are advised to avoid crossing close under the flight path of an aircraft for at least 15 minutes. If such a path must be crossed, pilots are advised to try to climb above it.

#### **15.4.10 Minimum Equipment Lists**

Operators must comply with minimum equipment requirements specified in the Balloon Manufacturer's Flight Manual, these should also include a pilot restraint harness, a variometer, an altimeter calibrated within the previous two-year period, three functioning communication radios and two sources of burner ignition independent of any fitted in the burner system.



**15.4.11 Fuel planning and management**

- (a) The total quantity of fuel carried on board the balloon must be sufficient for the intended flight and must include a safe margin for emergency contingencies. The manner in which the amounts are calculated and records to be made must be specified. Minimum fuel remaining on landing must be stated.
- (b) Fuel planning tables must be provided for all balloons. The tables must take account of the size of the balloon and the duration of the intended flight and should refer to the conditions for which the figures apply.

**15.4.12 Monitoring fuel on board**

There must be instructions for ascertaining, before departure, that the amount of fuel on board meets the PIC's requirements. In flight, there must be instructions for ensuring that if, at the point of intended landing, the amount of fuel calculated to remain unused is likely to become less than any minimum quantity specified, this fact becomes apparent at an early stage. Procedures for changing tanks and for isolating and evacuating the fuel system on landing must be stated. Before signing the Technical Log Sector Record Page (SRP), the PIC must be satisfied that the correct quality and quantity of fuel is on board and that it has been loaded in accordance with instructions.

**15.4.13 Checklists**

The drills and checks for normal, abnormal or emergency conditions must be listed in the manual.

**15.4.14 Use and checking of altimeters**

Operators must have a clear policy on altimeter setting procedures, particularly their use of QFE (Atmospheric Pressure at Aerodrome Elevation) and QNH (Regional Atmospheric Pressure at Sea Level). This policy must be clearly described in Operations Manuals to cover all phases of flight.

**15.4.15 Emergency Evacuation Procedures**

Procedures for the evacuation of a balloon and for the care of passengers following a hard landing, ditching, power line contact or other emergency are to be specified.

**15.4.16 Radio watch**

There must be an instruction that if in the course of a public transport balloon flight a balloon is likely to enter Controlled Airspace, an Aerodrome Traffic Zone or a Military Aerodrome Traffic Zone then an aeronautical radio station must be carried.

**15.4.17 Airfield Operating Minima- Take-off, En-route and Landing**

- (a) Conditions for take-off must be specified in terms of visibility and surface wind speed. It must be stated that all public transport flights are to be carried out under Visual Flight Rules (VFR), and not at night. Conditions for VFR flight must be specified.
- (b) The operations manual should reflect that most public transport balloon flights depart from unlicensed sites, defined as unlicensed aerodromes. Unlike licensed aerodromes, these sites would not normally have any external fire extinguishers. Operators shall therefore provide and staff an effective fire and rescue facility which can respond to a balloon accident or incident pending the arrival of external emergency services. Such facilities are to be provided on a scale commensurate with the size of the balloon(s) in use, to include sufficient quantities of suitable fire-fighting agent(s).

**15.4.18 Evening Flights**

Evening flights should not take place. Commercial passenger carrying balloon flights should only take place within the first four hours of daylight with an intended landing time no longer than three hours after dawn.

**15.4.19 Rules of the air**

Operations Manual must state that operators and pilots must comply with all relevant regulations pertaining to the flight of commercial passenger carrying balloons in Myanmar.

**15.4.20 Loading Instructions**

It must be stated that the maximum permitted lift for the balloon must not be exceeded. The following precautions must be observed:

- (a) Actual weights must be used for all passengers. It may be necessary in case of doubt to verify an individual passenger's weight;

- (b) Account must be taken of equipment not included in the basic weight of the balloon;
- (c) Weights used for fuel and empty cylinders must be checked against the type of tank in use;
- (d) Care must be taken to specify and employ a common unit of weight throughout, normally kilograms; and
- (e) The maximum permitted number of occupants for the type of balloon must be specified, together with the maximum number in any one compartment.

