



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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MINISTRY OF TRANSPORT AND CIVIL AVIATION
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MANUAL ON CERTIFICATION OF AERODROMES

INTRODUCTION

The Civil Aviation Regulations Part 13 stipulates that an aircraft shall not take off or land at any place in the Republic unless

- (i) the place has been certified as an aerodrome; or
- (ii) is authorized by the Director; and
- (iii) the aircraft is of a type authorized under that Regulation to land and take off from the place; and
- (iv) the aircraft is engaged in operations of a class specified by the Director in the instrument of authorization for that place.

This Air Safety Circular PARTS 1,2,3,4 and 5 provides the particulars to be included in an aerodrome manual referred to in the CAR Part 13.14.

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.

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;
- a) 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
- b) Particulars of the title of the aerodrome site. If the boundaries of the aerodrome are not defined in the title documents particulars of the title to, or interest in, the property in which the aerodrome is located and a plan showing the boundaries of the position of the aerodrome.

PART 3**PARTICULARS OF THE AERODROME REQUIRED TO BE REPORTED TO THE AERONAUTICAL INFORMATION SERVICE (AIS)****3.1 GENERAL INFORMATION**

- a) The name of the aerodrome
- b) The location of the aerodrome
- c) The geographical coordinates of the aerodrome reference point determined in terms of the World Geodetic System – 1984 (WGS-84) reference datum;
- d) The aerodrome elevation and geoid undulation;
- e) The elevation of each threshold and geoid undulation, the elevation of the 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;
- f) The aerodrome reference temperature
- g) Details of the aerodrome beacon; and
- h) The name of the aerodrome operator and the address, telephone, fax and email addresses at which the aerodrome operator may be contacted at all times.

3.2 AERODROME DIMENSIONS AND RELATED INFORMATION

General information, including the following:

- a) 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 precision free zone;

- b) Length, width and surface type of strip, runway end safety areas, stopways;
- c) Length, width and surface type of taxiways;
- d) Apron surface type and aircraft stands;
- e) Clearway length and ground profile;
- f) Visual aid 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 or standby power for lighting;
- g) The location and radio frequency of VOR aerodrome checkpoints;
- h) The location and designation of standard taxi routes;
- i) The geographical coordinates of each threshold;
- j) The geographical coordinates of appropriate taxiway center line points;
- k) The geographical coordinates of each aircraft stand;
- l) The geographical coordinates and the top elevation of significant obstacles in the approach and take off areas, 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 publication, as prescribed in Annex 4 and Annex 15 to the Convention).
- m) Pavement surface type and bearing strength using the aircraft Classification Number Pavement Classification Number (ACN – PCN) method;
- n) One or more pre-flight altimeter check locations established on an apron and their elevation;
- o) Declared distance: take off run available (TORA), take off distance available (TODA) accelerate-stop distance available (ASDA), landing distance available;
- p) Disabled aircraft location plan: the telephone, telex, facsimile numbers and email 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
- q) Rescue and fire-fighting: 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 aeroplane normally using the aerodrome and the type and amounts of extinguishing agents normally available at the aerodrome.
- r) information about the availability of fuel and types of fuel.

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.

PART 4 PARTICULARS OF THE AERODROME OPERATING PROCEDURES AND SAFETY MEASURES

4.1 AERODROME REPORTING

Particulars of the procedure for reporting any changes to the aerodrome information set out in the AIP and procedures for requesting the issue of NOTAMS, including the following:

- a) Arrangement for reporting any changes to the Civil Aviation Department and recording the reporting of changes during and outside the normal hours of aerodrome operations;
- b) The names and roles of persons responsible for notifying the changes and their telephone numbers during and outside the normal hours of aerodrome operations; and
- c) The address and telephone numbers as provided by the Civil Aviation Department of the changes are to be reported to the Civil Aviation Department.

4.2 ACCESS TO THE AERODROME MOVEMENT AREA

Particulars of the procedures that have been developed and are to be followed in coordination with 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:

- a) The role of the aerodrome operator, the aircraft operator, aerodrome fixed-base operators, the aerodrome security entity, the Civil Aviation Department and other government departments, as applicable;
- b) The names and roles of the personnel responsible for controlling access to the aerodrome, and the telephone numbers for contacting them during and after working hours.

