Civil Aviation Authority of Fiji

GUIDANCE MATERIAL

Aerodrome Manual
(GM –AM)

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PREFACE

This Guidance Material (GM) is published by the Civil Aviation Authority of Fiji for purposes of promulgating supplementary material to that published in the Authority's Standards Documents.

This GM provides guidance to aerodrome operators and CAAF staff on the requirements and development of an Aerodrome Manual.

This GM explains certain regulatory requirements by providing interpretive and explanatory material.

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Chief Executive
Civil Aviation Authority of Fiji

Contents

1 Introduction

1.1 The Standards Document – Aerodromes specifies the requirements of an aerodrome manual.

1.2 As part of the aerodrome certification process, applicable aerodrome operators shall ensure that an aerodrome manual, containing inter alia, information on how operational procedures and their safe management will be delivered is submitted for approval/acceptance by the Authority prior to the granting of an aerodrome certificate.

1.3 The aerodrome manual describes all the information, for each certified aerodrome, pertaining to the aerodrome site, facilities, services, equipment, operating procedures, organization and management, including its SMS. However, the complexity and size of the aerodrome may necessitate the SMS to be included in a separate manual.

1.4 The aerodrome manual should clearly define, for each of the items in 1.3, which coordination and procedures have been put into place in the case of multiple responsible stakeholders

1.5 Where the aerodrome operator implements specific procedures related to other Annexes, these may be described in the aerodrome manual.

1.6 The purpose of this Guidance Material (GM) is to provide guidance to both the CAA regulatory staff and the aerodrome operators on what is required to be published in the aerodrome manual and best practice in developing this manual. Particulars to be included in the aerodrome manual have been uplifted from the ICAO Manual on Certification of Aerodromes (Doc 9774) Appendix 1 and Procedures for Air Navigation Services (PANS) – Aerodromes (Doc 9981).

2 Requirement of the SD - Aerodromes

2.1 Chapter 1 Section 1.8.3 requires that every application for an aerodrome operator certificate be accompanied by the aerodrome manual for that aerodrome.

2.2 Chapter 1 Section 1.9.1 states that the Authority may grant an aerodrome certificate to an applicant and accept/approve the aerodrome manual submitted, provided it is satisfied that the aerodrome manual prepared for the applicant's aerodrome and submitted with the application contains all the relevant information.

2.3 Chapter 1 Section 2.6 expands on the provision, location and acceptance/approval of the aerodrome manual.

2.3.1 Here is requires that every operator of a certified aerodrome shall have an aerodrome manual that complies with requirements in the SD-Aerodromes and that the aerodrome manual and any amendments thereto, shall be acceptable to the Authority. Furthermore, that the operator shall submit a complete and current copy of the aerodrome manual to the Authority and shall keep another copy at the aerodrome. If the operator's principal place of business is not at the aerodrome, an additional copy of the manual shall also be kept at the principal place of business. These copies shall be made available for inspection by the Authority's authorized personnel.

2.3.2 The aerodrome manual shall:

a) be typewritten or printed, and signed by the aerodrome operator;
b) be in a format that is easy to revise;
c) have a system for recording the currency of pages and amendments thereto, including a page for logging revisions; and
d) be organized in a manner that will facilitate the preparation, review and acceptance/approval process

2.3.3 The Authority shall accept/approve the aerodrome manual and any amendments thereto, provided these meet the requirements of the SD-Aerodromes.

2.4 Chapter 1 section 2.7 requires that an aerodrome manual, include as a minimum, verified information as stipulated in Appendix 2 of the SD-Aerodrome. This Checklist of information is also provided in Appendix 1 of this GM.

2.5 Chapter 1 section 2.8 elaborates on the form of aerodrome manual requiring that unless otherwise approved by the Authority, the aerodrome operator shall keep the master copy of the aerodrome manual for the aerodrome in a printed form. However, other copies of the manual may be kept in a printed or an electronic form. The manual may consist of

more than one part and the operator shall keep the manual so that a person reading the manual shall know:

a) when changes have been made to the information in the manual; and
b) whether the manual is up-to-date.

2.6 Chapter 1 Section 2.9; aerodrome manual procedures requires that the aerodrome operator operate and maintain the aerodrome in accordance with the procedures set out in the aerodrome manual for the aerodrome and that the Authority may direct the aerodrome operator to change the procedures set out in the aerodrome manual, if the Authority considers such changes to be necessary in the interests of the safety of air navigation.

