Advisory Circular

CAA-AC-OPS 022A
June 2018

STRUCTURE OF OPERATIONS MANUAL

1.0 PURPOSE

This Advisory Circular (AC) provides information and guidance on how air operators may comply with the requirements of developing Operations Manuals. It is intended to identify the topics that may need to be considered by the operator in developing an operations manual. Operators shall use appropriate Civil Aviation Regulations and this AC for guidance on Operations Manuals development.

The contents of a particular operations manual will depend on many factors, not the least of which will be the number, size and different types of aircraft being operated and the geographical extent of the operation. In selecting the extent (depth and detail) of addressing certain topics in the operations manual, the guiding principle should be to decide, in a pragmatic and common sense manner, what information and guidance must be included to ensure that a safe and efficient operation takes place.

Throughout this AC, when the guidance or requirement being discussed is based on the provisions of Annex 6, Part I, the term "aeroplane" is used. When the requirements include the provisions of Annex 6, Part III, or are of a more general nature, the term "aircraft" is used.

1.1 CANCELLATION; This AC cancels CAA-AC-OPS022 March 2018

2.0 REFERENCE

Civil Aviation (Air Operator Certification and Administration) Regulations as amended
Civil Aviation (Operation of Aircraft-Commercial Air Transport) Regulations as amended
Civil Aviation (Operation of Aircraft-Helicopter) Regulations as amended

3.0 INTRODUCTION

3.1 An operations manual shall be developed in line with the applicable Parts of the KCARS and the contents will depend on the type size and complexity of the intended operations, and should provide adequate guidance concerning all important aspects of the operation.

3.2 The actual contents of these manuals, which shall be issued in separate parts corresponding to specific aspects of operations as prescribed in the applicable part of the KCARS, will vary from operator to operator, but a representative breakdown of contents would be as detailed below.

3.3 In selecting a format for the operations manual, the primary criterion is that the manual be easily used and understood. The volume size should make the manual easy to handle on the flight deck, at least for those volumes that are part of the aircraft library. The quality of the paper and of the printing and reproduction of the text and illustrations should be such that the material is readable under all operational conditions. The manuals should be in a format which is easily amendable, e.g. loose-leaf in a ring binder

3.4 In selecting the number of volumes that make up the operations manual, the aim should be to limit the number while not allowing any one volume to become so large or full of pages that it would be unwieldy in actual use. The volumes should be designed so that, if possible, each is complete in itself. For example, all the performance information should be available in one volume. If this is not possible, as for example if the aircraft performance manual is divided into volumes for different regions of the world, the individual volumes of one manual must be logically numbered. Thus, if the aircraft performance manual comprised Volume 4 of the operations manual, then in the case of there being separate volumes they would be numbered Volume 4-1, Volume 4-2, and so on.

3.5 If The operator has a number of different aircraft types, it is common practice to differentiate the volumes of the operations manual that are specific to a particular aircraft type and to identify those volumes that are general in their application. Some operators achieve this by colour coding the volumes. For example, all general volumes of the operations manual, such as the policy and administration manual, would have red covers, while volumes specific to a particular aircraft type, such as the ATR 42, for example, would have yellow covers. Within each fleet the volume numbering will be similar, so that Volume 4 on all aircraft types will be the performance manual. The result of this would be that in any aircraft library there would only be two cover colours (in the ATR 42 example, red and yellow) and, if possible, the numbering of all the volumes in an aircraft library should be sequentially complete.

3.6 The operations manual should have a master subject index, possibly placed in the policy and administration manual. In addition, each volume should have its own subject index. There shall be a table of contents at the beginning of each volume and for each section or chapter. Each page should be numbered and have a date of original issue. Each volume shall have a list of effective pages identifying page numbers and dates of issue to ensure the validity of the contents.

3.7 Amendments, revisions and additions to the operations manual must be approved by the postholder responsible for the manual. In some cases this will consist of ensuring that such changes issued by the originator of a particular volume are correct and appropriate to the operations manual. This would be the case with amendments issued by the aircraft manufacturer for the aircraft operating manuals, or with amendments issued for the route guide, when the route guide is purchased from a commercial agency. However, in the case of amendments or additions which originate within the organization, the postholder responsible must ascertain that the proposed change is necessary and determine how it is to be promulgated.

In most cases the amendment will be issued through normal channels to all holders of the operations manual. In other cases, because of the urgency of the information contained in the amendment it will be necessary to issue a notice to the flight crew and to other concerned operational personnel. This notice should be replaced by an amendment to the manual as soon as possible. In revising or altering the contents of the operations manual, operators must bear in mind that the State of the Operator is required to approve the contents of the operations manual and that certain parts of the manual include material which is considered mandatory.

The operations manual **shall** be organized with the following structure:

a) Part A - General;
b) Part B - Aircraft operating information;
c) Part C - Area, routes and aerodromes; and
d) Part D - Training.

4.0 GENERAL (PART A)

The general part or section of the operations manual shall contain at least the following:

a) Administration and control of the operations manual:

1) introduction:

i. a statement that the manual complies with all applicable KCARS, The Air Operator Certification condition and corresponding Operations Specifications
ii. a statement that the manual contains operational instructions which must be complied with by all personnel in the performance of their duties;
iii. a list and a summarized description of the different part of the manuals, their contents, applicability and utilisation
iv. explanations and definitions of terms and words used in the manual;

2) system of distribution, amendment and revision:

i) an operations manual shall describe who is responsible for the issuance and insertion of amendments and revisions. For complex operators, a letter or covering sheet must identify the reason for the amendment and provide a checklist of the amendment to be made. This is particularly necessary when an amendment is made to any safety-related information.
ii) Instructions should be included for inserting the amendment in the appropriate volume and for recording insertion of the amendment with insertion dates and effective dates;
iii) a statement that hand-written amendments and revisions are not permitted except in situations requiring immediate amendment or revision in the interest of safety should be included;
iv) a description of the system for the header and footer data on each page, including their effective dates;
v) a revision to the list of effective pages must be included with any amendment to the operations manual.
vi) Amendments and revision changes indicated by marks or signs in text, graphics and diagrams
vii) a system for recording temporary revisions;
viii) a description of the distribution system for the manuals, amendments and revisions;
ix) A registration sheet for amendment and revision, including dates of registration and validity
x) a statement of who is responsible for notifying KCAA of proposed changes and working with the KCAA on changes requiring approval;

b) organization and responsibilities:

1) *organizational structure*. A description of the organizational structure, including the general company organization and operations department organization. The relationship between the operations department and other departments of the company. In particular, the subordination and reporting lines of all divisions, departments, etc., which pertain to the safety of flight operations shall be shown. Instructions outlining the responsibilities of operations personnel pertaining to the conduct of flight operations;

2) *responsible manager*. The name of each manager responsible for operations, the maintenance system, crew training, quality assurance and ground operations, and of the executive accountable for the implementation and management of the safety management system shall be listed. A description of their function and responsibilities shall be included;
3) *responsibilities and duties of operations management personnel.* A description of the duties, responsibilities of operations management personnel pertaining to the safety of flight operations and to compliance with applicable regulations shall be listed;
4) *duties and responsibilities of a PIC*. A statement defining the duties and responsibilities of the PIC shall be listed;
5) *duties and responsibilities of crew members other than the PIC*. A statement defining the duties and responsibilities of all required crew members shall be listed.

c) Operational control and supervision:

1) *supervision of the operation by the air operator*. A description of the system for supervision of the operation by the Air operator shall be listed. This description shall show how the safety of flight operations and the qualifications of personnel involved in such operations are supervised and monitored. In particular, the procedures related to the following items shall be described:
   i) specifications for the operational flight plan;
   ii) competence of operations personnel; and
   iii)control, analysis and storage of records, flight documents, additional information and safety related data;

2) *system of promulgation of additional operational instructions and information*.
   i) A description of any system for promulgating information which may be of an operational nature but is supplementary to that in the operations manual e.g. fleet notices. The applicability of this information and the responsibilities for its promulgation shall be included.
   ii) Policy and procedures for provision to flight crew and operational personnel of pre-flight aeronautical information essential for the safety, regularity and efficiency of air navigation at all aerodromes and dissemination of the following to flight crew and operations personnel. The information provided in a crew briefing/planning office will include:

      - Notices to Airmen (NOTAM)
      - AIP/ AIRAC;
      - AIC;
      - Maps and charts; and
      - any other relevant information.

   iii)Procedures to ensure that the Flight Manual (AFM) is updated by implementing changes made mandatory.

3) *operational control*.
   i) A description of responsibilities for operational control and related policies, processes, standards and procedures.
   ii) Functions and responsibilities of Flight crew and flight operations officers/flight dispatchers in initiation, continuation, diversion and termination of flight

iii)Policy and procedures for flight crew to record and report on:

- Routine meteorological observation during:
  - en-route, and
  - climb-out phases of the flight; and
- Special and other non-routine observations during any phase of the flight; and
- Volcanic activity

Note: The information on 3) iii) will normally be recorded/reported on a template as indicated in Appendix 2

d) Quality system. Overview of the QMS may be captured here and reference made to the QMS Manual where details will be contained.

