



# TTCAA Advisory Circular

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**Subject: AERODROME MANUAL**  
**TTCAA Advisory Circular TAC-AD004**  
**Date: 06/10/18**

## PURPOSE

1. The purpose of this TTCAA Advisory Circular (TAC) is to provide methods acceptable to the Authority for showing compliance with the Aerodrome Manual requirements contained in TTCAR No.12.

## REGULATORY REFERENCE

2. (2) TTCAR No.12 requires applicants for aerodrome operators at all licenced aerodromes to develop and implement an aerodrome manual. This TAC provides guidance on revising an existing or developing a new aerodrome manual.

## FUNCTION AND FORM OF AN AERODROME MANUAL

### *Purpose and Scope*

3. (1) The aerodrome manual is a fundamental requirement of the certification process. It contains all the pertinent information concerning the aerodrome site, facilities, services, equipment, operating procedures, organization and management including the safety management system. The information presented in the aerodrome manual should demonstrate that the aerodrome conforms to the certification standards and practices and that there are no apparent shortcomings which would adversely affect the safety of aircraft operations. 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.

(2) Information provided in the aerodrome manual will enable the TTCAA to assess the suitability of the aerodrome for the aircraft operations proposed and to judge an applicant's fitness to hold a certificate. It is a basic reference guide for conducting site inspections for granting an aerodrome licence and for subsequent safety inspections. The aerodrome manual is a document agreed between the aerodrome operator and the TTCAA with respect to the standards, conditions and the level of service to be maintained at the aerodrome.

(3) The aerodrome manual is the source document describing operational procedures and how they will be managed. It should contain all such information and instructions as may be necessary to enable the aerodrome operating staff to perform their duties. This must include information and instructions on the matters specified in TTCAR No.12:Schedule 1. It should not be simply a statement of the requirements, but be a medium for promulgating all procedures and information relating to the safe management of the

aerodrome and show how the aerodrome operator intends to measure performance against safety targets and objectives. The reader of a Manual should be given a clear and unambiguous statement of how safety is developed, managed and maintained on the aerodrome. All safety policies, operational procedures and instructions should be contained in detail or cross-referenced to other formally accepted or recognized publications.

(4) The principal objective of an Aerodrome Manual should be to show how management will discharge its safety responsibilities. The manual will set out the policy and expected standards of performance and the procedures by which they will be achieved.

(5) An efficient management structure and a systematic approach to aerodrome operation is essential. The aerodrome manual should contain all the relevant information to describe this structure satisfactorily. It is the means by which all aerodrome operating staff are fully informed about their duties and responsibilities with regard to safety. It should describe the aerodrome services and facilities, all operating procedures, and any restrictions on aerodrome availability.

(6) Accountability for safety must start at the very top of any organization. One of the key elements in establishing safe working practices is for all staff to understand the safety aims of the organization, the chain of command, and their own responsibilities and accountabilities. As safety management principles are applied, the manual should be expanded to describe clearly how the safety of operations is to be managed at all times. There should never be any doubt to the user of the manual about who is responsible, who has the authority, who has the expertise and who actually carries out the tasks described in any section.

#### ***Structure and Contents of an Aerodrome Manual.***

4. (1) For the purpose of uniformity and to facilitate the TTCAA's review and approval of the aerodrome manual, the regulations set out the structure and content of the aerodrome manual in TTCAR No.12: Part III and TTCAR No.12:Schedule 1 which include the particulars to be included in the aerodrome manual. The content of the aerodrome manual should be accurate, clear, and speak directly to TTCAR No.12 requirements. An aerodrome manual that provides clear instructions but avoids excessive detail will help ensure that personnel understand how the aerodrome operator will attain regulatory compliance at the aerodrome and leave the aerodrome with the flexibility necessary to address unforeseen circumstances.

(2) The content of an aerodrome manual should be treated with due respect to the confidentiality requirements of the information contained therein.

(3) The applicant for an aerodrome licence or the aerodrome operator of a licenced aerodrome is entirely responsible for the accuracy of the information provided in the aerodrome manual.