2.7 Chapter 1 Section 2.10; notice of deviation from the aerodrome manual requires that should there be any deviation from any procedure set out in the aerodrome manual in order to ensure the safety of aircraft, the operator of that aerodrome shall inform the Authority as soon as practicable of the deviation by way of telephone and this advise shall be followed in writing, within fourteen (14) days, from when the deviation was made.

2.8 Chapter 1 Section 2.24 on aerodrome technical inspections requires that the inspection to be undertaken in accordance with this section includes a check of the currency and accuracy of aerodrome operating procedures specified in the aerodrome manual for the aerodrome.

2.9 Chapter 5 Section 5.13 on continued compliance requires that the aerodrome operator hold at least one complete copy of the aerodrome manual at the aerodrome and each applicable part of the aerodrome manual is made available to personnel who require those parts to carry out their duties.

2.10 Chapter 5 Section 5.2 on aerodrome operation and maintenance requires that the aerodrome operator operate and maintain the aerodrome in accordance with the procedures, plans, systems and programmes set out in the aerodrome manual where applicable unless a directive has been issued by the Authority differing from this. To ensure the safety of aircraft, the Authority may give written directives to an aerodrome operator to alter the procedures set out in the aerodrome manual.

2.11 Chapter 5 Section 5.5.4 requires that any reduction in the rescue and firefighting capability be subject to procedures for and persons having authority to implement the reduction as well as procedures for the recall of the full aerodrome rescue and firefighting capability being included in the aerodrome manual.

2.12 Chapter 5 Section 5.13.1 requires that the aerodrome manual be amended to remain a current description of the aerodrome and its associated plans, programmes, services, systems, procedures and facilities.

2.13 Chapter 5 Section 5.14 requires that the aerodrome manual be amended whenever necessary to maintain the accuracy of information in the manual and at a minimum, the aerodrome operator shall maintain a yearly review cycle. To maintain the accuracy of the aerodrome manual the Authority, in the interests of safety, may give written direction to the operator to amend the manual. Any amendments to the aerodrome manual shall meet the requirements of the SD-Aerodrome and comply with the amendment procedures of the operator.

2.14 Chapter 5 Section 5.15 requires that the aerodrome operator provide the Authority with a copy of each amendment made to the aerodrome manual as soon as practicable after its incorporation into the manual but not more than fourteen (14) days after the amendment is made.

2.15 Appendix 2 of the SD – Aerodromes expands on the requirements of an aerodrome manual. Information provided includes:-

a) Introduction
b) Purpose and Scope of the aerodrome manual
c) Ownership of the aerodrome manual
d) Format and contents of the aerodrome manual
e) Updating of the aerodrome manual
f) Approval/Acceptance of the aerodrome manual
g) Checklist of the components of an aerodrome manual

3 Scope and Ownership

3.1 The aim and objectives of the aerodrome manual and how it is to be used by operating staff and other stakeholders should be stated in the manual.

3.2 The aerodrome manual contains 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/standard. It describes the aerodrome services and facilities, all operating procedures, and any restrictions in place.

3.3 The aerodrome operator is responsible for developing and maintaining the aerodrome manual, as well as providing appropriate personnel access to it.

3.4 When considered suitable for security or management reasons, the aerodrome operator may restrict the access of some operating staff to parts of the aerodrome manual, if they are suitably briefed by other means to perform their duties adequately and this would not impair the safety of aerodrome operations.

3.5 It is the responsibility of the aerodrome operator to be satisfied with the appropriateness of each provision of the aerodrome manual to a particular operation and to make amendments and additions as necessary.

4 Particulars to be included in an Aerodrome Manual

The following has been uplifted from the ICAO Doc 9774; Manual on certification of aerodromes Appendix 1.

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 national 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;

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.

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 and telephone numbers 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 obstacle 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 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;

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 centre 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 publications, as specified in Annexes 4 and 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 distances: take-off run available (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA), landing distance avail- able (LDA);

p) disabled aircraft removal plan: the telephone/telex/ facsimile numbers 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

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.

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 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 CAAF 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 CAAF, of the place where changes are to be reported to the CAAF.

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 CAA 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.

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 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.

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 runways 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 hours.

