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## **GUIDELINES FOR THE PREPARATION AND MAINTENANCE OF AN AERODROME MANUAL.**

### **1. PURPOSE**

- 1.1 This Advisory Circular provides guidance to Aerodrome Operators in the preparation and maintenance of the Aerodrome Manual, which is a requirement under Part VI of the Civil Aviation (Aerodromes) Regulations with respect to licensed or certificated aerodromes respectively.
- 1.2 This AC supersedes CAA-AC-AGA001C issued in January 2022.
- 1.3 This AC is effective on 1<sup>st</sup> June 2024

### **2. REFERENCES**

- 2.1. Civil Aviation (Certification, Licensing and Registration of Aerodromes) Regulations, 2018;
- 2.2. Civil Aviation (Aerodromes) Regulations 2013;
- 2.3. Manual of Aerodrome Standards;
- 2.4. ICAO Doc 9774 Manual on Certification of Aerodromes;
- 2.5. ICAO Doc 9981 (PANS-Aerodromes).

### **3. INTRODUCTION**

The preparation of the Aerodrome Manual shall be in the form as specified under Part VI of the Civil Aviation (Certification, Licensing and Registration of Aerodromes) Regulations. The Manual should be comprehensive and shall contain detailed operations policies, procedures of the Aerodrome Operator, stipulations of the mandatory requirement contained in Civil Aviation (Certification, Licensing and Registration of Aerodromes) Regulations and other instructions issued by KCAA from time to time. Notwithstanding the guidelines of this circular, the Aerodrome Operator may include in the Aerodrome Manual additional procedures to be adopted by them to enhance surveillance and safety of operations.

### **4. DEVELOPMENT OF THE AERODROME MANUAL**

- a) The Manual should address the following questions –

- i). WHO is going to perform the tasks?
  - ii). WHAT do the tasks consist of?
  - iii). HOW are the tasks going to be performed? and
  - iv). WHEN should the tasks occur?
- b) The Operator shall specify the title of the person primarily responsible to perform a given task. Since a substitute might not normally perform (or directly oversee) a required task, the Manual shall provide specific instructions about critical aspects of the job, including whom to contact, where need arises.
- c) All personnel assigned to tasks must be fully familiar with regulatory requirements. The Manual must provide guidance appropriate to the training and experience of the personnel.
- d) The timing of tasks will often be triggered by circumstances, such as a certain depth of a hole, crack in the pavement or presence of birds on the aerodrome. The Manual must clearly define the circumstances that trigger action and shall address the frequency of tasks that occur on a regular basis.
- e) If there are any operational changes within the aerodrome, there will be need to incorporate certain procedures that might ease the operations within the airport and to ensure every personnel that operates within the aerodrome is aware of the changes.

## **5. GUIDANCE AND PROCEDURES**

Aerodrome Operators shall prepare and keep current the Aerodrome Manual in order to provide aerodrome personnel information, instructions and operating procedures to enable in performance of their duties and obligations.

### **5.1 SCOPE OF THE AERODROME MANUAL**

- 5.1.1 The information presented in the Aerodrome Manual shall demonstrate that the aerodrome conforms to the laid down standards and practices and that there are no apparent shortcomings, which would adversely affect the safety of aircraft operations.
- 5.1.2 The manual is a reference document and provides a checklist of aerodrome certification standards to be maintained and the level of airside services at the aerodrome.
- 5.1.3 The aerodrome manual shall contain all the relevant information to describe the management and operational structure. It is the means by which all aerodrome operating staff are fully informed as to their duties and responsibilities with regard to safety, including information and instructions related to those matters specified in the applicable regulation. It describes the aerodrome services and facilities, all operating procedures, and any restrictions in place.

- 5.1.4 It shall contain all the pertinent information concerning the aerodrome site, facilities, services, and equipment, operating procedures, organization and management including the safety management system.
- 5.1.5 Information provided in the Aerodrome Manual will enable the KCAA to assess the suitability of the aerodrome for the aircraft operations proposed and to judge an applicant's fitness to hold an Aerodrome Certificate.