Note. — The requirements for the QMS systems/Manual are contained in Quality Systems circular CAA-AC-GEN005 as amended.

e) Safety management system (SMS). Overview of the SMS may be captured here and reference made to the SMS Manual where details will be contained.

Note. — The requirements for acceptance of the SMS Manual/Programme are contained in Safety Management Advisory circular CAA-AC-SMS001 and CAA-AC-SMS002

An operator shall also establish and maintain a Flight Data Analysis Programme (FDAP) as part of its SMS in accordance with the applicable regulations. The flight data analysis programme shall be non-punitive and must contain safeguards to protect the source of data. The FDAP policy shall be captured here, details of the FDAP may be captured in the SMS manual.

Note 1. — The guidelines for development of a Flight Data analysis programme are contained in Advisory circular CAA-AC-OPS049 as amended
Note 2. — The operator may contract the operation of a flight data analysis programme to another party while retaining overall responsibility for the maintenance of such a programme.

f) The operator shall establish a flight safety documents system in accordance with the Kenya Civil Aviation Regulations. The development of a flight safety documents system is a complete process, and changes to each document compromising the system may affect the entire system. The operational documents are to be consistent with each other, and consistent with regulations, manufacturer requirements, and Human Factors principles. It is also necessary to ensure consistency across departments as well as consistency in application. Hence, the emphasis on an integrated approach, based on the notion of the operational documents as a complete system.

Note. — The guidelines for development of a Flight Safety Document System are contained in the Sixth schedule of Civil Aviation (Air Operator Certification & Administration) Regulations

g) Crew:

1) *crew composition*. An explanation of the method for determining crew compositions taking into account of the following:

i) experience (total and on type), recency and qualification of the crew members;
ii) the designation of the PIC and, if required by the duration of the flight, the procedures for the relief of the PIC or other members of the flight crew; and
iii) the flight crew for each type of operation including the designation of the succession of command;

2) *designation of the PIC*. The rules applicable to the designation of a PIC;

3) The designation of the senior Cabin Crew Member and procedures for relief of members of cabin crew during flight as applicable.

h) qualifications of flight crew, cabin crew, flight operations officer and other operations personnel:

1) *qualifications*. A description of the required licence, rating(s), qualification/competency (e.g., for routes and aerodromes), experience, training, checking and recency of experience, as applicable, for operations personnel to conduct their duties. Consideration shall be given to the aircraft type, kind of operation, and composition of the crew and conduct flight duties for the following ;

a) Pilot in Command
b) Other Flight Crew Member

2) *flight crew*. Operation on more than one type or variant and scheduling requriements;

3) *cabin crew*:
i) cabin crew member in charge/Senior Cabin Crew;
ii) cabin crew member;
– required cabin crew member;
– additional cabin crew member; and
– cabin crew member during familiarization flights;
iii) operation on more than one type or variant and scheduling requirements;

4) flight operations officer;

5) *other operations personnel*;

i) flight duty and Rest time (fatigue management):

1) *flight time, flight duty period, duty period and rest period*:
i) flight crew;
ii) cabin crew;
iii) Flight operations officer/dispatcher;

2) *Exceedances of flight and duty time limitations and/or reductions of rest periods.*

i) Procedures to ensure that flight and duty time limitations are not exceeded without authority approval;
ii Exceptional Circumstances under which flight and duty time may be exceeded or rest periods may be reduced without prior CAA approval and the procedures used by the flight crew, cabin crew and flight operations officers to report these exceedances
iii Requirement to report these exceedances to the Authority;

iv) Extension of duty period and flight time in respect of scheduled services approved schedules and crew roster programmes (see CAA-AC-OPS027 as amended)

j) crew health:

1) *crew health precautions*. The relevant regulations and guidance to crew members concerning health including:
   i. Alcohol and Other Intoxicating Liquor
   ii. Narcotics and Drugs
   iii. Psychoactive substances
   iv. Pharmaceutical Preparations and Sleeping Tablets
   v. Immunization
   vi. Self –Contained Underwater Breathing Apparatus (SCUBA) diving
   vii. Blood donation
   viii. Meal precautions prior to and during flight
   ix. Sleep and rest
   x. Pregnancy
   xi. Surgical Operations

k) operating procedures:

1) *flight preparation instructions.* As applicable to the operation:

i) criteria for determining the adequacy of aerodromes to be used;

ii) the method for determining minimum flight altitudes;

- A description of the method of determination and application of minimum altitude including a procedure to establish the minimum altitude/flight levels for VFR flights and
- A procedure to establish the minimum altitude/ Flight Levels for IFR flights

iii) the method for determining aerodrome and/or heliport operating minima as applicable;
Reference should be made to procedures for the determination of the visibility and/or runway visual range (RVR) and for the applicability of the actual visibility observed by the pilots, the reported visibility and the reported RVR

iv) en-*route operating minima for visual flight rules (VFR) flights.*

v) where single-engine aircraft are used, instructions for route selection during flight planning with respect to the availability of surfaces which permit a safe forced landing at night or in IMC;

vi) *interpretation of meteorological information*. Explanatory material on the decoding of meteorological (MET) forecasts and MET reports relevant to the area of operations, including the interpretation of change indicators and probability groups;

vii) *determination of the quantities of fuel and oil carried*. The specific instructions and methods by which the quantities of fuel and oil to be carried are determined and monitored in flight. Such instructions shall take account of all circumstances likely to be encountered on the flight, including the possibility of in-flight re-planning and of failure of one or more of the aircraft's power plants, and possible loss of pressurization. This section shall also include instructions on the measurement and distribution of the fluid carried on board. The system for maintaining fuel and oil records shall also be described;

vii) *Mass and centre of gravity*. The general principles of mass and centre of gravity including:

– the policy for using either standard and/or actual masses;
– the method for determining the applicable passenger, baggage and cargo mass;
– the applicable passenger and baggage masses for various types of operations and aircraft type;
– general instruction and information necessary for verification of the various types of mass and balance documentation in use;
– last minute changes procedures;
– seating policy/procedures; and
– list of documents, forms and additional information to be carried during a flight;

viii) ATS Flight Plan. Procedures and Responsibilities for the preparation and submission of the air traffic services flight plan.

ix) Operational Flight Plan or Navigation Log. Specifications, format, procedures and responsibilities for preparation and acceptance of OFP.

x) Aircraft Technical Log. The responsibilities and the use of operators Aircraft Techlog.

2) ground handling arrangements and procedures:

Organizational structure for ground handling functions with description of related responsibilities and Authorities

a) Lines of responsibilities associated with the following when applicable;
   i. Ramp operations
   ii. Passenger services
   iii. Baggage services
   iv. Cabin services
   v. Weight and balance control
   vi. Ground support equipment
   vii. Fuel services.

b) Policies and Procedures for Aircraft ground Handling Training requirements, sub-contracting policies, handling processes, procedures and practices for all ground handling operations.

Note; For large aircraft operators details of these procedures should be contained in the Ground Handling Manual.

c) *fuelling procedures.* A description of fuelling procedures, including:

   i. safety precautions during refuelling and defueling including when an auxiliary power-unit (APU) is in operation or when a turbine engine is running and, if applicable, the propeller brakes are on;
   ii. refuelling and defueling when passengers are embarking, on board or disembarking, including the two-way communication;
   iii. precautions to be taken to avoid mixing fuels; and
   iv. method to ensure the required amount of fuel is loaded;

d) *aircraft, passengers and cargo handling procedures related to safety.* A description of the handling procedures to be used when allocating seats and embarking and disembarking passengers and when loading and unloading the aircraft. Further

procedures, aimed at achieving safety whilst the aircraft is on the ramp, shall also be given. Handling procedures may include:

i. sick passengers and persons with reduced mobility;
ii. Procedures for handling children/infants
iii. permissible size and weight of hand baggage;
iv. positioning of ground equipment;
v. operation of aircraft doors;
vi. safety on the ramp, including fire prevention, blast and suction areas;
vii. start-up, ramp departure and arrival procedures;
viii. servicing of aircraft;
ix. documents and forms; and
x. Multiple occupancy of aircraft seats

e) procedures for the refusal of embarkation. Procedures to ensure that persons who appear to be intoxicated or who demonstrate by manner or physical indications that they are under the influence of alcohol or drugs, except medical patients under proper care, are refused embarkation;

f) de-icing and anti-icing on the ground (as applicable). Instructions for the conduct and control of ground de-icing/anti-icing operations. A description of the de-icing and anti-icing policy and procedures for aircraft on the ground. These shall include descriptions of the types and effects of icing and other contaminants on aircraft while stationary, during ground movements and during take-off. In addition, a description of the fluid types used shall be given including:

i. proprietary or commercial names;
ii. characteristics, including hold-over tables;
iii. effects on aircraft performance;
iv. precautions during usage;

3) flight procedures and flight navigation equipment:

a. *flight procedures*, including:
   i. standard operating procedures (SOP) for each phase of flight; Operators shall establish standard operating procedures (SOPs) that provide guidance to flight operations personnel to ensure safe, efficient, logical and predictable means of carrying out flight procedures. The policy shall be in Part A of the manual and procedures in Part B of the manual.
   ii. VFR/IFR policy. A description of the policy for allowing flights to be made under VFR,IFR or changing from one to another.
   iii. Instructions on the use of normal checklists and the timing for their use. Poorly conceived procedures for use of checklists can result in task saturation of flight crews during critical phases of flight. Incidents and accidents have occurred as a result of non-completion of relevant checklist(s). It is recommended that a detailed policy on the use of checklists be formulated by each operator and that a strict discipline regarding their use be maintained. Such policies should require that checklists be completed early in the approach phase to minimize distraction while maneuvering close to the ground. In the absence of other guidance, checklists should be completed no later than 1,000 ft AGL

iv. Policy on development of checklist as an integral part of Standard operating Procedures and instructions to flight and cabin crew on how to use them. In "single pilot" aircraft, checklists should be supplemented by the placarding of vital actions for final approach and landing.

v. departure contingency procedures;

vi. instructions on the maintenance of altitude awareness and the use of automated or flight crew altitude call-outs;

vii. instructions on the use of autopilots and auto-throttles in instrument meteorological conditions (IMC), in RVSM airspace and when conducting performance-based navigation procedures, as applicable.