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 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.

4.7 MAINTENANCE OF THE MOVEMENT AREA

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 and taxiways;

c) arrangements for maintaining the runway and taxiway strips; and

d) arrangements for the maintenance of aerodrome drainage.

4.8 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:

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;

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:

a) protection from jet blasts;

b) enforcement of safety precautions during aircraft refueling 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.

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

b) Type A Chart for obstacles in the take-off surface;

c) controlling obstacles within the authority of the operator;

d) monitoring the height of buildings or structures within the boundaries of the obstacle limitation surfaces;

e) controlling new developments in the vicinity of aerodromes; and

f) notifying the CAA 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.

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 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.

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

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:

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.

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 are to 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 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 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 SARPs in Volume I of Annex 14 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.

5 Preparation and Dissemination

5.1 The aerodrome manual may be prepared by the aerodrome operator or outsourced to someone with expertise in this area. Fundamental knowledge of all aspects of the aerodrome operation will be required to produce a satisfactory aerodrome manual.

5.2 Accurate, concise, statements which speak directly to the SD-AD requirements are preferable to glossy essays. Remember that no matter who prepares it, it becomes your document when an Aerodrome Certificate or Registration Approval is granted by the Authority.

5.3 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.

5.4 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.

5.5 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.

5.6 The aerodrome operator shall furnish applicable portions of the aerodrome manual to the aerodrome personnel who are responsible for their implementation. It is not intended that the portion of the aerodrome manual provide the total instructions on how to do a job. If the aerodrome manual is well prepared, however, it will provide information on how the job should be performed to maintain compliance with the standard.

5.7 Below is some guidance on format and style:-

a) **Form;** the manual has been prepared and maintained in conventional paper format (book form) and in electronic form, and easy to revise.

b) **Introduction**; the first page of the manual contains a brief statement on the purpose, goals, objectives and operational strategies for personnel.

c) **Revision Control**; the manual is easy to amend and contains a revision page(s) and a list of the effective pages or section. The control date of the most recent revision of each individual page must appear on each page.

d) **Table of Contents;** the manual has a table of contents with respective page numbers.

e) **A Statement of Compliance;** a statement that indicates regulatory requirements have been compiled with.

f) **Definitions;** significant terms used in the manual should be defined. Any acronym or abbreviation not in common use shall be defined.

g) **Elements of Style;** the manual should be composed in the style of general technical writing and this style shall be clear, concise and easy to understand.

h) **Adequacy of Procedures;** the manual procedures to be in compliance with the requirements of the Regulations and Standards, consistent with safe operating practices and based on sound rationale or demonstrated effectiveness. The following should be clearly demonstrated –

i. **Objective;** the objective of a procedure should be stated clearly;

ii. **Logical Sequence;** procedures are to flow in a logical step-by-step sequence rather than a narrative format. The most effective procedures are usually simple and each contains only the information necessary for accomplishing that procedure;

iii. **General Considerations;**

a. A procedure is an acceptable method for accomplishing and achieving the intended objective,
b. The individual responsible for each step of a procedure shall be clearly identified;
c. The acceptable standards of performance for a procedure should be stated where those standards are not commonly understood or clearly obvious;
d. Since a variety of personnel with differing degrees of expertise are involved in procedures, adequate information concerning the accomplishment of a procedure must be provided for the least experienced individual. A procedure may be described very briefly and concisely when the user is capable of achieving the objective without extensive direction or detail. When the user has limited training or experience, however, a procedure must be described in enough detail for the user to correctly accomplish it. When the user has limited access to other sources of information and guidance while performing a procedure, enough detail should be provided to make the user independent of other sources of information.
e. When a form, checklist, or tool is necessary to accomplish a procedure, the location of that item shall be indicated in the manual, and
f. The Aerodrome Operator shall ensure that sufficient time is available for the user to accomplish a procedure. Where the Aerodrome Operator finds that sufficient time is unavailable to the user for accomplishing a procedure, the Aerodrome Operator shall undertake to revise either the procedure or the user's duties.

6 Approach to Development of Instructions

5.1 The manual should address the following questions –
(a) **WHO** is going to perform the tasks?
(b) **WHAT** do the tasks consist of?
(c) **HOW** the tasks are going to be performed? and
(d) **WHEN** should the task occur?