#### **15.4.21 Load-Sheet Contents**

The load-sheet must account for all items of the laden weight. Although they may not always be specified individually, the following are examples of items to be included:

- (a) Fuel;
- (b) Balloon library, unless these items are included in the basic weight;
- (c) Passengers' baggage;
- (d) Safety and emergency equipment; and
- (e) All other items of removable equipment including removable radios;
- (f) Load-sheet must give names and actual weights of passengers.

#### **15.4.22 Accident Reporting**

- (a) An Accident Report is required for balloons operated for any purpose (private, aerial work or public transport) when involved in an accident or serious incident.
- (b) Provision must be made for all operating staff to have ready access to the prescribed requirements for the reporting and investigation of accidents.
- (c) Instructions must be issued regarding the reporting to the regulatory authority of the country concerned of any accidents which occur overseas, and the action necessary to prevent removal or interference with any part of the balloon without proper permission. This is in addition to the PIC's and/or Operator's existing responsibility to inform the DCA.

**15.4.23 Occurrence Reporting**

- (a) Mandatory Occurrence Reporting is required in respect of all aircraft registered in the Republic of the Union of Myanmar that are undertaking a public transport flight, including balloons. Operators must report to the DCA any occurrence;
- (b) Operations Manuals must specify the persons responsible for raising occurrence reports and give such guidance as will enable them to comply with the requirements of the Regulations.

**15.4.24 Disaster Management Plan**

- (a) A company disaster management plan is required, written and regularly reviewed by the Chief Pilot. Instructions with regard to post-crash management, including the establishment of a co-ordination center and the nomination of a company on-scene incident officer, must be included.
- (b) It is recommended that reciprocal arrangements whereby commercial balloon operators in the same locality agree to assist each other in the event of an accident are established.
- (c) The plan should also contain an up-to-date list of those telephone numbers which could be required. These will include: local Accident and Emergency Hospitals, the police, the electricity board and contact numbers for company employees.
- (d) Two appendices, entitled ‘Disaster Management Plan’ and ‘Emergency Telephone Numbers’ must be added to the rear of the company Operations Manual.

**15.5 Training and Testing****15.5.1 Training Manual**

- (a) The Training Manual shall contain all such information and instructions as may be necessary to enable persons appointed by the Operators to give or supervise the training, practice and periodic testing of flight crew in the performance of their duties.
- (b) Care must be taken not to interpret that a Training Manual should contain technical and operating information for general instructional purposes. Rather, it should remain concise in its purpose of giving formal expression to the Operator's training policy and requirements, together with guidance on these matters to instructors and examiners.
- (c) The Training Manual is regarded by the DCA as an indication of the standard of training and testing likely to be achieved by an applicant for, or holder of, a Certificate of Approval (B). One copy must be submitted to the DCA, preferably with the initial application for a Certificate of Approval (B). For balloon operations the Training Manual is an integral part of the Operations Manual.
- (d) In addition to the more general matters of policy, the following in particular must be included in the Manual:
  - (1) The name of the person responsible for the supervision of aircrew training and testing; and the name of the authorized company Type Rating Examiner;
  - (2) Minimum standards of recent experience and of initial and periodic training to be met by pilots for each type of balloon used by the Operator;
  - (3) Specimen record forms in respect of all training and testing;
  - (4) Arrangements for administering and recording the periodic testing of all pilots; and
  - (5) Instructions covering retesting and retraining after unsatisfactory performance or periods off flying due to illness or other causes.

**15.5.2 Training and Testing Staff**

A person, whose qualifications and experience are agreed to be suitable by the DCA, must be designated to take general and overall charge of arrangements for

the training and testing of flight crews. This person's name, authority and responsibilities must be clearly defined in the Operations Manual. In a small company the post of Training Pilot may be combined with that of the Chief Pilot.

### **15.5.3 Flying Experience Requirements**

The flying experience requirements for line pilots, Training Captains and Chief Pilots should be listed in Operator's Operations Manual and should also be detailed with respect to required experience on size type of all balloons flown and operated by the company. These requirements must be audited and approved by the DCA.

#### **15.5.3.1 Minimum Flying Experience Requirements for Chief Pilot**

Minimum experience limit for Chief Pilot would be of seven hundred flying hours as pilot in command on commercial balloon flying operations including a minimum of two hundred commercial flying hours on the largest group size category of balloon operated by the company.