(4) The aerodrome manual must include a reference where applicable to the appropriate TTCAR.

#### ***Format of an Aerodrome Manual***

5. (1) The Aerodrome Manual is a key document both for the Licensee and the TTCAA supported by the Safety Report. It is the safety assurance document for the TTCAA's licensing process, and a management tool for industry.

(2) TTCAR No.12:19 prescribes the general format of the aerodrome manual. The aerodrome manual is subject to amendment in order to ensure that it is maintained up to date with current and accurate information. It must therefore, be in a form easy to revise and must contain a system which allows users to determine the current revision status. The numbering of pages and paragraphs should be orderly and systematic to facilitate ease of reference. Each page must have a date of the last revision.

(3) The aerodrome manual must be maintained in printed form. A simple format will make both the initial assembly and later revisions easier. The standard of printing, duplication and binding should allow the Manual to be read without difficulty and ensure it remains intact and legible during normal use. Odd-sized or multicolor media and certain types of bindings (e.g., spiral or comb) can complicate the processes of reproduction, insertion, filing, and mailing. The following format is recommended for the aerodrome manual:

- (a) 8 ½ x 11 inch, loose-leaf paper;
- (b) Single-sided, black-and-white printing, except where color is specifically required; and
- (c) Assembly in a three-ring binder.

### ***Amendment and Distribution of the Aerodrome Manual***

6. (1) Amendments to the Manual will be needed either because the document requires to be brought up to date or in response to a request by the TTCAA. Any amendment or addition must be furnished to the TTCAA for approval before it comes into effect.

(2) Manuscript amendments are not acceptable. Changes or additions should always be the subject of an additional or replacement page on which the amended material is clearly identified.

(3) The aerodrome operator must distribute applicable portions of the aerodrome manual to the aerodrome personnel who are responsible for their implementation. The aerodrome manual is not intended to provide complete instructions for all jobs or operational procedures, but it should provide instructions for any critical tasks that are necessary for compliance with TTCAR No.12 and the Manual of Aerodrome Standards.

(4) The aerodrome operator must assign a person in his organization to be responsible for the aerodrome manual who must ensure that -

- (a) A record is kept of the persons who hold copies of the whole or part of the manual;
- (b) Amendments or information for the manual is distributed to persons who require such information.

### ***Enforceability of The Aerodrome Manual.***

7. Prior to issuing an Aerodrome Licence, the TTCAA must approve an aerodrome operator's aerodrome manual. Once the TTCAA approves the aerodrome manual, the aerodrome operator must ensure that the aerodrome is operated in accordance with the policy and procedures contained therein. Any unapproved deviation from the approved manual is liable to enforcement action.

## **AERODROME MANUAL OVERVIEW**

### ***Required Contents***

8. As a general rule, the aerodrome manual must contain operating procedures, equipment descriptions, responsibility assignments, and any other information needed by aerodrome personnel to comply with TTCAR No.12. In particular, it must address compliance with the provisions of Schedule 1 of TTCAR No.12 and any limitations imposed by the TTCAA. This information will vary from aerodrome to aerodrome.

## ***Limitations***

9. The TTCAA may on occasions impose limitations on licenced aerodromes. These limitations can cover a range of regulatory provisions. Generally, they deal with unusual operational characteristics at an aerodrome, such as a need to restrict an operator from using certain areas of the aerodrome or to specify aircraft rescue and fire fighting staging locations. The aerodrome manual must contain copies of any limitation placed on the aerodrome by the TTCAA. Sections of the aerodrome manual that discuss related provisions of TTCAR No.12 must refer to applicable limitations.

## ***Special Elements Of Compliance***

10. While the provisions that must be included in an aerodrome manual vary for each class of aerodrome, TTCAR No.12 also specifies certain special elements that all aerodrome manuals must include. In most cases, aerodrome manuals address these mandatory elements by including them in the detailed narratives for the related regulatory requirement. However, some special elements better lend themselves to other forms of presentation, such as tables and charts. For example, the aerodrome operator might fulfill the requirement to explain lines of succession for aerodrome operational responsibility by including an organizational chart and a table of the lines of succession, which can be referred to repeatedly throughout the aerodrome manual.