## 5.2 PREPARATION OF AERODROME MANUAL

- a) Every owner or operator responsible for operation of a civil aerodrome shall develop and maintain the Aerodrome Manual, in respect of such aerodrome and submit 2 copies of it along with the application for issue of Aerodrome Certificate/ Licence.
- b) An Aerodrome Manual shall:
  - i). Be typewritten or printed;
  - ii). Be signed by the Airport Accountable Manager / operator;
  - iii). Be in a format that is easy to revise;
  - iv). Have the statement of approval of the Authority

## 5.3 PARTICULARS TO BE INCLUDED IN AN AERODROME MANUAL

### 5.3.1 Introduction

The Aerodrome Manual shall include at least the following elements:

- a) Front Title page containing Aerodrome name, address and month & year of issue;
- b) Preface shall include the objective, policy and commitment of Aerodrome Operator and shall be signed by the Airport Accountable Manager;
- c) Record of Amendments;
- d) Table of Contents;
- e) Distribution List of the Manual;
- f) Procedures for amendment to the Manual;
- g) Glossary of Terms.

### 5.3.2 Part 1: General

General information, including the following -

- a) purpose and scope of the aerodrome manual;
- b) the legal requirement for an aerodrome certificate and an aerodrome manual as prescribed in the Regulations;
- c) conditions for use of the aerodrome - a statement to indicate that the aerodrome shall at all times, when it is available for the take-off and landing of aircraft, be so available to all

- persons on equal terms and conditions;
- d) the available aeronautical information system and procedures for its promulgation;
- e) the system for recording aircraft movements; and
- f) Obligations of the Aerodrome Operator.

### **5.3.3 Part 2: Particulars of the Aerodrome Site**

General information, including the following -

- a) a plan of the aerodrome showing the main aerodrome facilities for the operation of the aerodrome including, particularly, the location of each wind direction indicator;
- b) a plan of the aerodrome showing the aerodrome boundaries;
- c) a plan showing the distance of the aerodrome from the nearest city, town or other populous area, and the location of any aerodrome facilities and equipment outside the boundaries of the aerodrome; and
- d) Particulars of the land title of the aerodrome site. If the boundaries of the aerodrome are not defined in the land title documents particulars of the land title to, or interest in, the property on which the aerodrome is located and a plan showing the boundaries and position of the aerodrome.

### **5.3.4 Part 3: Particulars of the Aerodrome Required to Be Reported to the Aeronautical Information Service**

#### **a) General Information**

- i). the name of the aerodrome;
- ii). the location of the aerodrome;
- iii). the geographical coordinates of the aerodrome reference point determined in terms of the World Geodetic System - 1984 reference datum;
- iv). the aerodrome elevation and geoid undulation;
- v). the elevation of each threshold and geoid undulation, the elevation of each runway end and any significant high and low points along the runway, and the highest elevation of the touchdown zone of a precision approach runway;
- vi). the aerodrome reference temperature;
- vii). details of the aerodrome beacon; and
- viii). Name of Operator and address, telephone and facsimile numbers at which the operator may be contacted at all times.
- ix). List of exemptions granted in respect of aerodrome facilities detailing exemption number,

detail of facility /procedure & the period of validity

*Note: - The exemption number for a facility shall be indicated against the facility*