#### **15.5.3.2 Minimum Flying Experience Requirements for Training Captain**

Minimum experience limit for Training Captain would be of seven hundred flying hours as a pilot in command on commercial balloon flying operations including:

- (a) a minimum of two hundred commercial flying hours as pilot in command on the largest group size category of balloon operated by the company;
- (b) a minimum of one hundred and fifty hours acting as an instructor on hot air balloons;
- (c) a minimum of fifty hours previous recorded and verifiable hours as an Instructor or Examiner on the largest group size category of balloon operated by the company.

#### **15.5.3.3 Minimum Flying Experience Requirements for Line Pilots**

Minimum for Line Pilot flying for Certificate of Approval (B) operations in Myanmar would be of four hundred commercial flying hours as pilot in command in balloons and a minimum of thirty-five commercial flying hours as pilot in command on the largest group size category for which they are permitted to fly by the nominated Training Captain of the Certificate of Approval (B) holder. In addition:

- (a) all pilots flying as commercial line pilots in Myanmar should also hold a current Commercial Pilot Licence issued by a National Aviation Authority; and
- (b) undergo an initial Line Check in Myanmar prior to starting company flying for a Certificate of Approval holder, a pilot will carry out such training as the company Chief Pilot and the Training Captain may require, bearing in mind the pilot's experience. This training will include line flying under supervision. (Only after the pilot has a valid Certificate of Test for the appropriate group, may he or she undertake line flying under supervision during normal public transport flights. On such flights the Training Captain is pilot-in-command (Captain) and is listed as such on the Technical log sector record page (SRP). He or she records the flight time as P1. The line flying records the flight time as P1 and is listed underneath the Captain. He or she may sign the signature blocks, as applicable, but only the captain may sign the 'Nil Defects' box after the flight);
- (c) if their National Aviation Authority issued Commercial Balloon Pilot licence is not balloon type group size rated, they should successfully undergo specific group-size category type rating examination check flights with a suitably recognized current and recent, appropriate licene-holding group-size Type Rating Examiner qualified in the group-size type to be used for the examination, prior to validation of their commercial balloon pilot licence by the DCA Myanmar. Any training and flight examinations for group size ratings should be made on private, non-public transport flights in the appropriate group-size category required;
- (d) a pilot's commercial licence shall not be considered valid unless within the preceding 90 days they have completed not less than 3 free flights, each of at least 5minutes duration, for any purpose, as Pilot in Command (PIC) of a balloon.

#### **15.5.4 Type Rating Examiner Experience**

The authority to conduct training examination check flights in Myanmar is currently assigned to particular holders of United Kingdom Civil Aviation Authority Appointed Balloon Pilot Examiners certificates and to holders of other National Aviation Authority qualifications. The authority to conduct Type Rating Examinations for commercial hot air balloon flights in Myanmar is only

granted to holders of National Aviation Authority issued commercial balloon pilot Examiner authorities with the following experience:

- (a) a minimum of one thousand commercial flying hours as pilot-in-command of hot air balloons; and
- (b) a minimum of two hundred commercial flying hours as pilot-in-command on the largest group size category for which they are permitted to examine candidates; and
- (c) a minimum of two hundred and fifty hours acting as Instructor to pilots of hot air balloons; and
- (d) a minimum of twenty-five previous examinations flights prior to their appointment or validation approval to conduct type rating approval flights in Myanmar.

#### **15.5.5 Renewal of the Certificate of Test**

- (a) A valid Certificate of Test (C of T) should be held by the holder of a commercial balloon pilots licence validated for commercial flying in Myanmar.
- (b) The Certificate of Test (C of T) is valid for 13 months. Where a CPL (B) holder has one or more Group included in the Aircraft Rating of his licence, a test in the largest of these Groups will be valid for all smaller Groups.
- (c) If a combined Base and Line check is also required, it is possible to combine this with a C of T renewal.
- (d) For DCA Myanmar validated licence holders of National Aviation Authority certificates which do not issue a Certificate of Test (C of T), on successful completion of this test the approved and authorized Examiner will inscribe the candidates' logbook with an appropriate confirmation that the examination has taken place in Myanmar, the Examiner will note their Myanmar credentials, validation authority, the date on which the test took place and the validity period. This endorsement will then be considered valid as a Certificate of Test (C of T) for the following 13-month period.