Flight crews do not always take full advantage of automatic systems to manage the progress of a flight and reduce workload. The use of autopilots is encouraged during all approaches and missed approaches, in instrument meteorological conditions (IMC), when suitable equipment is installed.

It is incumbent upon operators to develop specific procedures for the use of autopilots and auto-throttles during precision approaches, non-precision approaches, and missed approaches and to provide simulator-based training in the use of these procedures to all flight crews. Autopilot and auto-throttle functionality and limitations also need to be thoroughly understood by flight crews.

viii. MNPS and POLAR navigation and other navigation in other designated areas as applicable.

ix. RVSM navigation procedures

x. Altimeter Setting procedures

xi. Instruction, clarification and use of ATC clearances. From time to time, ATC issues flawed instructions that do not ensure adequate terrain clearance. Such clearances are too often accepted by flight crews without considering consequences and/or questioning instructions. Flight crews should not assume that ATC clearances will ensure terrain clearance. If an ATC clearance is given that conflicts with the flight crew assessment of terrain criteria relative to known position, the clearance should be questioned and, if necessary, refused, and suitable action should be taken. Training programs should also address this issue.

xii. instructions on the clarification and acceptance of ATC clearances, particularly where terrain clearance is involved;

xiii. Crew Briefings as an integral part of standard operating procedures (departure and approach briefings);

xiv. procedures for familiarization with areas, routes and aerodromes;

xv. Stabilized approach procedure. Unstable approaches contribute to many incidents/accidents. Pilots shall establish a stabilized approach profile for all instrument and visual approaches. A stabilized approach has the following characteristics:

• A constant rate of descent along an approximate 3-deg approach path that intersects the landing runway approximately 1,000 ft beyond the approach end and begins not later than the final approach fix or equivalent position.

• Flight from an established height above touchdown should be in a landing configuration with appropriate and stable airspeed, power setting, trim, and constant rate of descent and on the defined descent profile.

• Normally, a stabilized approach configuration should be achieved no later than 1,000 ft AGL in IMC. However, in all cases if a stabilized approach is not achieved by 500 ft AGL, an immediate missed approach shall be initiated.

xvi. Limitation on high rates of descent near the surface. High rates of descent in close proximity to terrain are dangerous. They result in increased risk of CFIT, high flight crew workload, and reduced margins of safety. A policy should be established that restricts the rate of descent allowed within a prescribed vertical

distance of the applicable Minimum Enroute Altitude (MEA) and the Minimum Sector Altitude. As an example, the restriction could be 2,000 ft/min maximum rate of descent at or below 2,000 ft above either of these altitudes.

xvii. conditions required to commence or to continue an instrument approach;

xviii. instructions for the conduct of precision and non-precision instrument approach procedures;

xix. allocation of flight crew duties and procedures for the management of crew workload during night and IMC instrument approach and landing operations. The procedure for instrument approach in IMC in multi-crew aircraft should relieve the pilot-in-command of as much of the workload as possible, and through a proper division of duties and monitoring functions throughout the descent provide adequate safeguards against error or omission.

Flight crews may be inadequately prepared for CFIT critical conditions, both enroute and at destination. Flight crews should be provided with adequate means to become familiar with enroute and destination conditions for routes deemed CFIT critical. One or more of the following methods are considered acceptable for this purpose:

• When making first flights along routes or to destinations deemed CFIT critical, Captains should be accompanied by another pilot familiar with the conditions.

• Suitable simulators can be used to familiarize flight crews with airport critical conditions when those simulators can realistically depict the procedural requirements expected of flight crew members.

• Written guidance, dispatch briefing material, and video familiarization using actual or simulated representations of destination and alternatives should be provided.

xx. the circumstances during which a radio listening watch is to be maintained; and

xxi. instructions and training requirements for the use of head-up-displays (HUD) and enhanced vision systems (EVS) equipment as applicable;

xxii. Instruction and Training requirement on Use of Head Up Display (HUD)

xxiii. Instruction and Training requirement on Electronic Flight Bag (EFB)

b. *navigation equipment*. A list of the navigational equipment to be carried including any requirements relating to operations where performance-based navigation is prescribed;

c. *navigation procedures*. A description of all navigation procedures relevant to the type(s) and area(s) of operation. Consideration shall be given to:

i. standard navigational procedures including policy for carrying out independent cross-checks of keyboard entries where these affect the flight path to be followed by the aircraft;

ii. in-flight re-planning;

iii. procedures in the event of system degradation;

iv. performance based procedures (RNAV and RNP)

v. where relevant to the operations, the long range navigation procedures, engine failure procedure for extended diversion time operation (EDTO) and the identification and utilization of diversion aerodromes;

vi. instructions and training requirements for the avoidance of controlled flight into terrain (CFIT) and policy for the use of the ground proximity warning system (GPWS);

vii. policy, instructions, procedures and training requirements for the avoidance of collisions and the use of the airborne collision avoidance system (ACAS);

Note; *See relevant advisory circular for further details on ACAS training*

viii. information and instructions relating to the interception of civil aircraft including:
- procedures for pilots-in-command of intercepted aircraft; and
- visual signals for use by intercepting and intercepted aircraft;

ix. for aeroplanes intended to be operated above 49 000 ft (15 000 m):
- limit values for exposure to solar cosmic radiation;
- procedures for the use of cosmic or solar radiation detection equipment and for recording its readings including actions to be taken in the event that limit values specified in the operations manual are exceeded;
- information which will enable the pilot to determine the best course of action to take in the event of exposure to solar cosmic radiation; and
- procedures in the event that a decision to descend is taken, covering:

    - the necessity of giving the appropriate air traffic services (ATS) unit prior warning of the situation and of obtaining a provisional descent clearance; and
    - the action to be taken in the event that communication with ATS unit cannot be established or is interrupted;

d. *policy and procedures for in-flight fuel management*.

e. a) *adverse and potentially hazardous atmospheric conditions*. Procedures for operating in, and/or avoiding, potentially hazardous atmospheric conditions including:

i. thunderstorms;
ii. icing conditions;
iii. turbulence;
iv. wind shear;
v. jet stream;
vi. volcanic ash clouds;
vii. heavy precipitation;
viii. sand storms;
ix. mountain waves; and
x. significant temperature inversions;

f. operating restrictions:
i. cold weather operations;
ii. take-off and landing in turbulence;
iii. low-level wind shear operations;
iv. crosswind and tailwind operations;
v. high temperature operations;
vi. high altitude operations;

g. *incapacitation of crew members*. Procedures to be followed in the event of incapacitation of crew members in flight. Examples of the types of incapacitation and the means for recognizing them shall be included;

h. Crew member at their stations. The requirements for crew members to occupy their assigned stations or seats as required.

i. Admission to Flight Deck. The condition to admission to flight deck of persons other than the flight crew and including Authority Inspectors.

j. Use of Vacant Crew Seats. Conditions and procedures for the use of vacant crew seats

k. *cabin safety requirements*. Procedures covering:

i. cabin preparation for flight, in-flight requirements and preparation for landing including procedures for securing cabin and galleys;
ii. procedures to ensure that passengers are seated where, in the event that an emergency evacuation is required, they may best assist and not hinder evacuation from the aircraft;
iii. procedures to be followed during passenger embarkation and disembarkation;
iv. smoking on board; and
v. use of portable electronic equipment and cellular telephones;

l. *passenger briefing procedures*. The contents, means and timing of passenger briefing;

m. *Communicable disease procedures:* The operator shall establish a procedure for the crew to evaluate a traveller with a suspected communicable disease, based on the presence of a fever and certain other signs or symptoms. The procedures above require transmission of a General Declaration form to the State authorities.