## ***Clarification and Responsibility for Tasks***

11. (1) In each Section, the aerodrome manual should answer the following questions –

- (a) WHO is going to perform the task?
- (b) WHAT does the task consist of?
- (c) HOW is it to be performed?
- (d) WHEN should it be performed?

(2) WHO, WHAT, HOW, and WHEN are often closely associated, and most instructions will need to address all of them.

(3) **WHO.** The instructions in the aerodrome manual should be clear to staff who routinely perform the tasks described as well as to staff required to act when the usual chain of responsibility and authority is temporarily interrupted. The aerodrome manual must explain what is required from a regulatory standpoint and clearly state who (functional position) is primarily responsible for carrying out each function. Since a substitute might not normally perform (or directly oversee) a required task, the aerodrome manual should provide specific instructions about critical aspects of the job, including whom to contact if problems arise.

(4) **WHAT and HOW.** The WHAT and HOW of aerodrome manual instructions refer to the tasks assigned to various individuals or departments charged with achieving compliance with TTCAR No.12. Unless all personnel assigned to the task are fully familiar with the regulatory requirement, the aerodrome manual must provide guidance appropriate to the training and experience of the personnel. For example, an instruction in the aerodrome manual to the ground maintenance crew to “maintain all safety areas in accordance with the TTCARs” is not useful unless the crew has sufficient knowledge of TTCAR No.12 requirements. A better approach is to identify the physical boundaries of the safety areas and to state clearly how surface conditions are to be maintained.

(5) **WHEN.** The timing of tasks will often be triggered by circumstances, such as flooding caused persistent heavy rainfall etc. The aerodrome manual must clearly define the circumstances that trigger action. It must also address the frequency of tasks that occur on a regular basis.

### ***Exemptions***

12. (1) Under TTCAR No.12:60 the TTCAA may exempt in writing an aerodrome operator from complying with specific provisions of TTCAR No.12. An exemption is a legal document granting an aerodrome operator relief from a requirement of TTCAR No.12. An exemption will be subject to any condition or procedures specified by the TTCAA in the Aerodrome licence as being necessary in the interest of safety.

(2) The aerodrome manual must include copies of all current exemptions for the aerodrome, including any that pertain to the aircraft rescue and fire fighting (ARFF) requirements.

### ***Deviations***

13. Where an aerodrome operator wishes to deviate from the procedures contained in his aerodrome manual, he must apply to the TTCAA for approval before implementation of such procedure

### ***Violations***

14. Violations are very serious and can result in amendment, suspension or revocation of the aerodrome operator's licence. Aerodrome operators that do not fully understand the ramifications of violating TTCAR No.12 should contact the TTCAA.

## **CONTENTS OF THE AERODROME MANUAL**

### ***General***

15. (1) TTCAR No.12: Schedule 1 set out the items which should be included in the Manual. It is, however, recognized that the need to include all items will vary depending on the nature and scale of operations at a particular aerodrome. It may not be necessary for all operational procedures in the Schedule to be included in the manual. If a particular item from the Schedule is not included in the aerodrome manual because it is not applicable to the aerodrome, the aerodrome operator must state in the manual the reason for non applicability of the particular item. However, where an item is not included in the manual because it does not apply to the aerodrome, but the item is relevant to achievement of policy, its location should be clearly referenced within the Manual.

(2) The manual should be structured in the following 5 Parts:

- (a) Part 1 – Introduction;
- (b) Part 2 – Particulars Of The Aerodrome Site;
- (c) Part 3 – Particulars Of The Aerodrome Required To Be Reported In The Ais;
- (d) Part 4 – Particulars Of The Aerodrome Operating Procedures And Safety Measures; And
- (e) Part 5 – Aerodrome Administration And Safety Management System.