**15.5.6 Base and Line Check**

All pilots flying commercially in Myanmar must undergo a company Base and Line Check at a maximum interval of 13 months, this Base and Line Check must be conducted by an appropriately appointed and Myanmar DCA validated Type Rating Examiner. Base and Line Checks with other Operators can be accepted at the discretion of the Training Captain and the Chief Pilot jointly.

## **15.6 Safety Equipment and Procedures Training and Testing Requirements for Flight Crew**

### **15.6.1 Provision of Training**

- (a) Practical training must be under the supervision of a person who has the appropriate specialist knowledge, ability and experience to conduct such training.
- (b) Once every three years, flight crew are to attend ground courses on the subject of basic first-aid and fire safety.
- (c) Refresher courses should be booked in good time to prevent expiry of the old qualification. In exceptional cases where every attempt to arrange a refresher course has failed, FOI may extend the validity of certificates. Applications for such extensions are to be submitted, in writing, prior to the expiry of the qualification giving full details of why renewal was not completed prior to that expiry.
- (d) A printed syllabus shall be presented to course attendees at the start of ground courses and printed course notes shall be presented at the end. These will serve as an aide memoir during the period between required refresher course.

### **15.6.2 Basic First-Aid Training and Casualty Handling**

- (a) First-aid training is to be given by an instructor qualified for the purpose. In case of doubt about the adequacy of an instructor's qualifications, the DCA Myanmar should be consulted.
- (b) The following items are considered as the minimum syllabus items:
  - (1) Introduction to First-Aid;
  - (2) Primary and secondary surveys for life threatening injuries;
  - (3) Resuscitation (Theoretical and Practical):
    - (i) Establish airway
    - (ii) Carry out cardiopulmonary resuscitation and
    - (iii) Place casualties in recovery position
  - (4) Burns (Hot and Cold);
  - (5) Injuries to Skull, Spine, Chest and Extremities;

- (6) Internal Injuries;
  - (7) Bleeding (Internal and External);
  - (8) Shock;
  - (9) Moving of Casualties;
  - (10) Particular problems related to injured children and babies; and
  - (11) Risk and Safety assessment of in-flight medical emergencies.
- (c) Training is to be followed by the successful completion of an appropriate first-aid test.

### **15.6.3 Fire Training**

- (a) Fire training must be conducted by a suitably qualified instructor.
- (b) The following items are considered as the minimum syllabus items:
  - (1) Basic chemistry of combustion;
  - (2) Characteristics of liquid propane gas;
  - (3) Characteristics of a liquid propane fire and of a vapor propane fire;
  - (4) Types of fire extinguishers-identification, properties and operation;
  - (5) Practical fire fighting on a vapor propane fire;
  - (6) Professional inspection of company fire extinguishers- Frequency and Procedures; and
  - (7) Launch site requirements and topography.

### **15.6.4 Company Ground Personnel**

Good safety management practice indicates that Certificate of Approval (B) holders' ground based personnel should undertake three-yearly first-aid and fire courses. This will assist an Operator in complying with their duty of care at an unlicensed airfield (launch site) and, in the event of a serious accident whereby it is possible that the pilot may be incapacitated, it is likely that the retrieve crew would be the first to attend the scene.

**15.6.5 On line emergency and survival equipment training and testing**

- (a) As part of the Line Check, company pilots are to have practiced the carrying out of the relevant drills and procedures required in the case of an emergency occurring to the balloon. The following equipment must be included in the training if carried on board:
  - (1) Sufficient, adequate and suitable first-aid kits and contents;
  - (2) Sufficient, adequate and suitable fire extinguishers;
  - (3) Life jackets.
- (b) A company pilot's knowledge of the location and use of the emergency and lifesaving equipment to be carried in the balloon will be tested by the Type Rating Examiner as part of the line check;
- (c) Company personnel should be given every opportunity to familiarize themselves with all equipment on regular basis.