5.2 The aerodrome manual should be comprehensive enough and commensurate with the size of aerodrome operations. It is intended that the aerodrome manual provide, to personnel concerned with operating the aerodrome, the information needed to comply with the standards.

5.3 The aerodrome manual should be conservative in the sense that it should refrain from elaboration and detail beyond that necessary to show how regulatory compliance is to be achieved at the aerodrome. Be cautious of the line between; essential statements of responsibility, authority, and procedure; and excessive levels of detail which can restrict flexibility to meet unforeseen circumstances, or even create unnecessary commitments.

7 Exemptions and Deviations

6.1 Exemptions

An exemption is a waiver granted by the Authority from compliance with a requirement under the Regulations or Standards Document, subject to such conditions, if any as may be specified in the exemption.

The evidence of the exemption shall be in writing.

All exemptions granted are recorded and filed by the Authority in the individual aerodrome certification file.

The validity of any exemption is dependent on the operator complying with any condition that the Authority specifies in the exemption as being necessary in the interests of safety of air navigation.

Conditions and Procedures identified to support the granting of the exemption will be monitored by the Authority.

6.2 Deviations

6.2.1 Deviations during an emergency

During an emergency, the aerodrome operator may deviate from complying with the Standards or part thereof, to the extent required by the emergency. A deviation in an emergency is a judgment call on the part of the aerodrome operator or his/her designated personnel.

6.2.2 Reporting a Deviation:

The aerodrome manual shall explain how and when the Operator should notify the Authority of a deviation. Should a deviation be necessary in case of an emergency, the Operator should as soon as practicable, but in any case, not later than 96 hours after the emergency, notify the Authority of the deviation. This notification shall be made in writing.

8 Submission, Approval and Updating

8.1 Prior to on-site verification of the aerodrome (including procedures and SMS), the aerodrome manual is reviewed by the Authority.

Note 1.— As compliance of all safety-relevant procedures of the aerodrome operator is assessed during the on-site verification, acceptance at that stage consists of checking that all the information that should be contained in the aerodrome manual is provided.

8.2 Copies of the aerodrome manual to be approved shall be submitted to the Authority for review. The aerodrome operator should allow for up to 20 working days for acceptance/approval of an initial aerodrome manual. For subsequent amendments to the approved manual, allow for up to 10 working days.

8.3 Prior to the approval/acceptance of the aerodrome manual, the Authority will verify that:

a) the operator has submitted an application;
b) the aerodrome manual submitted by the aerodrome operator contains all the required information; and
c) all the procedures related to aerodrome certification that will be assessed by the on-site verification team are provided in the aerodrome manual.

8.4 The Authority's approval process consists of a comprehensive review of the manual by the Authority's inspectorate staff to verify that it conforms to requirements as stipulated in the SD-Aerodromes.

8.5 Upon satisfactory evaluation, the applicant will be advised in writing of approval/acceptance of the manual and any recommended improvements. However, should the manual be found to be unsatisfactory, i.e. does not fulfill the requirements of the SD – Aerodromes, the manual will be returned to the aerodrome operator with a written explanation indicating the areas of non–compliance.

8.6 The Authority shall review all amendments to the Manual, and shall not limit this review to the proposed amendments. Continuous review of the manuals by the operator is necessary because both the aviation environment and the operations are constantly changing.

8.7 Responsibility for maintaining the accuracy of the aerodrome manual must be clearly defined in the manual. The manual is to be updated using a defined process and includes a record of all amendments, effective dates and amendment approvals.

8.8 The method of enabling all aerodrome operating staff to have access to the relevant parts of the manual to be defined and can be demonstrated.

Note.— A method of tracking amendments and ensuring their receipt should be established when using an electronic means of distribution.

8.9 Any amendments or additions should be communicated to the CAAF in accordance with the SD-Aerodromes requirements.

9 References

1 Standards Document – Aerodromes (3rd Edition)

2 ICAO Procedures for Air Navigation Services (PANS) Aerodromes; Doc 9981 (2nd Edition)

3 ICAO Manual on Certification of Aerodromes; Doc 9774 (1st Edition)

Appendix 1 – Checklist of the components of an Aerodrome Manual

This section has been uplifted from the ICAO PANS-Aerodrome Doc 9981, Attachment C to Chapter 2.