(3) The required 5 Parts of the aerodrome manual does not necessarily mean that there will be 5 volumes. For a small aerodrome, only one volume may be required. A medium sized aerodrome could probably have Parts 1, 2 3 and 5 in one volume and Part 4 in a separate volume. A large aerodrome may have 3 volumes with Parts 1, 2 and 3 in one volume, Part 5 in another volume and Part 4 divided into several volumes covering the Operational Procedures for the specific topics. The exact division would depend on the organizational structure of the aerodrome. Personnel should have easy access to relevant information to fulfill their responsibilities and as far as possible, spared as much irrelevant information as possible.

(4) Note that each of the 5 parts starts with a “general” section, which can be considered as an introduction to that Part.

(5) A description of the contents of each Part is covered in the following paragraphs. This TAC should be used with ICAO Doc 9774 as a guide in support of the TTCARs and the AIP in determining the contents of an aerodrome manual for an aerodrome.

## **PART 1 - INTRODUCTION**

**16. (1)** The following items must be described in Part 1 – Introduction section:

- (a) Purpose and scope of the manual;
- (b) Legal requirement for an aerodrome licence and an aerodrome manual as expressed in TTCAR No.12: 4, Part III;
- (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.

(2) This section should also contain –

- (a) A foreword
- (b) A checklist of pages;
- (c) Procedures for distributing and amending the manual and the circumstances in which amendments may be needed;
- (d) A distribution list; and
- (e) A short explanation of a short explanation of the general terms used in the Manual including job titles and abbreviations.

## **PART 2 - PARTICULARS OF THE AERODROME SITE**

**17. (1)** The following general information must be included in Part 2:

- (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 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 on which the aerodrome is located and a plan showing the boundaries and position of the aerodrome.

(2) All the above must be specific to the particular aerodrome.

### **PART 3 - PARTICULARS OF THE AERODROME REQUIRED TO BE REPORTED IN THE AIS**

**18.** 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. Completion of this Part requires close cooperation with the ATS and CNS units covering the aerodrome including the AIS unit and must include the following as applicable to the aerodrome:

- (a) General information, including the following:
  - (i) The name of the aerodrome;
  - (ii) The location of the aerodrome;
  - (iii) The geographical co-ordinates of the aerodrome reference point determined in terms of the World Geodetic System—1984 (WGS-84) reference General datum;
  - (iv) The aerodrome elevation and geoid undulation;
  - (v) 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;
  - (vi) The aerodrome reference temperature;
  - (vii) Details of the aerodrome beacon; and
  - (viii) The name of the aerodrome operator and the address and telephone numbers at which the aerodrome operator may be contacted at all times.
- (b) Aerodrome Dimensions and Related 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 co-ordinates of each threshold;
  - (x) The geographical co-ordinates of appropriate taxiway centre line points;
  - (xi) The geographical co-ordinates of each aircraft stand;
  - (xii) The geographical co-ordinates 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 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 (ACN-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 (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA), landing distance available (LDA);
- (xvi) Disabled aircraft removal plan: the telephone/telex/facsimile numbers and e-mail address of the aerodrome co-ordinator 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 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.

#### **PART 4 – PARTICULARS OF THE AERODROME OPERATING PROCEDURES AND SAFETY MEASURES**

##### ***General***

**19.** Part 4 will probably be the largest part of the aerodrome manual. It contains all operating procedures and safety measures. Remember that flowcharts, diagrams and checklists when properly structured, may result in better clarification than narrative on its own. Part 4 also requires close cooperation with ATS and ANS and should include all the items in the following paragraph and subparagraphs that are applicable to the aerodrome:

##### ***Aerodrome Reporting***

**20.** Particulars of the procedures 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) Arrangements for reporting any changes to the Authority 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 Authority, of the place where changes are to be reported to the Authority.

##### ***Access to the Aerodrome Movement Area***

**21.** 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 fixedbase operators, the aerodrome security entity, the Authority and other government departments, as applicable; and
- (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.

## ***Aerodrome Emergency Plan***

22. 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 offairport, for site roles; their telephone and facsimile numbers, e-mail and SITA addresses and the radio frequencies of their offices;
- (e) The establishment of an aerodrome emergency committee to organize training and other preparations for dealing with emergencies; and
- (f) The appointment of an on-scene commander for the overall emergency operation.