4.3 AERODROME EMERGENCY PLAN

Particulars of the aerodrome emergency plan, including the following:

- a) 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;
- b) Details of tests for aerodrome facilities and equipment to be used in emergencies, including the frequency of those tests;
- c) Details of exercises to test emergency plans, including the frequency of those exercises;
- d) A list of organizations, agencies and persons of authority, both on- and off-airport, for site roles; their telephone and facsimile number, e-mail and SITA addresses and the radio frequencies of their offices;

- a) The establishment of an aerodrome emergency committee to organize training and other preparations for dealing with emergencies; and
- b) The appointment of an on-scene commander for the overall emergency operation.

4.4 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.

Note. – This subject should also be covered in appropriate detail in the aerodrome emergency plan.

4.5 INSPECTION OF THE AERODROME MOVEMENT AREA AND OBSTACLE LIMITATION SURFACE BY THE AERODROME OPERATOR

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

- a) Arrangements for carrying out inspections, including runway friction and water-depth measurements on runway and taxiways, during and outside the normal hours of aerodrome operations;
- b) Arrangements and means of communicating with air traffic control during an inspection;
- c) Arrangements for keeping an inspection logbook, and the location of the logbook;
- d) Details of inspection intervals and times;
- e) Inspection checklist;
- f) Arrangements for reporting the results of inspections and for taking prompt follow-up actions to ensure correction of unsafe conditions; and
- g) The names and roles of persons responsible for carrying out inspections, and their telephone numbers during and after working hour.

4.6 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:

- a) Arrangements for carrying out inspections during and outside the normal hours of aerodrome operation, and the checklist for such inspections;
- b) Arrangements for recording the result of inspection and for taking follow-up action to correct deficiencies;
- c) Arrangements for carrying out routine maintenance and emergency maintenance;
- d) Arrangements for secondary power supplies, if any, and, if applicable, the particulars of any other method of dealing with partial or total system failure; and

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- e) The names and roles of persons responsible for the inspection and maintenance of the lighting, and the telephone numbers for contacting those persons during and after work hours.

4.7 MAINTENANCE OF THE MOVEMENT AREA

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

- a) Arrangements maintaining the paved areas;
- b) Arrangements for maintaining the unpaved runways and taxiways;
- c) Arrangements maintaining the runway and taxiway strips; and
- d) Arrangements for the maintenance of the aerodrome drainage.

4.8 AERODROME WORKS - SAFETY

Particulars of the procedures for planning and carrying out construction and maintenance works 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:

- a) Arrangements for communicating with air traffic control during the progress of such work;
- b) The names and telephone numbers and roles of the persons and organization responsible for planning and carrying out the work, and arrangements for contacting those persons and organizations at all times;
- c) 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;
- d) A distribution list for work plans, if required.

4.9 APRON MANAGEMENT

Particulars of the apron management procedures, including the following:

- a) Arrangements between air traffic control and the apron management unit;
- b) Arrangements for allocating aircraft parking positions;
- c) Arrangements for initiating engine start and ensuring clearance of aircraft push-back;
- d) Marshalling service; and
- e) Leader (van) service.

4.10 APRON SAFETY MANAGEMENT

Procedures to ensure apron safety, including:

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- a) Protection from jet blasts;
 - b) Enforcement of safety precautions during aircraft refuelling operations;
 - c) Apron sweeping;
 - d) Apron cleaning;
 - e) Arrangements for reporting incidents and accidents on an apron; and
 - f) Arrangements for auditing the safety compliance of all personnel working on the apron.

4.11 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:

- a) Details of the applicable traffic rules (including speed limits and the means of enforcing the rules); and
- b) The method of issuing driving permits for operating vehicles in the movement area.
- c) Methods and procedures in place for assessing the roadworthiness of vehicles and condition monitoring.