**b) Aerodrome dimensions and related information**

General information, including the following -

- i). runway - true bearing, designation number, length, width, displaced threshold location, slope, surface type, type of runway and, for a precision approach runway, the existence of an obstacle free zone;
- ii). length, width and surface type of strip, runway end safety areas, stopways;
- iii). length, width and surface type of taxiways;
- iv). apron surface type and aircraft stands;
- v). clearway length and ground profile;
- vi). visual aids for approach procedures, viz. Approach lighting type and visual approach slope indicator system (PAPI/APAPI and T-VASIS/AT-VASIS); marking and lighting of runways, taxiways, and aprons; other visual guidance and control aids on taxiways (including runway holding positions, intermediate holding positions and stop bars) and aprons, location and type of visual docking guidance system; availability of standby power for lighting;
- vii). the location and radio frequency of VOR aerodrome checkpoints;
- viii). the location and designation of standard taxi routes;
- ix). the geographical coordinates of each threshold;
- x). the geographical coordinates of appropriate taxiway centre line points;
- xi). the geographical coordinates of each aircraft stand;
- xii). the geographical coordinates and the top elevation of significant obstacles in the approach and take-off area, in the circling area and in the vicinity of the aerodrome. (This information may best be shown in the form of charts such as those required for the preparation of aeronautical information publications, as specified in Annexes 4 and 15 to the Convention);
- xiii). pavement surface type and bearing strength using the Aircraft Classification Number -

Pavement Classification Number (PCN) method;

- xiv). one or more pre-flight altimeter check locations established on an apron and their elevation;
- xv). declared distances: take-off run available, take-off distances available, accelerate-stop distance available, landing distance available;
- xvi). disabled aircraft removal plan: the telephone/telex/ facsimile number and e-mail address of the aerodrome coordinator for the removal of a disabled aircraft on or adjacent to the movement area, information on the capability to remove a disabled aircraft, expressed in terms of the largest type of aircraft which the aerodrome is equipped to remove; and
- xvii). rescue and firefighting; the level of protection provided, expressed in terms of the category of the rescue and fire-fighting services, which should be in accordance with the longest aircraft normally using the aerodrome and the type and amounts of extinguishing agents normally available at the aerodrome.

*Note.—The accuracy of the information in Part 3 is critical to aircraft safety. Information requiring engineering survey and assessment should be gathered or verified by qualified technical persons.*

### **5.3.5 Part 4: Particulars of the Aerodrome Operating Procedures and Safety Measures**

#### **(a) Aerodrome reporting**

Particulars of the procedures for reporting any changes to the aerodrome information set out in the Aeronautical Information Publication (AIP) and Aeronautical Information Circular (AIC) and procedures for requesting the issue of Notices to Airmen (NOTAMs), including the following -

- i). arrangements for reporting any changes to the Authority and recording the reporting of changes during and outside the normal hours of aerodrome operations;
- ii). the names and roles of persons responsible for notifying the changes, and their telephone numbers during and outside the normal hours of aerodrome operations;
- iii). the address and telephone and facsimile numbers, as provided by the Authority, of the place where changes are to be reported to the Authority; and
- iv). Records.

#### **(b) Access to the aerodrome movement area**

Particulars of the procedures that have been developed and are to be followed in coordination with  
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the agency responsible for preventing unlawful interference in civil aviation at the aerodrome and for preventing unauthorized entry of persons, vehicles, equipment, animals or other things into the movement area, including the following -

- i). the role of the operator, the aircraft operator, aerodrome fixed-base operator, the aerodrome security entity, the Authority and other government departments, as applicable; and
- ii). the personnel responsible for controlling access to the aerodrome, and the telephone numbers for contacting them during and after working hours.
- iii). inspection checklist;
- iv). arrangements for reporting the results of inspections and for taking prompt follow-up actions to ensure correction of unsafe conditions; and
- v). the names and roles of persons responsible for carrying out inspections, and their telephone numbers during and after working hours.

**(c) Aerodrome emergency plan;**

Particulars of the aerodrome emergency plan, including the following -

- i). plans for dealing with emergencies occurring at the aerodrome or in its vicinity, including the malfunction of aircraft in flight; structural fires; sabotage, including bomb threats (aircraft or structure); unlawful seizure of aircraft; and incidents on the airport covering “during the emergency” and “after the emergency” considerations;
- ii). details of test and aerodrome facilities and equipment to be used in emergencies, including the frequency of those tests;
- iii). details of exercises to test emergency plans, including the frequency of those exercises;
- iv). a list of organizations, agencies and persons of authority, both on-and/off-airport, for site roles; their telephone and facsimile numbers, e-mail addresses and the radio frequencies of their offices;
- v). the establishment of an aerodrome emergency committee to organize training and other preparations for dealing with emergencies; and
- vi). the appointment of an on-scene commander for the overall emergency operation.