## ***Rescue and Fire-Fighting***

23. 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.*

## ***Inspection of the Aerodrome Movement Area and Obstacle Limitation Surface by the Aerodrome Operator***

24. 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 runways and taxiways, during and outside the runway friction and water-depth measurements on 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 hours.

## ***Visual Aids and Aerodrome Electrical Systems***

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

### ***Maintenance of the Movement Area***

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

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

### ***Aerodrome Works—Safety***

**27.** 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:

- (a) Arrangements for communicating with Air Traffic Control during the progress of such work;
- (b) 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;
- (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; and
- (d) A distribution list for work plans, if required.

### ***Apron Management***

**28.** 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.

### ***Apron Safety Management***

**29.** Procedures to ensure apron safety, including:

- (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.

### ***Airside Safety Control***

**30.** 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.

### ***Wildlife Hazard Management***

**31.** 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 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.

### ***Obstacle Control***

**32.** Particulars setting out the procedures for:

- (a) Monitoring the obstacle limitation surfaces and Type A Chart for obstacles in the take-off surface;
- (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 Authority of the nature and location of obstacles and any subsequent addition or removal of obstacles for action as necessary, including amendment of the AIS publications.

### ***Removal of Disabled Aircraft***

**33.** 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.

### ***Handling of Hazardous Materials***

**34.** 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 fuels) 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 accidental spillage of hazardous materials should be included in the aerodrome emergency plan.*

### ***Low-Visibility Operations***

**35.** 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.

### ***Protection of Sites for Radar and Navigational Aids***

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

- (a) Arrangements for the control of activities in the vicinity of radar and navaids installations;
- (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.

## **PART 5 – AERODROME ADMINISTRATION AND SAFETY MANAGEMENT SYSTEM**

### ***Aerodrome Administration***

**37.** 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 telephone number of the person who has overall responsibility for aerodrome safety; and
- (c) Airport committees.

### ***Safety Management System (SMS)***

**38.** 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:

- (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 the national regulations, standards, rules or orders;
- (d) SMS implementation, including facilities, methods and procedures for the effective communication of safety messages and the enforcement 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.

## **REVIEW OF THE AERODROME MANUAL**

**39. (1)** An aerodrome manual must be kept current at all times. The aerodrome operator should identify who will review various parts of the aerodrome manual and when these reviews will take place. Staggering the review schedule for each section of the aerodrome manual will ensure that reviewers do not face significant workload increases at any one time. Periodic reviews should make revision of the aerodrome manual easier, but the aerodrome operator must be prepared to break with the schedule and update the aerodrome manual immediately if conditions on the aerodrome change.

(2) The aerodrome operator must document the process for review and revision of the aerodrome manual, including how to amend it to respond to changing situations at the aerodrome. Using the WHO, WHAT, HOW, and WHEN guidelines will help ensure that all necessary elements are addressed with clarity. The aerodrome operator should make sure that everyone involved in the review and revision of the aerodrome manual is aware of this process.

## **REVISION AND FOLLOW-UP**

**40. (1)** The aerodrome operator must submit an aerodrome manual amendment to the TTCAA at least 30 days before its effective date. However, aerodrome operators should try to submit amendments as far in advance as possible to allow enough time for TTCAA review and approval. If timing issues arise, the aerodrome operator must contact the assigned Aerodrome Inspector (AI). The AI will work with aerodrome management to prepare the change as expeditiously as possible and assist in keeping the aerodrome in compliance with TTCAR No.12. In the case of lengthy or complicated changes, the aerodrome operator should discuss with the AI the possibility of providing a draft for early review and consideration.

(2) The sign and marking plan is part of the aerodrome manual. The aerodrome operator should submit a copy of the plan as far in advance as possible to ensure TTCAA approval before the design and procurement phase of related development projects. Aerodrome sign and marking plans must receive TTCAA approval before they are implemented.

(3) When a revision to the aerodrome manual becomes effective, the aerodrome operator must place special emphasis on any effected areas of aerodrome operations to ensure personnel are aware of changes and understand how the changes might impact operations.

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