**15.6.6 Safety Management Training and Testing of Staff**

- (a) Safety Management training will be given to all Certificate of Approval (B) holder pilots and operational personnel.
- (b) This training may be given to staff in groups or as individuals and will follow a syllabus which might be periodically reviewed but will cover aspects of safety management relevant to the attendees working tasks and environment.
- (c) The responsibility to organize and facilitate this training will fall to an appointed Safety Management who will be assisted, advised and supported by the Quality Manager, Chief Pilot, Training Captain, Operations Manager and his deputies, and where relevant, the Maintenance Organisation Chief Technical Officer.
- (d) Suitable Safety Management Training will be required for all Certificate of Approval (B) holder pilots and operational personnel on a two yearly basis.
- (e) Subsequent to the required Safety Management Training an adequate test will be completed by the candidates, these tests can be in a written or oral form, however the results must be kept and recorded and made available to the DCA upon request.


**15.7 Insurance requirements for Balloon Operators****15.7.1 Compliance Monitoring**

- (a) Insurance documentation should be submitted to the DCA and then checked, as part of the application process for an Operating licence, as well as at initial aircraft registration and subsequent renewals.
- (b) During inspection flight and ramp inspections, DCA Inspectors may check the insurance documentation carried aboard Myanmar registered aircraft. Operators should be aware that inspectors will need to see evidence of the following to be satisfied that the required insurance is in place (in either an original document or a copy):
  - (1) The aircraft registration and the aircraft type on the document refer to the specific aircraft being checked;
  - (2) The name of the air carrier on the document is the same as that of the operating air carrier being checked;
  - (3) The period of validity on the document is current;
  - (4) If the document is conditioned in geographical terms, that the aircraft is insured to operate within the State and/ or region/ or area in which the check is being made;
  - (5) The document is signed on behalf of the broker and dated.

**15.7.2 Recommendation**

- (a) Operators should ensure that insurance documentation, covering at least the above points, is carried on board every flight;
- (b) For public transport balloon flights “carried on board” is deemed to be either within the balloon or the dedicated recovery vehicle;
- (c) Operators should ensure that all appropriate and required “Flight Documents” are listed within the Operations Manual.

**Annex-A Contents of Certificate of Approval (Balloons)**

 <p><b>Certificate of Approval (Balloons)</b></p>		
1	<p><b>[State of the Operator] <sup>2</sup></b></p> <hr/> <p><b>[Issuing Authority] <sup>3</sup></b></p>	1
<p><b>Certificate of Approval #: <sup>4</sup></b></p>  <p><b>Expiry Date: <sup>5</sup></b></p>	<p><b>Operator Name: <sup>6</sup></b></p> <hr/> <p><b>DBA Trading Name: <sup>7</sup></b></p> <hr/> <p><b>Operator address: <sup>8</sup></b></p>	<p><b>Operational Points of Contact: <sup>10</sup></b></p> <p>Contact details, at which operational management can be contacted without undue delay, are listed in an attachment to this document .<sup>11</sup></p>
	<p><b>Telephone: <sup>9</sup></b></p> <hr/> <p><b>Fax:</b></p> <hr/> <p><b>E-mail:</b></p>	
<p>This certificate certifies that _____<sup>12</sup> is authorized to perform aerial work or commercial operations, as defined in the attached operations specifications, in accordance with the Operations Manual and the _____<sup>13</sup>.</p>		
<p><b>Date of issue<sup>14</sup>:</b> _____ <b>Name</b> _____ <b>and</b></p> <p><b>Signature<sup>15</sup>:</b> _____ <b>Title:</b> _____</p>		

*Notes:*

1. *For use of the State of the Operator.*
2. *Replace by the name of the State of the Operator.*
3. *Replace by the identification of the issuing authority of the State of the Operator.*
4. *Unique Certificate number, as issued by the State of the Operator.*
5. *Date after which the Certificate of Approval ceases to be valid (dd-mm-yyyy).*
6. *Replace by the operator's registered name.*
7. *Operator's trading name, if different. Insert "DBA" before the trading name (for "doing business as").*
8. *Operator's principal place of business address.*
9. *Operator's principal place of business telephone and fax details, including the country code. E-mail to be provided if available.*
10. *The contact details include the telephone and fax numbers, including the country code, and the e-mail address (if available) at which operational management can be contacted without undue delay for issues related to flight operations, airworthiness, flight and cabin crew competency, dangerous goods and other matters, as appropriate.*
11. *Insert the controlled document, carried on board, in which the contact details are listed, with the appropriate paragraph or page reference, e.g.: "Contact details are listed in the operations manual. Gen/Basic, Chapter 1, 1.1" or "...are listed in the operations specifications, page 1" or "...are listed in an attachment to this document."*
12. *Operator's registered name.*
13. *Insertion of reference to the appropriate civil aviation requirements.*
14. *Issue date of the Certificate of Approval (dd-mm-yyyy).*
15. *Title, name and signature of the authority representative. In addition, an official stamp may be applied on the Certificate of Approval (identification of the issuing Authority of the State of the Operator).*