4.12 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:

- a) Arrangements for assessing wildlife hazards;
- b) Arrangements for implementing wildlife control programmes; and
- c) The names and roles of the persons responsible for dealing with wildlife hazards, and their telephone numbers during and after working hours.

4.13 OBSTACLE CONTROL

Particulars setting out the procedures for:

- a) Monitoring the obstacle limitation surfaces and Type A Chart for obstacles in the take-off surfaces;
- b) Controlling obstacles within the authority of the operator;
- c) Monitoring the height of buildings or structures within the boundaries of the obstacle limitation surfaces;
- d) Controlling new developments in the vicinity of aerodromes; and
- e) Notifying the Civil Aviation Department of the nature and location of obstacles and any subsequent addition or removal of obstacles for action as necessary, including amend

ment of the AIS publications.

4.14 REMOVAL OF DISABLED AIRCRAFT

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

- a) The roles of the aerodrome operator and the holder of the aircraft certificate of registration;
- b) Arrangements for notifying the holder of the certificate of registration;
- c) Arrangements for liaising with the air traffic control unit;
- d) Arrangements for obtaining equipment and personnel to remove the disabled aircraft; and
- e) The names, role and telephone numbers of persons responsible for arranging for the removal of disabled aircraft.

4.15 HANDLING OF HAZARDOUS MATERIALS

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

- a) Arrangements for special areas on the aerodrome to be set up for the storage of inflammable liquids (including aviation fuel) and any other hazardous materials; and
- b) The method to be followed for the delivery, storage, dispensing and handling of hazardous materials.

Note. – Hazardous materials include inflammable liquids and solids, corrosive liquids, compressed gases and magnetized or radioactive materials. Arrangements for dealing with the accident spillage of hazardous materials should be included in the aerodrome emergency plan.

4.16 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 names and telephone numbers, during and after working hours, of the persons responsible for measuring the runway visual range.

4.17 PROTECTION OF SITES FOR RADAR AND NAVIGATIONAL AIDS

Protection 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:

- a) Arrangements for the control of activities in the vicinity of radar and nav aids installation;
- b) Arrangements for ground maintenance in the vicinity of these installations; and

- c) 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:

- When, or in what circumstances, an operating procedure is to be activated;
- How an operating procedure is to be activated;
- Actions to be taken;
- The persons who carry out the actions; and
- 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, the reason should be given.

PART 5

AERODROME ADMINISTRATION AND SAFETY MANAGEMENT SYSTEM

Aerodrome administration

Particulars of the aerodrome administration, including the following:

- a) An aerodrome organizational chart showing the names and positions of key personnel, including their responsibilities;
- b) The name, position and the telephone number of the person who has overall responsibility for aerodrome safety; and
- c) Airport committees.

Safety Management System (SMS)

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

- a) The safety policy, insofar as applicable, on the safety management process and its relation to the operational and maintenance process;
- b) The structure or organization of the SMS, including staffing and the assignment of individual and group responsibilities for safety issues;
- c) SMS strategy and planning, such as setting safety performance targets, allocating priorities for implementing safety initiatives 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 Standards and Recommended Practices in Volume I of Annex 14 to the Convention on International Civil Aviation, and Civil Aviation Regulations.
- d) SMS implementation, including facilities, methods and procedures for the effective communication of safety requirements;

- e) A system for the implementation of, and action on, critical safety areas which require a higher level of safety management integrity (safety measures programme);
- f) 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;
- g) The internal safety audit and review system detailing the systems and programmes for quality control of safety;
- h) 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 pavements and aerodrome lighting. The system should enable easy retrieval of records including charts;
- i) Staff training and competency, including the review and evaluation of the adequacy of training provided to staff on safety-related duties and of the certification system for testing their competency; and
- j) The incorporation and enforcement of safety-related clauses in the contracts for construction work at the aerodrome.

EFFECTIVITY

This Air Safety Circular comes into effect on 27 November 2003. In the interim period, aerodrome operators are advised to prepare the Aerodrome Manual and submit to the Director along with the Aerodrome Certificate Application form, CAD/AD/-01.



Mahmood Razee
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