1. Procedure for the Crew to evaluate a traveler with a suspected communicable disease.
2. State where procedures require transmission of a General Declaration form to the state Authorities.
3. Procedures for the Pilot in Command to report promptly to Air Traffic Control (ATC) a suspected communicable disease.
4. The operator shall establish procedures for the pilot-in-command to report promptly to air traffic control (ATC) a suspected communicable disease. The procedures shall require transmission of the following;

i. Aircraft identification;
ii. Departure aerodrome;
iii. Destination aerodrome;
iv. Estimated time of arrival;
v. Number of persons on board
vi. Number of suspected case(s) on board; and
vii. Nature of the public health risk, if known

4) all-weather operations including low visibility procedures (LVP) as applicable;

a) Low visibility take off Requirements
b) CAT II and III Approach procedures policies and Procedures including;
i. Approach decision Heights, weather limitations and requirement for RVR information
ii. Approach monitoring, the Decision region, maximum permissible deviations of the precision approach indications, including missed approach procedures.
iii. Use of autopilot and auto-throttle in IMC
iv. Required instruments, engine and equipment and failure instructions and limitations.

Note. Some of the required information is contained in the Low Visibility Procedures Manual.

5) Procedures For Aircraft Operated Whenever Required Cosmic Or Solar Radiation Detection Equipment Is Carried

a) Procedure for use of cosmic or solar radiation detection equipment.
b) Information to enable Pilot to determine the best course of action to take in the event of exposure to solar cosmic radiation
c) Procedure in the event that a decision to descend is taken, covering;
i. The necessity of giving the appropriate ATS unit prior warning of the situational and obtaining a provisional descent clearance.
ii. The action to be taken in the event that communication with the ATS unit cannot be established or is interrupted

6) use of the minimum equipment list (MEL) and configuration deviation list (CDL);

7) *non-revenue flights*.

Procedures and limitations, including the kind of persons who may be carried on such flights, for:

i. training flights;
ii. test flights;
iii. delivery flights;
iv. ferry flights;
v. demonstration flights; and
vi. positioning flights;

8) *oxygen requirements*. An explanation of the conditions under which oxygen shall be provided and used. If oxygen is not carried, instructions should be included on restriction of operating heights;
a) Flight Crew
b) Cabin Crew
c) Passengers

9) transport of dangerous goods by air -non approved operator

As a minimum the following procedures and policy will apply for operators who are not approved to carry dangerous goods

a) A description of dangerous goods policy statement to include;

i. Statement to show that the operator is non-approved to carry dangerous goods
ii. Restrictions requirements (e.g. no radioactive material)
iii. A dangerous goods responsible person within the company

b) General exceptions to include the following procedures
i. Airworthiness and Operational Items, including spares
ii. Conditions for carriage of portable electronic devices (PEDs) and spare batteries
iii. Veterinary Aid
iv. Medical Aid for a patient
v. Excess baggage being sent as cargo

vi. Items permitted in baggage, including:
- Procedure for granting approval for certain items in baggage
- Procedures for carriage of battery powered mobility aids

c) Provision of information to passengers
d) Marking and labelling of packages
e) Detailed assignment of responsibilities
f) Loading procedures , including as applicable
   i. Loading of dry ice

g) Hidden dangerous goods, including:
   i. General descriptions
   ii. GHS Labels

h) Procedure for Reporting;
   i. Dangerous goods incidents
   ii. Dangerous goods accidents
   iii. Dangerous goods occurrences
   iv. Undeclared/mis-declared dangerous goods

i) Instructions for removal of contamination

Note.— Refer to Appendix I for required procedures for transport of dangerous goods by air - approved operator

10) transport of weapons. The conditions under which weapons, munitions of war and sporting weapons may be carried;

11) security;
   i. *security policies and procedures*. A description of security policies and procedures for handling and reporting crime on board such as unlawful interference, sabotage, bomb threats, and hijacking;
   ii. *security instructions and guidance*. Security instructions and guidance of a non-confidential nature which shall include the KCAA and responsibilities of operations personnel;
   iii. *preventative security measures and training*. A description of preventative security measures and training;
   iv. *aeroplane search procedures and guidance on least-risk bomb locations where practicable.* A checklist of the procedures to be followed in searching for a bomb in case of suspected sabotage and for inspecting aeroplanes for concealed weapons, explosives or other dangerous devices. The checklist shall be supported by guidance on the appropriate course of action to be taken should a bomb or suspicious object be found and information on the least-risk bomb location specific to the aeroplane.
   v. Procedure to enable cabin crew to discreetly communicate to flight crew in the event of suspicious activity or security breaches in the passenger cabin
   vi. Guidance on the appropriate course of action to be taken in case a suspicious object is found.
   vii. Policy and procedures with respect to flight crew compartment access. Procedures to ensure that the aeroplane search procedures checklist is on board the aircraft and that the operator supplements the checklist with guidance on the appropriate course of action to be taken in case a bomb or suspicious object is found.

Procedure to ensure that the air operator has, on board all its aircraft, a checklist of the procedures to be followed:

- In searching for a bomb, and
- For inspecting an aircraft for concealed weapons, explosives and other dangerous devices

Note.— Parts of the security instructions and guidance may be kept confidential.

12) handling of accidents and occurrences. Procedures for the handling, notifying and reporting of accidents and occurrences. This section shall include*:*

i. definitions of accidents and occurrences and the relevant responsibilities of all persons involved;
ii. the descriptions of which company departments, Authorities or other institutions have to be notified by which means and in which sequence in case of an accident;
iii. special notification requirements in the event of an accident or occurrence when dangerous goods are being carried;
iv. a description of the requirements to report specific occurrences and accidents;
v. the forms used for reporting and the procedure for submitting them to the CAA shall also be included;
vi. procedures for pilots-in-command observing an accident;
vii. requirement for flight recorders not to be switched off during flight time;
viii. Instructions for preservation of flight recorder records and if necessary, associated flight recorders to the extent possible in the events that the aircraft becomes involved in an accident or incident in accordance with Civil Aviation (Aircraft Accident and Incident Investigation) Regulations and Civil Aviation (Air Operator Certification & Administration) Regulations, as amended
ix. Procedures for retention of flight recorder records and flight recorders in safe custody pending their disposition and determined in accordance with Civil Aviation (Aircraft Accident and Incident Investigation) Regulations and Civil Aviation (Air Operator Certification & Administration) Regulations as amended
x. requirement for flight recorders to be deactivated upon completion of flight time following an accident or serious incident and only reactivated or disposed of as determined by the state accident investigators;

13) rules of the air. Rules of the air including:

i. territorial application of the rules of the air;
ii. interception procedures;
iii. ATC clearances, adherence to flight plan and position reports;
iv. the ground/air visual codes for use by survivors, description and use of signal aids; and
v. distress and urgency signals;

l) Aircraft Leasing Procedures

Procedures for the acceptance or approval of aircraft leasing arrangements including:

a) Procedures for Dry lease and Wet lease as applicable
b) Training of crew members and dispatchers

5.0 AIRCRAFT OPERATING INFORMATION (PART B).

This part should contain information and guidance on the technical, procedural and performance aspects of the operation of the aircraft. All data and information in this part must comply with the flight manual, where applicable.

A description of the constituent volumes and manuals of the complete operations manual should be included, possibly in the policy and administration manual.

The part or section containing aircraft operating information shall contain at least the following:

1. *general information and units of measurement*. General Information (e.g., aircraft dimensions), including a description of the units of measurement used for the operation of the aircraft type concerned and conversion tables;

2. *certification and operational limitations.* A description of the certified limitations and the applicable operational limitations including:

    a) certification status;
    b) passenger seating configuration for each aircraft type including a pictorial presentation;
    c) types of operation that are approved (e.g. IFR/VFR, CAT II/III, RNAV/RNP, EFB, etc.);
    d) flights in known icing conditions as approved;
    e) minimum crew composition;
    f) mass and centre of gravity limitations;
    g) speed limitations;
    h) flight envelopes;
    i) wind limits including operations on contaminated runways;
    j) performance limitations for applicable configurations;
    k) runway slope limitations;
    l) limitations on wet or contaminated runways;
    m) airframe contamination;
    n) time-limit of systems, as applicable;
    o) brake temperature limitations; and
    p) tire speed and tire pressure limitations.

3. *normal procedures.* The normal procedures to be used by the flight crew, related checklist, crew coordination and assignment

The following normal procedures and duties shall be included:
a) pre-flight briefings;
b) pre-flight;
c) pre-departure and loading;
d) altimeter setting and checking;

Typically this would consist of information on accuracy checks to be carried out, both altimeter to-altimeter and altimeter-to-true altitude, on the ground and during the flight. Instructions should be given on the procedures and cross-checks to use when changing from standard pressure to local pressure (QNH) and, where appropriate, from QNH to QFE and vice versa. A system of cockpit cross-checking should be detailed for each of these changes

and guidance given on the procedures to follow in the event of a difference between the altimeter readings.

e) take-off briefings (multi-crew flights);

The briefing for take-off would typically include actions in the event of an emergency before, at or after decision speed (V1); identification of non-standard procedures such as emergency or compulsory turns after take-off; non-standard height for fourth segment (acceleration segment); standard instrument departures; departure routing; radio aids for departure; etc. Guidance should also be given on the necessary changes to the standard briefing when the co-pilot is flying the aircraft, such as the responsibility for the decision to abandon or continue take-off in the event of a serious failure, and on the actions to follow in the event of emergency. Instructions should be given on the need to repeat a full briefing for each take-off or on the use of the term "standard briefing" or on abbreviated briefings.