**Annex-A, Appendix 1**

**Contents of Operations Specifications**

The operations specifications layout shall be as follows:

<b>OPERATIONS SPECIFICATIONS</b>		
<b>ISSUING AUTHORITY CONTACT DETAILS <sup>1</sup></b>		
Telephone: _____	Fax: _____	E-mail: _____
Certificate of Approval# <sup>2</sup> : _____	Operator name <sup>3</sup> : _____	Date <sup>4</sup> : _____
Signature: _____		
Dba trading name: _____		
Aircraft type and group <sup>5</sup> :		
Types of Operation: Commercial Operations <input type="checkbox"/> Passengers <input type="checkbox"/> Cargo <input type="checkbox"/> Other <sup>6</sup> : _____		
Area(s) of Operation <sup>7</sup> :		
Special Limitations <sup>8</sup> :		

*Notes:*

1. Telephone and fax contact details of the authority, including the country code. Email to be provided if available.
2. Insert the associated Certificate of Approval number.
3. Insert the operator’s registered name and the operator’s trading name, if different. Insert “dba” before the trading name (for “doing business as”).
4. Issue date of the operations specifications (dd-mm-yyyy) and signature of the authority representative.
5. Insert type and group of balloon.



6. *Other type of transportation to be specified.*
7. *List the geographical area(s) of authorized operation (by geographical coordinates or flight information region or national or regional boundaries).*
8. *List the applicable special limitations (e.g. VFR only, day only).*

# Annex-B Application Form for a Certificate of Approval (Balloons)



## Application for a Certificate of Approval (Balloons)

### 1. Applicants Details

Registered Company Name in full: .....

Registered Company Number: .....

Country of Company Registration: .....

Registered Office Address: .....

..... Postcode: .....

Telephone: ..... Fax: .....

E-mail: ..... Mobile: .....

Trading Name(s) (if applicable)

Trading Address (primary site): .....

..... Postcode: .....

Website Address: .....

### 2. Authorised Representative of Company

This application is to be signed by either a CEO or Accountable Manager authorised by the Board to act on behalf of the Company:

Title: ..... Name: .....

Position in Company: .....

Telephone No: ..... Mobile: .....

E-mail: .....

**This application will be considered in respect of and, if appropriate, granted to, the Company Name as registered under the Company Number provided on this form.**

<p>Types and Registration marks of balloons for which a certificate is required:</p> <p>Type: ..... Reg(s): .....</p> <p>Type: ..... Reg(s): .....</p> <p>Type: ..... Reg(s): .....</p> <p>Type: ..... Reg(s): .....</p> <p>Type: ..... Reg(s): .....</p> <p>Type: ..... Reg(s): .....</p> <p>Type: ..... Reg(s): .....</p> <p>Are balloons currently available for inspection?                      Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>If not, please give the date on which they will be: .....</p>
<p>Geographical regions in which it is proposed to operate.</p>
<p>State when operations and training manuals will be made available for submission to the DCA.</p>
<p>Name and address of organisation responsible for maintenance of each balloon.</p>
<p>Name of management and executive staff and details of the duties for which each individual is responsible.</p>
<p>Name of persons responsible for conducting on behalf of the Operator the periodic tests.</p>
<p>Proposed date for the commencement of operators.</p>
<p style="text-align: right;">Page 2 of 3</p>

**3. Declaration**

I hereby declare that to the best of my knowledge the particulars entered on this application are accurate.

Name of applicant: .....

Signature of applicant: .....

Date: .....

**False Representation Statement**

It is an offence to make, with intent to deceive, any false representation for the purpose of producing the grant, issue, renewal or variation of any certificate, licence, approval, permission or other document.