	YES	NO
1. Introduction		
(a) Purpose of the aerodrome manual	☐	☐
(b) Legal position regarding aerodrome certification as contained in the applicable regulation	☐	☐
(c) Distribution *(list)* of the aerodrome manual	☐	☐
(d) Procedures for distributing and amending the aerodrome manual and the circumstances in which amendments may be needed	☐	☐
(e) Checklist of pages *(a list of the corrigenda/amendments: this section should log the updates and/or corrections made to the aerodrome manual)*	☐	☐
(f) Preface by aerodrome certificate holder	☐	☐
(g) Table of contents	☐	☐
(h) Glossary of terms	☐	☐

Note. — This section will contain a short explanation of the general terms used in the aerodrome manual including job titles and abbreviations.

	YES	NO
2. Technical administrative data		
(a) Name and address of the aerodrome	☐	☐
(b) Name and address of the aerodrome operator	☐	☐

(c) The name of the accountable executive and an organizational chart should be provided, as well as the aerodrome operator's safety responsibilities	☐	☐

3. Description of the aerodrome (aerodrome characteristics)	**YES**	**NO**
(a) Details of the following		
1) latitude and longitude of the aerodrome reference point in World Geodetic System — 1984 (WGS-84) format	☐	☐
2) elevations of: i. aerodrome	☐	☐
ii. apron	☐	☐
(b) Plans showing the aerodrome's boundaries, the position of the aerodrome reference point, layout of the runways, taxiways and aprons; the aerodrome markings and lighting (including the precision approach path indicator (PAPI) and obstruction lighting); and the siting of navigation aids within the runway strips. *It will not be necessary for these plans or the information called for in subparagraphs c) to f) below to accompany all copies of the aerodrome manual, but they are to be appended to the licence holder's master copy and to the copy kept with the State regulator*. Operating staff are to be provided with scaled–down copies or extracts of plans relevant to their duties	☐	☐
(c) Description, height and location of obstacles that infringe upon the standard protection surfaces, whether they are lighted and if they are noted in the aeronautical publications.	☐	☐
(d) Procedures for ensuring that the plans are up to date and accurate.	☐	☐
(e) Data for, and the method used to calculate, declared distances and elevations at the beginning and end of each declared distance.	☐	☐
(f) Details of the surfaces, dimensions and classification or bearing strengths of runways, taxiways and aprons.	☐	☐

	YES	NO
4. List of authorized deviations, if any. *All deviations from the regulatory provisions authorized by the State should be listed together with their validity and references to the related documents (including any safety assessments)*	☐	☐

	YES	NO
5. Operational procedures for:		
5.1 Promulgation of aeronautical information The system of aeronautical information service available and the system that the certificate holder uses to promulgate AIP requirements	☐	☐
5.2 Control of access Control of access to the aerodrome and its operational areas, including the location of notice boards, and the control of vehicles in the operational areas.	☐	☐
5.3 Emergency Planning		
a) The aerodrome operator's arrangements in response to an emergency. These arrangements should take account of the complexity and size of the aircraft operations	☐	☐
b) Description of actions to be taken by the aerodrome operator as part of plans for the dealing of different emergencies occurring at the aerodrome or in its vicinity	☐	☐
c) Contact list of organisations, agencies and persons of authority	☐	☐
d) Procedures of the appointment of an on-scene commander for the overall emergency operation and description of responsibilities for each type of emergency.	☐	☐

e) Reporting mechanism in event of emergency	☐	☐
f) Details of tests of aerodrome facilities and equipment to be used in emergencies; including the frequency of those texts	☐	☐
g) Details of the exercises to test emergency plans, including the frequency of those exercises	☐	☐
h) Arrangements for personnel training and preparation for dealing with emergencies	☐	☐

5.4 **Rescue and Fire Firefighting (RFF) services.**	YES	NO
a) Policy statement on the RFF categories to be provided	☐	☐
b) Where the senior aerodrome fire officer or the designated fire watch offices have specific safety accountabilities, these should be included in the relevant chapter of the aerodrome manual.	☐	☐
c) Policy and procedures indicating the depletion of the RFF services is to be managed. This should include the extent to which operations are to be restricted, how pilots are to be notified and maximum duration of any depletion.	☐	☐
d) At aerodromes where a higher category of RFF is available by prior arrangement, the aerodrome manual should clearly state the actions necessary to upgrade the facility. Where necessary, this should include actions to be taken by other departments.	☐	☐
e) The aerodrome operator's objective for each RFF category provided should be defined, including a brief description of:	☐	☐
1. amounts of extinguishing agents provided;	☐	☐
2. discharge rates;	☐	☐
3. number of foam-producing appliances;	☐	☐
4. manning levels;	☐	☐