Normally it is specified that for the first take-off a full briefing must be given and that for subsequent take-offs with the same flight crew, the use of the phrase "standard briefing" is acceptable provided there are no operationally significant differences.

f) taxi, take-off and climb;

g) noise abattement;

h) cruise and descent;

The before landing brief should be discussed. Matters typically addressed are minimum safe altitudes, standard arrival routes (STARs), radio aids for approach, aerodrome operating minima, minimum sector altitude, actions to follow in the event of engine failure, missed approach and radio aids to be used, review of holding procedures and fuel requirements for diversion to selected alternates, etc.

i) approach, landing preparation and briefing (multi-crew flights);
j) VFR approach;
k) instrument approach;
l) visual approach and circling;
m) missed approach;
n) normal landing;
o) post-landing; and
p) operation on wet and contaminated runways;

4. specific flight deck procedures:

a) determining airworthiness of aircraft;
b) obtaining flight release;
c) initial cockpit preparation;
d) standard operating procedures;
e) use of electronic flight bags (EFBs) as approved;
f) cockpit discipline and sterile cockpit procedures;

g) standard call-outs;

Guidance on standard call-outs should include the particular speeds to be called during take-off, standard calls after takeoff, standard calls en route, standard calls changing altitude or flight level, standard instrument cross-check call after take-off and at top of descent. The standard call-outs during approach should include speed deviations, deviations from the glide slope/localizer and standard height calls. The points at which calls should be made during a precision approach should be identified, such as 1 500 ft/outer marker, 500 ft, 100 ft to

"decision" etc. Standard calls for the transition to landing phase should be established, such as runway in sight, airspeed, and rate of descent. Standard calls during the landing roll should be established, such as speeds and reverse power settings. Standard calls during the missed approach, the go-around call and configuration and power setting calls, instrument cross-checks and height checks should also be established.

h) communications;
i) flight safety;
j) push-back and towing procedures;
k) taxi guidelines and ramp signals;
l) take-off and climb out procedures;
m) choice of runway;
n) take-off in limited visibility;
o) take-off in adverse weather;
p) use and limitations of weather radar;
q) use of landing lights;
r) monitoring of flight instruments;
s) power settings for take-off;
t) malfunctions during take-off;
u) rejected take-off decision;
v) climb at normal speed, best angle and best rate;
w) en-route and holding procedures;
x) cruise control;
y) navigation log book;
z) descent, approach and landing procedures;
aa) reporting maintenance deficiencies;
bb) how to obtain maintenance and service en-route;

5. *abnormal and emergency procedures and duties.* The manual shall contain a listing of abnormal and emergency procedures assigned to crew members with appropriate checklists, crew coordination and assignment. A statement covering the necessary co-ordination procedures between flight and cabin crew should be included. The following abnormal and emergency procedures and duties shall be included:

a) general considerations and policy;
b) fire and smoke drills;
c) unpressurised and partially pressurized flight, as applicable;
d) exceeding structural limits such as overweight landing;
e) exceeding cosmic radiation limits, as applicable;
f) lightning strikes;
g) distress communications and alerting ATC to emergencies;
h) engine failure;
i) system failures;
j) guidance for diversion in case of serious technical failure;
k) windshear;
l) emergency landing/ditching;
m) aircraft evacuation;
n) fuel jettisoning (as applicable);
o) crew incapacitation;
p) emergency descent;
q) low fuel;
r) emergency signal for cabin crew members; and
s) communication procedures;

6. *Performance data.* Performance data shall be provided in a form in which it can be used without difficulty. Aircraft performance data are published in the flight manual. Normally, an expanded version of this is published in the aircraft operating manual for large aircraft operations. Based on these data, operators often produce their own performance manual which presents performance information for the operator's own route network. Where an operator has a very extensive route network, the information could be presented in separate volumes for different geographical areas. The part must contain information on the method of derivation of the data presented, which must be in agreement with the data presented in the flight manual. Guidance on how to use the data presented and a number of examples of use of data are normally included.

   Performance material which provides the necessary data to allow the flight crew to comply with the approved aircraft flight manual performance requirements shall be included to allow the determination of*:*

   i. take-off climb limits – mass, altitude, temperature;
   ii. take-off field length limits (dry, wet, contaminated), including the effect of inoperative systems under the MEL which affect the take-off distance (e.g. de-activated brake);
   iii. net flight path data for obstacle clearance calculation or, where applicable, take-off flight path;
   iv. the gradient losses for banked climb outs;
   v. en-route climb limits;
   vi. approach climb limits;
   vii. landing climb limits;
   viii. landing field length limits (dry, wet, contaminated) including the effects of an in-flight failure of a system or device, if it affects the landing distance;
   ix. brake energy limits; and
   x. speeds applicable for the various flight stages (also considering wet or contaminated runways);

   a) supplementary performance data (As applicable). Supplementary data covering:
flights in icing conditions;
   i. the maximum crosswind and tailwind components for each aeroplane type operated and the reductions to be applied to these values having regard to gust, low visibility, runway surface conditions, crew experience, use of autopilot, abnormal or emergency circumstances, or any other relevant operational factors;
   ii. any certified performance related to an allowable configuration, or configuration deviation, such as anti-skid inoperative, shall be included;

   b) other acceptable performance data. If performance data, as required for the appropriate performance class, is not available in the approved AFM/POH, then other data acceptable to the KCAA shall be included. Alternatively, the operations manual may contain cross-reference to the approved data contained in the AFM/POH where such data is not likely to be used often or in an emergency*;*

   c) additional performance data. Additional performance data where applicable including:
   i. all engine climb gradients;
   ii. drift-down data;
   iii. effect of de-icing/anti-icing fluids;
   iv. flight with landing gear down;

v. for aircraft with three or more engines, one engine inoperative ferry flights; and
vi. flights conducted under the provisions of a configuration deviation list (CDL).

7. flight planning data:

i. *flight planning*. Specific data and instructions necessary for pre-flight and in-flight planning including factors such as speed schedules and power settings. Where applicable, procedures for engine(s) out operations, EDTO and flights to isolated aerodromes shall be included for the flight plan and the operational flight plan; and

ii. *fuel calculations*. The method for calculating the fuel needed for the various stages of flight;

8. *mass and balance calculations.* Instructions and data for the calculation of mass and balance including:

i. calculation system (e.g. index system);
ii. information and instructions for completion of mass and balance documentation, including manual and computer generated types;
iii. limiting mass and centre of gravity of the various versions; and
iv. dry operating mass and corresponding centre of gravity or index;

9. *loading*:

i. *loading procedures*. Instructions for loading and securing the load in the aircraft;
ii. *loading dangerous goods*. The operations manual shall contain a method to notify the PIC when dangerous goods are loaded in the aircraft (if applicable);

10. survival and emergency equipment including oxygen:

List of survival equipment to be carried:

a) A list of the survival equipment to be carried for the routes to be flown and the procedures for checking the serviceability of this equipment prior to take-off. Instructions regarding the location, accessibility and use of survival and emergency equipment and its associated check list(s) shall also be included;
b) *oxygen usage*. The procedure for determining the amount of oxygen required and the quantity that it available. The flight profile, number of occupants and possible cabin decompression shall be considered. The information provided shall be in a form in which it can be used without difficulty;
c) *emergency equipment usage*. A description of the proper use of the following emergency equipment, if applicable:
   i. life jackets;
   ii. life rafts;
   iii. medical kits/first aid kits;
   iv. survival kits;
   v. emergency locator transmitter (ELT);
   vi. visual signaling devices;
   vii. evacuation slides;
   viii. emergency lighting;

11. emergency evacuation:

a) *emergency evacuation preparation*. Instructions for preparation for emergency evacuation including crew co-ordination and emergency station assignment;

b) *emergency evacuation procedures*. A description of the duties of all members of the crew for the rapid evacuation of an aircraft and the handling of the passengers in the event of a forced landing, ditching or other emergency;

12. aircraft systems.

A description of the aircraft systems, related controls and instructions for their use.

Note: Note: MEL/CDLs would be contained in a separate document for each aircraft type. CAA-AC-GEN005 as amended contains the detailed procedures for the review and approval of the MEL/CDL.