**Annex-C                      Renewal Form for a Certificate of Approval (Balloons)**



**Application for Renewal of a Certificate of Approval (Balloons)**

**1. Applicants Details**

Registered Company Name in full: .....

Registered Company Number: .....

Country of Company Registration: .....

Registered Office Address: .....

..... Postcode: .....

Telephone: ..... Fax: .....

E-mail: ..... Mobile: .....

Trading Name(s) (if applicable)

Trading Address (primary site): .....

..... Postcode: .....

Website Address: .....

**2. Authorised Representative of Company**

This application is to be signed by either a CEO or Accountable Manager authorised by the Board to act on behalf of the Company:

Title: ..... Name: .....

Position in Company: .....

Telephone No: ..... Mobile: .....

E-mail: .....

**This application will be considered in respect of and, if appropriate, granted to, the Company Name as registered under the Company Number provided on this form.**

**3. Application Details**

**Certificate of Approval Number:** .....

Type: ..... Reg(s): .....

Type: ..... Reg(s): .....

Type: ..... Reg(s): .....

Type: ..... Reg(s): .....

Type: ..... Reg(s): .....

Type: ..... Reg(s): .....

Type: ..... Reg(s): .....

Are balloons currently available for inspection?      Yes  No

If not, please give the date on which they will be: .....

Geographical regions in which it is proposed to operate.

Name and address of organisation responsible for maintenance of each balloon.

The proposed date of renewal of the certificate.

**4. Declaration**

I hereby declare that to the best of my knowledge the particulars entered on this application are accurate.

Name of applicant: .....

Signature of applicant: .....

Date: .....

**False Representation Statement**

It is an offence to make, with intent to deceive, any false representation for the purpose of producing the grant, issue, renewal or variation of any certificate, licence, approval, permission or other document.

## Annex-D Operating Data Questionnaire



**Certificate of Approval (B)- Operating Data Questionnaire**

From .....To

.....

**Company:** .....

**Certificate of Approval No:**

.....

### Facilities

Item	Yes	No	Data
Operations Manual			Last Amendment Date: .....
Library: Radio frequency Guide			Type and Edition: .....
NOTAM Bulletins			Screen <input type="checkbox"/> or Postal <input type="checkbox"/>
AICs			Latest issue Date: .....
MCAR part-15			Last Amendment Date: .....
Number of flights			.....
Number of passengers			.....
Remarks:			

### Chief Pilot

Item	Yes	No	Data
Name of Chief Pilot			.....
Licence No. or Validation No.			.....
Licence Expiry or Validation Expiry			Date: .....
Balloon Groups			
JAR Medical Class			.....



Page 1 of 6			
JAR Medical Valid			Issue Date: ..... Expiry: .....
Certificate of Test (13M)			Issue Date: ..... Expiry: .....
R/T Licence			.....
Base/ Line Check (13M)			Issue Date: ..... Expiry: .....
Base/ Line Check TRE			Name: .....
SEP Fire Certificate (3YRS)			Issue Date: ..... Expiry: .....
SEP First-Aid Certificate (3YRS)			Issue Date: ..... Expiry: .....
Hours			Previous Year: ..... Total: .....
Remarks:			
Signature: .....		Date: .....	
Page 2 of 6			

<b>Pilots</b>			AOC No: .....
Item	Yes	No	Data
Name of Pilot			.....
Licence No.			.....
Licence Expiry			Date: .....
Balloon Groups			
JAR Medical Class			.....
JAR Medical Valid			Issue Date: ..... Expiry: .....
Certificate of Test (13M)			Issue Date: ..... Expiry: .....

R/T Licence			.....
Base/ Line Check (13M)			Issue Date: ..... Expiry: .....
Base/ Line Check TRE			Name: .....
SEP Fire Certificate (3YRS)			Issue Date: ..... Expiry: .....
SEP First-Aid Certificate (3YRS)			Issue Date: ..... Expiry: .....
Hours			Previous Year: ..... Total: .....
Remarks:			

Item	Yes	No	Data
Name of Pilot			.....
Licence No.			.....
Licence Expiry			Date: .....
Balloon Groups			
JAR Medical Class			.....
Page 3 of 6			
JAR Medical Valid			Issue Date: ..... Expiry: .....
Certificate of Test (13M)			Issue Date: ..... Expiry: .....
R/T Licence			.....
Base/ Line Check (13M)			Issue Date: ..... Expiry: .....
Base/ Line Check TRE			Name: .....
SEP Fire Certificate (3YRS)			Issue Date: ..... Expiry: .....
SEP First-Aid Certificate (3YRS)			Issue Date: ..... Expiry: .....
Hours			Previous Year: ..... Total: .....