**(d) Rescue and fire-fighting;**

Particulars of the facilities, equipment, personnel and procedures for meeting the rescue and fire-

fighting requirements, including the names and roles of the persons responsible for dealing with the rescue and fire-fighting services at the aerodrome.

**(e) Inspection of the aerodrome movement area and obstacle limitation surface by the Operator**

Particulars of the procedures for the inspection of the aerodrome movement area and obstacle limitation surfaces, including the following -

- i). arrangements for carrying out inspections, including runway friction and water-depth measurements on runways and taxiways, during and outside the normal hours of aerodrome operations;
- ii). arrangements and means of communicating with air traffic control during an inspection;
- iii). arrangements for keeping an inspection logbook, and the location of the logbook;
- iv). details of inspection intervals and times;
- v). inspection checklist;
- vi). arrangements for reporting the results of inspections and for taking prompt follow-up actions to ensure correction of unsafe conditions; and
- vii). the names and roles of persons responsible for carrying out inspections, and their telephone numbers during and after working hours.

**(f) Visual aids and aerodrome electrical systems;**

Particulars of the procedures for the inspection and maintenance of aeronautical lights (including obstacle lighting), signs, markers and aerodrome electrical systems, including the following -

- i). arrangements for carrying out inspections during and outside the normal hours of aerodrome operation, and the checklist for such inspections;
- ii). arrangements for recording the result of inspections and for taking follow-up action to correct deficiencies;
- iii). arrangements for carrying out routine maintenance and emergency maintenance;
- iv). arrangements for secondary power supplies and, if applicable, the particulars of any other method of dealing with partial or total system failure; and
- v). personnel responsible for the inspection and maintenance of the lighting, and the telephone numbers for contacting those persons during and after working hours.

**(g) Maintenance of the movement area;**

Particulars of the facilities and procedures for the maintenance of the movement area, including arrangements for -



- i). maintaining the paved areas;
- ii). maintaining the unpaved runways and taxiways;
- iii). maintaining the runway and taxiway strips; and
- iv). the maintenance of aerodrome drainage.

**(h) Aerodrome works – safety;**

Particulars of the procedures for planning and carrying out construction and maintenance work safely (including work that may have to be carried out at short notice) on or in the vicinity of the movement area which may extend above an obstacle limitation surface, including the following -

- i). arrangements for communicating with air traffic control during the progress of such work;
- ii). the names, telephone numbers and roles of the persons and organizations responsible for planning and carrying out the work, and arrangements for contacting those persons and organizations at all times;
- iii). the names and telephone numbers, during and after working hours, of the aerodrome fixed-base operators, ground handling agents and aircraft operators who are to be notified of the work; and
- iv). a distribution list for work plans, if required.

**(i) Apron management;**

Particulars of the apron management procedures, including the following -

- i). arrangements between air traffic control and the apron management unit;
- ii). arrangements for allocating aircraft parking positions;
- iii). arrangements for initiating engine start and ensuring clearance of aircraft push-back;
- iv). marshalling service; and
- v). Leader (van) service.

**(j) Apron safety management;**

Procedures to ensure apron safety, including -

- i). protection from jet blasts;
- ii). enforcement of safety precautions during aircraft refuelling operations;

- iii). apron sweeping;
- iv). apron cleaning;
- v). arrangements for reporting incidents and accidents on an apron; and
- vi). Arrangements for auditing the safety compliance of all personnel working on the apron.