6.0 AREA, ROUTES AND AERODROMES (PART C).

The route guide part or section of the operations manual shall contain at least the following:

1. the route guide will ensure that the flight crew will have for each flight, information relating to communication facilities, navigation aids, aerodromes, instrument approaches, instrument arrivals and instrument departures as applicable for the operation, and such other information as the operator may deem necessary in the proper conduct of flight operations;
2. each route guide shall contain at least the following information:
   a) the minimum flight altitudes for each aircraft to be flown;
   b) For scheduled operators list of aerodromes including alternates;
   c) aerodrome operating minima for each of the aerodromes that are likely to be used as aerodromes of intended landing or as alternate aerodromes;
   d) the increase of aerodrome operating minima in case of degradation of approach or aerodrome facilities;
   e) Instructions for determining aerodrome and/or heliport operating minima for instrument approaches using HUD and EVS where applicable;
   f) unmanned aerodrome procedures, as applicable;
   g) aerodrome categorisation for flight crew competence qualification;
   h) special aerodrome limitations (performance limitations and operating procedures etc.) as applicable;
   i) The necessary information for compliance with all flight profiles required by regulations, including but not limited to, the determination of:

      i. take-off runway length requirements for dry, wet and contaminated conditions, including those dictated by system failures which affect the take-off distance;
      ii. take-off climb limitations;
      iii. en-route climb limitations;
      iv. approach climb limitations and landing climb limitations;
      v. landing runway length requirements for dry, wet and contaminated conditions, including systems failures which affect the landing distance; and
      vi. supplementary information, such as tire speed limitations.

      Note-. This information may be referenced to separate aircraft type performance documents.

7.0 TRAINING (PART D).

Reference shall be made to CAA-AC-OPS005 (Air Operator Training Programme Approval Process) as amended and Section 7.0 of this circular to develop operator Training Programme.

The training part or section of the operations manual shall contain at least the following:

a) Training policies and directives;
b) Policy to ensure that contracted training providers use the operators' flight safety document system during training - see the Civil Aviation (Air Operator Certification and Administration) Regulations, Sixth Schedule.
c) Training and checking staff (Flight crew, Cabin crew, Dispatch and other relevant ground personnel);
   - duties and responsibilities;
   - Policy on selection, appointment and supervision;
   - experience and qualifications required.

d) List of designated instructors and line check examiners;
e) List of approved training facilities (including Flight Simulation Training Devices)
f) Procedures for the conduct of examinations including manoeuvre tolerances;
g) Procedure to ensure that a certificate of completion or any other equivalent document is issued after successful completion of training
h) Procedures to require that flight crew members are properly trained and examined on abnormal and emergency conditions;
i) Procedures for remedial training and subsequent examination of flight crew unable to achieve or maintain required standards;
j) A process to obtain authority's approval for subsequent changes to the training manual; and
k) Comprehensive syllabi, including lesson plans for approved training as follows;

A) Flight crew member training and checking.

a) Initial Training

i. company indoctrination training on an initial basis;

ii. crew resource management training including human factors, crew coordination, risk analysis and threat and error management training ;

iii. Safety management

iv. emergency procedures training including—

- the location, inspection schedules, testing as applicable and use of all emergency equipment required to be carried, or otherwise carried on board the aeroplane;
- emergency evacuation, and where applicable ditching training;
- training in the functions for which each flight crew member is responsible and the coordination, including crew briefings, of these functions with the functions of other crew members, particularly in regard to abnormal or emergency procedures; and

v. upset prevention and recovery training.

vi. ACAS or ACAS II training, as applicable, including ACAS II cyclic training, where the aeroplane is required to be operated with an approved, serviceable ACAS (see CAA-AC-OPS051 as amended for details);

vii. Details of CFIT and GPWS training programme including use of specific aircraft type equipment and procedures;

viii. initial aircraft type training including (Ground and Flight Training):

- visual, instrument and special flight procedures as applicable,
- crew co-ordination including briefings in all types of emergency situations,
- instructions on use of SOPs and checklists,
- normal, abnormal, emergency and supplementary procedures;

b) recurrent training including flight and/or FSTD training and proficiency check;

c) upgrade training, as applicable;

d) cruise relief pilot (CRP) training, as applicable;

e) line induction training on initial aeroplane assignment or upgrade;

f) differences and familiarisation training where the operator intends to assign a flight crew member to variant types, in accordance with the applicable Parts and Sub-parts of the regulations;

g) pilot qualification to operate in either pilot seat, as applicable;

h) regaining recency/qualification training when required;

i) area, route and airport familiarisation training;

j) Special Approval/Authorization

1) RVSM training as applicable;
2) PBN training as applicable
3) EDTO training as applicable
4) Low Visibility Training as applicable
5) Electronic Flight Bag (EFB) as applicable
6) Single Engine Turbine powered Operations as applicable
7) MNPS as applicable

Note: see specific documents for detailed training requirements

k) supervised line flying;

l) dangerous goods (DG) training in accordance with applicable KCARs and technical instructions (TI);

m) Single Pilot operations in IFR and/or in IMC as applicable which shall include the following additional requirements:

- Autopilot management; and
- Use of simplified in-flight documentation.
- Passenger briefing with respect to emergency evacuations;
- the use of simplified in-flight documentation.

(The recurrent checks required by KCARs shall be performed in the single-pilot role on the type or class of aeroplane in an environment representative of the operation)

n) *any other training as prescribed in KCARS to ensure full competency on new or special equipment installed or other operations requiring specialised training*.

o) *Recurrent Training*

Annual recurrent training on all training components listed in applicable regulations shall be provided on an initial and an annual recurrent basis except where specified in the applicable KCARS.

p) Competence Checks

Each training element specified in the applicable regulations shall include a suitable assessment of competence.

q) Designated Check Pilot and Authorised Instructors

Training to be conducted on all training components (ground and Flight Training/Simulator) listed in the applicable KCARs

B) Training of Cabin Crew Members, as applicable

a) Company procedures indoctrination training as required under KCARs

b) Initial Aircraft Flight and Ground Type Training

Cabin crew training to ensure theoretical and practical training addressing the following;

i. Basic Instructions on the different functions, safety duties and responsibilities of cabin crew members
ii. Introduction to aircraft system and limitations
iii. Aircraft emergency evacuation, Life safety equipment and related information to passengers
iv. First Aid Training
v. Fire and Smoke
vi. Survival (Ditching, Jungle, etc)
vii. Cabin Crew Members assignment, Coordination and two way communication
viii. Competence check to determine ability to perform assigned duties and responsibilities

c) Familiarisation flights before acting as one of the minimum number of cabin crew prescribed in regulation;
d) Aircraft differences training as applicable;

e) Knowledge and skills related to transport of dangerous goods
f) Crew member Security procedures;
g) Cabin Crew Instructor training as applicable; and
h) Any other training

i) Recurrent training
   i. Recurrent training, covering the actions assigned to each cabin crew member in evacuation and other appropriate normal and emergency procedures and drills relevant to the aeroplane type or variant in accordance with the requirements as prescribed in the applicable KCARS.

   ii. The recurrent training and checking programme syllabus include including theoretical and practical instruction, as well as individual practice in accordance with training items from the initial aeroplane type training programme as prescribed in the applicable KCARS.

j) Requalification training

For cabin crew member who has not been absent from all flying duties, but has not acted as a cabin crew member on a particular aeroplane type in the previous six months,

k) refresher training for the specific aircraft type, or the required familiarisation flights as required in the applicable KCARS.

C) Training of Persons other than Flight and Cabin Crew Members

a) *Employees and contracted agent training*

Description of initial and recurrent which shall be given to at least:

1) flight operations officers and flight followers;

2) ground service personnel whose function involves working in, on or around the operator's aeroplanes; and

3) any other person required under the applicable KCARS.

b) Flight Operations Officer Initial Training

1) an operator-specific training course that addresses all the specific components of the approved method of control and supervision of flight operations referred to in the applicable regulations;

2) qualification flights in the flight crew compartment of an aeroplane over any area for which that person is authorised to exercise flight supervision as prescribed in the applicable regulations;

3) The training programme shall include if applicable the following;

   i. Civil Air Law and Regulation
   ii. Aviation Instruction
   iii. Use of Operations Manual

iv. Aircraft performance
v. Navigation
vi. Flight planning and monitoring
vii. Rules of the Air, communication and Air Traffic Management
viii. Meteorology
ix. Mass and Balance Control
x. Use of Minimum Equipment List and Configuration Deviation List
xi. Transport of dangerous Goods by Air
xii. Security Procedures
xiii. Emergency Response plan
xiv. Flight Observation
xv. Recurrent training programme and
xvi. Flight Operations Officers Instructors Training

4) Description of training competency at the end of training including:

a) demonstrating operator adequate knowledge of –

i) the contents of the operations manual;

ii) the radio equipment in the aeroplanes used; and

iii)the navigation equipment in the aeroplanes used;

b) demonstrated adequate knowledge of:

i) the seasonal meteorological conditions and the sources of meteorological information;

ii) the effects of meteorological conditions on radio reception in the aeroplanes used;

iii)the peculiarities and limitations of each navigation system which is used by the operation; and

iv)the aeroplane loading instructions;

c) demonstrated to the operator knowledge and skills related to human performance relevant to dispatch duties; and

d) demonstrated to the operator the ability to perform the applicable duties within the operations control system;

c) Currency Training

Recurrent training including new material that may have been added to the initial training or new information resulting from operational experience that may affect the efficiency, effectiveness or safety of the operator's OCS.