Remarks:

Signature: .....

Date: .....

<b>Balloons</b>			
Item	Yes	No	Data
Registration of Balloon			.....
Make and Type			
Year of Manufacture			Date: .....
Total Hours			.....
Certificate of Registration			.....
Certificate of Airworthiness			Category: ..... Date: .....
Part M SUBPART G Organisation			Name: ..... Approval No: .....
Part 145 Organisation			Name: ..... Approval No: .....
Continuous Airworthiness Arrangement			Issue Date: ..... Expiry: .....
Maintenance Contract			Issue Date: ..... Expiry: .....
Last Annual Inspection			Date: .....
Hours at Annual Inspection			
Approved Flight Manual			Issue Date: .....
Fire Extinguisher			Check Date: ..... Expiry: .....
First Aid Kit			Check Date: ..... Expiry: .....
Fire Proof Metal Plate			
Remarks:			

Item	Yes	No	Data
Registration of Balloon			.....
Make and Type			

Page 5 of 6

Year of Manufacture			Date: .....
Total Hours			.....
Certificate of Registration			.....
Certificate of Airworthiness			Category: ..... Date: .....
Part M SUBPART G Organisation			Name: ..... Approval No: .....
Part 145 Organisation			Name: ..... Approval No: .....
Continuous Airworthiness Arrangement			Issue Date: ..... Expiry: .....
Maintenance Contract			Issue Date: ..... Expiry: .....
Last Annual Inspection			Date: .....
Hours at Annual Inspection			
Approved Flight Manual			Issue Date: .....
Fire Extinguisher			Check Date: ..... Expiry: .....
First Aid Kit			Check Date: ..... Expiry: .....
Fire Proof Metal Plate			
Remarks:			
Signature: .....			Date: .....
			Page 6 of 6



**DEPARTMENT OF CIVIL AVIATION  
MYANMAR  
COMBINED BASE/LINE CHECK FORM (BALLOON)**

**Annex-E**

**NAME** ..... **LICENCE TYPE**..... **NO.** .....

**BALLOON TYPE** ..... **GROUP** ..... **REG** .....

**DATE** .....

**PREFLIGHT**

		TRE Comments	P/F	Initial
1	Knowledge of recent AICs and NOTAMs			
2	Weather and Site Assessment			
3	Balloon Document, Performance and loading check			
4	External and Internal Checks			
5	Altimeter setting procedure and use of Checklists			
6	Passenger Briefing			
7	Pre-inflation			

**IN FLIGHT**

		TRE Comments	P/F	Initial
1	Weather Assessment			
2	Use of Maps, Charts etc.			
3	ATC Liaison (where applicable)			
4	Position fixing			
5	Fuel Planning			
6	Take off			
7	Level Flight			
8	Climb			

9	Descent			
10	Shallow Approach			
11	Steep Approach			
12	Landing			
13	Post Flight Actions			

**EMERGENCIES (IN FLIGHT DISCUSSION)**

		TRE Comments	P/F	Initial
1	Pilot Light Failure			
2	Fire in the air			
3	Discussion Items (in flight or on the ground) 1. Pilot light failure after Take off 2. Landing in increasing wind strength 3. Action in the event of blast valve failure 4. Ground Handling 5. Deflation System 6. Cold Decent			

**SEP CHECK**

		TRE Comments	P/F	Initial
1	Location and Type of fire extinguisher			
2	Location and content of First-Aid Kit			
3	Fire Training: Place	Date		
4	First-Aid Training: Place	Date		

EXAMINER'S NAME ..... LICENCE NO. .... SIGNATURE .....

CHIEF PILOT'S SIGNATURE ..... DATE .....

NEXT CHECK DUE (13 months after this check) ...../...../.....