**(k) Airside vehicle control;**

Particulars of the procedure for the control of surface vehicles operating on or in the vicinity of the movement area, including the following -

- (i) details of the applicable traffic rules (including speed limits and the means of enforcing the rules);
- (ii) The method of issuing driving permits for operating vehicles in the movement area.

**(l) Wildlife Hazard Management;**

Particulars of the procedures to deal with the danger posed to aircraft operations by the presence of birds or mammals in the aerodrome flight pattern or movement area, including the following-

- (i) arrangements for assessing wildlife hazards;
- (ii) arrangements for implementing wildlife control programmes; and
- (iii) the names and roles of the persons responsible for dealing with wildlife hazards, and their telephone numbers during and after working hours.

**(m) Obstacle control**

Particulars setting out the procedures for -

- (i) monitoring the obstacle limitation surfaces and type A chart for obstacles in the take-off surface;
- (ii) controlling obstacles within the authority of the operator;
- (iii) monitoring the height of buildings or structures within the boundaries of the obstacle limitation surfaces;
- (iv) controlling new developments in the vicinity of aerodromes; and
- (v) Notifying the Authority of the nature and location of obstacles and subsequent addition or removal of obstacles for action as necessary, including amendment of the Aeronautical Information Services publications.

**(n) Removal of disabled aircraft**

Particulars of the procedures for removing a disabled aircraft on or adjacent to the movement area, including the following -

- i). the roles of the operator and the holder of the aircraft operator certificate;
- ii). arrangements for notifying the aircraft operator;
- iii). arrangements for liaising with the air traffic control unit;
- iv). arrangements for obtaining equipment and personnel to remove the disabled aircraft; and
- v). role and telephone numbers of personnel responsible for arranging for the action as necessary, including amendment of the AIS publications.

**(o) Handling of hazardous materials**

Particulars of the procedures for the safe handling and storage of hazardous materials on the aerodrome, including the following;

- i). arrangements for special areas of the aerodrome to be set up for the storage of inflammable liquids (including aviation fuels) and any other hazardous materials; and
- ii). the method to be followed for the delivery storage, dispensing and handling of hazardous materials.

For the purposes of this paragraph “*hazardous materials*” include inflammable liquids and solids, corrosive liquids, compressed gases and magnetized or radioactive materials.

**(p) Low visibility operations;**

Particulars of procedures to be introduced for low-visibility operations, including the measurement and reporting of runway visual range as and when required, and the personnel, their telephone numbers, responsible for measuring the Runway Visual Range.

**(q) Protection of sites for radar and navigational aids;**

Particulars of the procedures for the protection of sites for radar and radio navigational aids located on the aerodrome to ensure that their performance will not be degraded, including the following-

- i). arrangements for the control of activities in the vicinity of radar and navigational aids installations;

- ii). arrangements for ground maintenance in the vicinity of these installations; and
- iii). arrangements for the supply and installation of signs warning of hazardous microwave radiation.

Note 1. In writing the procedures for each category, clear and precise information should be included on -

- 1) when, or in what circumstances, an operating procedure is to be activated;
- 2) how an operating procedure is to be activated;
- 3) actions to be taken;
- 4) the equipment necessary for carrying out the actions, and access to such equipment.

*Note 2. If any of the procedures specified above are not relevant or applicable, reasons should be given.*

### **5.3.6 Part 5: Aerodrome Administration and Safety Management System**

#### **(a) Aerodrome administration;**

Particulars of the aerodrome administration, including the following –

- i). an aerodrome organizational chart showing the names and positions of key personnel, including their responsibilities;
- ii). the name, position and telephone number of the person who has overall responsibility for aerodrome safety; and
- iii). airport committees.