Requalification training for flight operations officers who exceed a period of 12 months without completing recurrent training, as specified in the applicable KCARS

Description of requirements for operator additional training during significant changes to operational procedures, systems and aeroplane types.

d) Aviation Security Training for Flight and Cabin Crew

i. Crew Member Aviation Security Training Programmes

Description of initial and annual recurrent security training programmes which ensure crew members act in the most appropriate manner to minimize the consequences of acts of unlawful interference.

As a minimum, this shall include:

1) Security of the flight Crew compartment
2) Aircraft Search procedure checklist
3) Determination of the seriousness of any occurrences
4) Crew communication and Coordination
5) Appropriate self-defence responses
6) Use, as authorised by the CAA, of non-lethal protective devices assigned to crew members
7) Understanding of behaviour of terrorists
8) Live situational training exercises regarding various threat condition and
9) Post flight concerns for the crew

e) Dangerous goods Training, will be as per applicable KCARs and Technical Instruction (TI). Requirements to include;

i. Approval requirement for dangerous goods
ii. General requirements of training and recurrent training
iii. Required training Syllabus on dangerous goods
iv. Training Instructors qualifications
v. Identification of training and testing materials

f) Documentation (records)

Description of documentation to be stored and storage periods.

Director Aviation Safety, Security &Regulation
Kenya Civil Aviation Authority

APPENDIX I

TRANSPORT OF DANGEROUS GOODS BY AIR MANUAL -APPROVED OPERATORS

As a minimum the following procedures and policies will apply for operators who are approved to carry dangerous goods

1) A description of dangerous goods policy statement to include;

   i. Statement to show that the operator is approved to carry dangerous goods
   ii. Restrictions requirements (e.g. no radioactive material)
   iii. A dangerous goods responsible person within the company

2) General exceptions including;
   i. Airworthiness and Operational Items, including spares
   ii. Conditions for carriage of portable electronic devices (PEDs) and spare batteries
   iii. Veterinary Aid
   iv. Medical Aid for a patient
   v. Excess baggage being sent as cargo
   vi. Items permitted in baggage, including:
      - Procedure for granting approval for certain items in baggage
      - Procedures for carriage of battery powered mobility aids

3) Provision of information to passengers
4) Marking and labelling of packages
5) Detailed assignment of responsibilities
6) Acceptance
7) Loading and procedures, including
   i. Inspections for damage or leakage
   ii. Prohibition on passengers when carrying "cargo aircraft only" dangerous goods
   iii. Prohibition on the carriage of dangerous goods on the flight deck or in a cabin occupied by passengers
   iv. Details of the location and numbering system of cargo compartments
   v. Segregation and separation
   vi. Securing and orientation
   vii. Protection against damage
   viii. Loading of dry ice
   ix. Loading of magnetised material
   x. Loading of radioactive material

8) NOTOC
   i. Example
   ii. The personnel (job title or function) with responsibilities for operational control of an aircraft be provided with the information provided on the NOTOC;
   iii. Availability on ground for the duration of flight
9) Retention of documents

10) Hidden dangerous goods, including:
    i. General descriptions
    ii. GHS Labels

11) Provision of information for use in responding to dangerous goods incidents in flight
12) Provision of information by pilot in command in the event of an in-flight emergency
13) Information to be provided to emergency services in the event of:
    i. Aircraft accident or serious incident
    ii. Aircraft incident

14) Reporting Procedures to include;
    i. Dangerous goods incidents
    ii. Dangerous goods accidents
    iii. Dangerous goods occurrences
    iv. Undeclared/mis-declared dangerous goods

15) Removal of contamination
16) Training
    i. Approval
    ii. General requirements of training and recurrent training
    iii. Syllabus
    iv. Instructor qualifications
    v. Identification of training and testing materials

Appendix 2

INSTRUCTIONS FOR AIR-REPORTING BY VOICE COMMUNICATIONS AND VOLCANIC ACTIVITY REPORT

Reporting instructions

Special air-report of volcanic activity form (Model VAR)

Examples

1. Reporting instructions

MODEL AIREP SPECIAL

	ITEM	PARAMETER	TRANSMIT IN TELEPHONY as appropriate
	—	Message-type designator: • special air-report	[AIREP] SPECIAL
Section 1	1	Aircraft identification	*(aircraft identification)*
	2	Position	POSITION *(latitude and longitude)* OVER *(significant point)* ABEAM *(significant point)* *(significant point) (bearing) (distance)*
	3	Time	*(time)*
	4	Level	FLIGHT LEVEL *(number)* or *(number)* METRES *or* FEET CLIMBING TO FLIGHT LEVEL *(number)* or *(number)* METRES *or* FEET DESCENDING TO FLIGHT LEVEL *(number)* or *(number)* METRES *or* FEET
	5	Next position and estimated time over	*(position) (time)*
	6	Ensuing significant point	*(position)* NEXT
Section 2	7	Estimated time of arrival	*(aerodrome) (time)*
	8	Endurance	ENDURANCE *(hours and minutes)*
Section 3	9	Phenomenon encountered or observed, prompting a special air-report: • Moderate turbulence • Severe turbulence • Moderate icing • Severe icing • Severe mountainwave • Thunderstorms without hail • Thunderstorms with hail • Heavy dust/sandstorm • Volcanic ash cloud • Pre-eruption volcanic activity or volcanic eruption	 TURBULENCE MODERATE TURBULENCE SEVERE ICING MODERATE ICING SEVERE MOUNTAINWAVE SEVERE THUNDERSTORMS THUNDERSTORMS WITH HAIL DUSTSTORM *or* SANDSTORM HEAVY VOLCANIC ASH CLOUD PRE-ERUPTION VOLCANIC ACTIVITY *or* VOLCANIC ERUPTION

1.0 Position reports and special air-reports

1.1 Section 1 is obligatory for position reports and special air-reports, Section 2 shall be added, in whole or in part, only when so requested by the operator or its designated representative, or when deemed necessary by the pilot-in-command; Section 3 shall be included in special air-reports.

1.2 Special air-reports shall be made whenever any of the phenomena listed under Item 15 are observed or encountered. Items 1 to 4 of Section 1 and the appropriate phenomenon specified in Section 3, Item 15, are required from all aircraft. The phenomena listed under "SST" shall be reported only by supersonic transport at transonic and supersonic cruising levels.

1.3 In the case of special air-reports containing information on volcanic activity, a post-flight report shall be made on the volcanic activity reporting form. All elements which are observed shall be recorded and indicated respectively in the appropriate places on the form Model VAR.

1.4 Special air-reports shall be made as soon as practicable after a phenomenon calling for a special air-report has been observed.

1.5 If a phenomenon warranting the making of a special air-report is observed at or near the time or place where a routine air-report is to be made, a special air-report shall be made instead.

2.0 Detailed reporting instructions

2.1 Items of an air-report shall be reported in the order in which they are listed in the model AIREP SPECIAL form.

— MESSAGE TYPE DESIGNATOR. Report "SPECIAL" for a special air-report.

Section 1

Item 1 — AIRCRAFT IDENTIFICATION. Report the aircraft radiotelephony call sign

Item 2 — POSITION. Report position in latitude (degrees as 2 numerics or degrees and minutes as 4 numerics, followed by "North" or "South") and longitude (degrees as 3 numerics or degrees and minutes as 5 numerics, followed by "East" or "West"), or as a significant point identified by a coded designator (2 to 5 characters), or as a significant point followed by magnetic bearing (3 numerics) and distance in nautical miles from the point (e.g. "4620North07805West", "4620North07800West", "4600North07800West", LN ("LIMA NOVEMBER"), "MAY", "HADDY" or "DUB 180 DEGREES 40 MILES"). Precede significant point by "ABEAM", if applicable.

Item 3 — TIME. Report time in hours and minutes UTC (4 numerics) unless reporting time in minutes past the hour (2 numerics) is prescribed on the basis of regional air navigation agreements. The time reported must be the actual time of the aircraft at the position and

not the time of origination or transmission of the report. Time shall always be reported in hours and minutes UTC when making a special air-report.

Item 4 — FLIGHT LEVEL OR ALTITUDE. Report flight level by 3 numerics (e.g. "FLIGHT LEVEL 310"), when on standard pressure altimeter setting. Report altitude in metres followed by "METRES" or in feet followed by "FEET", when on QNH. Report "CLIMBING" (followed by the level) when climbing, or "DESCENDING" (followed by the level) when descending, to a new level after passing the significant point.

Item 5 — NEXT POSITION AND ESTIMATED TIME OVER. Report the next reporting point and the estimated time over such reporting point, or report the estimated position that will be reached one hour later, according to the position reporting procedures in force. Use the data conventions specified in Item 2 for position. Report the estimated time over this position. Report time in hours and minutes UTC (4 numerics) unless reporting time in minutes past the hour (2 numerics) as prescribed on the basis of regional air navigation agreements.

Item 6 — ENSUING SIGNIFICANT POINT. Report the ensuing significant point following the "next position and estimated time over".

Section 2

Item 7 — ESTIMATED TIME OF ARRIVAL. Report the name of the aerodrome of the first intended landing, followed by the estimated time of arrival at this aerodrome in hours and minutes UTC (4 numerics).

Item 8 — ENDURANCE. Report "ENDURANCE" followed by fuel endurance in hours and minutes (4 numerics).

Section 3

Item 9 — PHENOMENON PROMPTING A SPECIAL AIR-REPORT. Report one of the following phenomena encountered or observed:

- moderate turbulence as "TURBULENCE MODERATE"
- severe turbulence as "TURBULENCE SEVERE"

The following specifications apply:

- Moderate — Conditions in which moderate changes in aircraft attitude and/or altitude may occur but the aircraft remains in positive control at all times. Usually, small variations in airspeed. Changes in accelerometer readings of 0.5 g to 1.0 g at the aircraft's centre of gravity. Difficulty in walking. Occupants feel strain against seat belts. Loose objects move about.

- Severe — Conditions in which abrupt changes in aircraft attitude and/or altitude occur; aircraft may be out of control for short periods. Usually, large variations in airspeed. Changes in accelerometer readings greater than 1.0 g at the aircraft's centre of gravity. Occupants are forced violently against seat belts. Loose objects are tossed about.

- moderate icing as “ICING MODERATE”
- severe icing as “ICING SEVERE”

The following specifications apply:

- Moderate — Conditions in which change of heading and/or altitude may be considered desirable.
- Severe — Conditions in which immediate change of heading and/or altitude is considered essential.

- Severe mountain wave as “MOUNTAINWAVE SEVERE”

The following specification applies:

Severe — Conditions in which the accompanying downdraft is 3.0 m/s (600 ft/min) or more and/or severe turbulence is encountered.

- thunderstorm without hail as

“THUNDERSTORM” thunderstorm with hail as “THUNDERSTORM WITH HAIL”
The following specification applies:

Only report those thunderstorms which are:

- obscured in haze; or
- embedded in cloud; or
- widespread; or
- forming a squall-line.

- heavy dust storm or sandstorm as “DUSTSTORM *or* SANDSTORM HEAVY”
- volcanic ash cloud as “VOLCANIC ASH CLOUD”
- pre-eruption volcanic activity or a volcanic eruption as “PRE-ERUPTION VOLCANIC ACTIVITY *or* VOLCANIC ERUPTION”

- The following specification applies:

Pre-eruption volcanic activity in this context means unusual and/or increasing volcanic activity which could presage a volcanic eruption.

Note.— In case of volcanic ash cloud, pre-eruption volcanic activity or volcanic eruption, a post-flight report shall also be made on the special air-report of volcanic activity form.

2.2 Information recorded on the volcanic activity reporting form is not for transmission by RTF but, on arrival at an aerodrome, is to be delivered without delay by the operator or a flight crew member to the aerodrome meteorological office. If such an office is not easily accessible, the completed form shall be delivered in accordance with local arrangements made between the meteorological and ATS authorities and the operator.

3. Forwarding of meteorological information received by voice communications

When receiving special air-reports, air traffic services units shall forward these air-reports without delay to the associated meteorological watch office (MWO). In order to ensure assimilation of air-reports in ground-based automated systems, the elements of such reports shall be transmitted using the data conventions specified below and in the order prescribed.

— ADDRESSEE. Record station called and, when necessary, relay required.

— MESSAGE TYPE DESIGNATOR. Record "ARS" for a special air-report.

— AIRCRAFT IDENTIFICATION. Record the aircraft identification using the data convention specified for Item 7 of the flight plan, without a space between the operator's designator and the aircraft registration or flight identification, if used (e.g. Kenya Airways 103 as KQ103).

Section 1

Item 0 — POSITION. Record position in latitude (degrees as 2 numerics or degrees and minutes as 4 numerics, followed without a space by N or S) and longitude (degrees as 3 numerics or degrees and minutes as 5 numerics, followed without a space by E or W), or as a significant point identified by a coded designator (2 to 5 characters), or as a significant point followed by magnetic bearing (3 numerics) and distance in nautical miles (3 numerics) from the point (e.g. 4620N07805W, 4620N078W, 46N078W, LN, MAY, HADDY or DUB180040). Precede significant point by "ABM" (abeam), if applicable.

Item 1 — TIME. Record time in hours and minutes UTC (4 numerics).

Item 2 — FLIGHT LEVEL OR ALTITUDE. Record F followed by 3 numerics (e.g. F310), when a flight level is reported. Record altitude in metres followed by M or in feet followed by FT, when an altitude is reported. Record "ASC" (level) when climbing, or "DES" (level) when descending.

Section 3

Item 9 — PHENOMENON PROMPTING A SPECIAL AIR-REPORT. Record the phenomenon reported as follows:

- moderate turbulence as "TURB MOD"
- severe turbulence as "TURB SEV"
- moderate icing as "ICE MOD"
- severe icing as "ICE SEV"
- severe mountainwave as "MTW SEV"
- thunderstorm without hail as "TS"
- thunderstorm with hail as "TSGR"
- heavy duststorm or sandstorm as "HVY SS"

- volcanic ash cloud as “VA CLD”
- pre-eruption volcanic activity or a volcanic eruption as “VA”
- hail as “GR”
- cumulonimbus clouds as “CB”.

— TIME TRANSMITTED. Record only when Section 3 is transmitted.

Special air-report of volcanic activity form (Model VAR)

MODEL VAR: to be used for post-flight reporting

VOLCANIC ACTIVITY REPORT

Air-reports are critically important in assessing the hazards which volcanic ash cloud presents to aircraft operations.

OPERATOR:					A/C IDENTIFICATION: (as indicated on flight plan)			
PILOT-IN-COMMAND:								
DEP FROM:	DATE:		TIME; UTC:		ARR AT:		DATE:	TIME; UTC:
ADDRESSEE					AIREP SPECIAL			
Items 1–8 are to be reported immediately to the ATS unit that you are in contact with.								
1)	AIRCRAFT IDENTIFICATION				2)	POSITION		
3)	TIME				4)	FLIGHT LEVEL OR ALTITUDE		
5)	VOLCANIC ACTIVITY OBSERVED AT							
	(position or bearing, estimated level of ash cloud and distance from aircraft)							
6)	AIR TEMPERATURE				7)	SPOT WIND		
8)	SUPPLEMENTARY INFORMATION				Other			
	SO_2 detected	Yes ⋯	No ⋯					
	Ash encountered	Yes ⋯	No ⋯		(Brief description of activity especially vertical and lateral extent of ash cloud			
					and, where possible, horizontal movement, rate of growth, etc.)			
After landing complete items 9–16 then fax form to: (Fax number to be provided by the meteorological authority based on local arrangements between the meteorological authority and the operator concerned.)								

9)	DENSITY OF ASH CLOUD	⋯(a) Wispy	⋯(b) Moderate dense	⋯(c) Very dense
10)	COLOUR OF ASH CLOUD	⋯(a) White	⋯(b) Light grey	⋯(c) Dark grey
	⋯	(d) Black	⋯ (e) Other _____	
11)	ERUPTION	⋯(a) Continuous	⋯(b) Intermittent	⋯(c) Not visible
12)	POSITION OF ACTIVITY	⋯(a) Summit	⋯(b) Side	⋯(c) Single
		⋯(d) Multiple	⋯(e) Not observed	

13)	OTHER OBSERVED	⋯(a) Lightning	⋯(b) Glow	⋯(c) Large rocks
	FEATURES OF ERUPTION	⋯(d) Ash fallout	⋯(e) Mushroom cloud	⋯(f) All
14)	EFFECT ON AIRCRAFT	⋯(a) Communication	⋯(b) Navigation systems	⋯(c) Engines
		⋯(d) Pitot static	⋯(e) Windscreen	⋯(f) Windows
15)	OTHER EFFECTS	⋯(a) Turbulence	⋯(b) St. Elmo's Fire	⋯(c) Other fumes
16)	OTHER INFORMATION			
	(Any information considered useful.)			

3. Examples

AS SPOKEN IN RADIOTELEPHONY	AS RECORDED BY THE AIR TRAFFIC SERVICES UNIT AND FORWARDED TO THE METEOROLOGICAL OFFICE CONCERNED
I.-[1] AIREP SPECIAL CLIPPER WUN ZERO WUN POSITION FIFE ZERO FOWer FIFE NORTH ZERO TOO ZERO WUN FIFE WEST WUN FIFE TREE SIX FLIGHT LEVEL TREE WUN ZERO CLIMBING TO FLIGHT LEVEL TREE FIFE ZERO THUNDERSTORMS WITH HAIL	I.- ARS PAA101 5045N02015W 1536 F310 ASC F350 TSGR
II.-[2] SPECIAL NIUGINI TOO SEVen TREE OVER MADANG ZERO AIT FOWer SIX WUN NINer TOUSAND FEET TURBULENCE SEVERE	II.- ARS ANG273 MD 0846 19000FT TURB SEV

[1] A special air-report which is required because of the occurrence of widespread thunderstorms with hail.

[2] A special air-report which is required because of severe turbulence. The aircraft is on QNH altimeter setting.