#### **(b) Safety Management System**

Particulars of the safety management system established for ensuring compliance with all safety requirements and achieving continuous improvement in safety performance, the essential features being -

- i). the safety policy, in so far as applicable, on the safety management process and its relation to the operational and maintenance process;
- ii). the structure or organization of the Safety Management System, including staffing and the assignment of individual and group responsibilities for safety issues;
- iii). Safety Management System strategy and planning, such as setting safety performance target, allocating priorities for implementing safety initiative and providing a framework for controlling the risks to as low a level as is reasonably practicable keeping always in view the requirements of the prescribed standards and recommended practice, and regulations;

- iv). Safety Management System implementation, including facilities, methods and procedures for the effective communication of safety messages and the enforcement of safety requirements;
- v). a system for the implementation of, and action on, critical safety areas which require a higher level of safety management integrity (safety measures programme);
- vi). measures for safety promotion and accident prevention and a system for risk control involving analysis and handling of accidents, incidents, complaints, defects, faults, discrepancies and failures, and continuing safety monitoring.
- vii). the internal safety audit and review system detailing the systems and programmes for quality control of safety;
- viii). the system for documenting all safety-related airport facilities as well as airport operational and maintenance records, including information on the design and construction of aircraft payments and aerodrome lighting. The system should enable easy retrieval of records including charts;
- ix). personnel training and competency, including the review and evaluation of the adequacy of training provided to personnel on safety-related duties and of the certification system for testing their competency; and
- x). incorporation and enforcement of safety-related clauses in the contract for construction work at the aerodrome.

*Note. - If required the SMS may be prepared and bound in a separate folder. However, reference for same may be made available wherever needed.*

## **6. MAINTENANCE OF AERODROME MANUAL**

The aerodrome owner/operator shall:

- a) Keep the Aerodrome Manual current at all times;
- b) Maintain at least one complete and updated current copy of its approved Aerodrome Manual at the aerodrome;
- c) Provide a copy of the approved Aerodrome Manual to all the concerned units
- d) The numbering of the pages and paragraphs should be systematic and in order to facilitate reference.
- e) The standard of printing, binding and duplication should be such that the aerodrome manual remains intact and legible during normal use and amendments can be inserted easily.
- f) For the purpose of uniformity and to facilitate examination and review of the structure and the contents of an Aerodrome Manual. The guidelines stated in Para 5 above shall be strictly adhered to.

- g) The Aerodrome Operator shall be responsible for accuracy and updating of the information contained in the Aerodrome Manual
- h) For small aerodromes the Aerodrome Manual can be simple and brief as long as it covers procedures and responsibilities essential for satisfactory day-to - day operations. However, the manual should include all the contents paragraphs. While preparing the Aerodrome Manual, in case of non-applicability of a contents paragraph, “intentionally left blank” shall be type written to clearly indicate such condition.
- i) At large aerodromes if the aerodrome owner/operator finds that size and complexity of operations and related procedure is huge and it cannot be easily included in a single document, in such circumstances it will be acceptable if the aerodrome owner/operator identify and give reference within the Aerodrome Manual of the procedures which are not included within it and have been kept separately.
- j) The information contained in an Aerodrome Manual shall demonstrate that the aerodrome conforms to the standards and practices necessary for ensuring safety of aircraft operations.
- k) The Aerodrome Manual information will enable the KCAA in assessing the suitability of the aerodrome for permitting a particular level of aircraft operation there. This information shall also be the basic reference for safety inspections. During the inspection by the officer of KCAA a copy of the Aerodrome Manual shall be made available to the inspection/audit team.

## **7. NOTIFICATION OF AMENDMENT AND CHANGES TO THE AERODROME MANUAL**

The owner /operator of the licensed aerodrome shall:

- a) Alter or amend the aerodrome manual, wherever necessary, in order to maintain the accuracy of the information in the manual.
- b) Ensure that each copy of the manual is numbered and a list of holders is maintained by person responsible for the issue of amendments. An amendment page is made available for recording the amendments numbers, date of incorporation, signature of persons amending and affecting the changes, in the front of each volume.
- c) Always make changes or addition by additional or replacement page on which the amended material is clearly identified.
- d) Shall supply copies of any amendments/changes made in the Aerodrome Manual as per the distribution list within a period of 15 days.

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**Civil Aviation Authority**