5. levels of supervision.	☐	☐
f) Procedures for: 1. monitoring the aircraft movement areas for the purpose of alerting RFF personnel;	☐	☐
2. indicating how the adequacy of the response time capability of the RFF services throughout their functions and locations is monitored and maintained;	☐	☐
3. indicating how RFF personnel engaged in extraneous duties are managed to ensure that response capability is not affected	☐	☐
g) Where the aerodrome provides specialist equipment such as rescue craft, emergency tenders, hose layers, and appliances with aerial capability, details should be included in the aerodrome manual. Procedures to be followed if these facilities are temporarily unavailable should also be included.	☐	☐
h) Where the aerodrome is reliant upon other organizations to provide equipment, which is essential for ensuring the safe operation of the aerodrome (perhaps water rescue), policies or letters of agreement should be included in the aerodrome manual. Where necessary, contingency plans in the event of non- availability should be described.	☐	☐
i) A statement describing the process by which aerodrome operators ensure the initial and continued competence of their RFF personnel, including the following: 1. realistic fuel fire training;	☐	☐
2. breathing apparatus training in heat and smoke	☐	☐
3. first aid	☐	☐
4. low visibility procedures; LVP (where applicable);	☐	☐
5. any legal requirements;	☐	☐
6. health and safety policy with regard to training of personnel in the use of respiratory protection equipment and personal protection equipment.	☐	☐
j) Procedures indicating how accidents in the immediate vicinity of the aerodrome are to be accessed. Where difficult environs exist, the aerodrome manual should indicate how these are to be accessed.	☐	☐
k) Where local authorities or the aerodrome operator expects the RFF	☐	☐

facility to respond to domestic fires or special services, procedures for managing their impact upon normal aircraft RFF responses should be included.		
l) Where the aerodrome operator expects the RFF facility to respond to aircraft accidents landside, the policy should be clearly described, including procedures to manage the effects on continued aircraft operations	☐	☐
m) The availability of additional water supplies should be described.	☐	☐
n) Aerodrome operator's arrangements for ensuring the adequacy of responses in abnormal conditions, i.e. LVP.	☐	☐

5.5 Inspections of the movement area	**YES**	**NO**
a) Routine aerodrome inspections, including lighting inspections, and reporting, including the nature and frequency of these inspections.	☐	☐
b) Inspecting the apron, runways and taxiways following a report of debris on the movement area, an abandoned take-off due to engine, tire or wheel failure, or any incident likely to result in debris being left in a hazardous position.	☐	☐
c) Sweeping of runways, taxiways and aprons.	☐	☐
d) Measurement and promulgation of water, slush and other contaminants including depths on runways and taxiways.	☐	☐
e) Assessment and promulgation of runway surface conditions:	☐	☐
1. details of inspection intervals and times;	☐	☐
2. completion and effective use of an inspection checklist;	☐	☐
3. arrangements and methods for carrying out inspections on FOD, lighting, pavement surface, grassing;	☐	☐
4. arrangements for reporting the results of inspections and for follow-up;	☐	☐
5. arrangements and means of communication with air traffic control during an inspection;	☐	☐
6. arrangements for keeping an inspection logbook and the location of the logbook.	☐	☐

5.6 Maintenance of the movement area	**YES**	**NO**

a) Promulgation of information on the aerodrome operational state, temporary withdrawals of facilities, runway closures, etc.:	☐	☐
1. arrangements for maintaining the paved areas, including the runway friction assessments;	☐	☐
2. arrangements for maintaining the unpaved runways and taxiways;	☐	☐
3. arrangements for maintaining the runway and taxiway strips;	☐	☐
4. arrangements for maintaining aerodrome drainage;	☐	☐
5. arrangements for maintaining the visual aids, including the measurement of intensity, beam spread and orientation of lights;	☐	☐
6. arrangements for maintaining the obstacle lighting;	☐	☐
7. arrangements for reporting and action taken in the event of failure or unsafe occurrence.	☐	☐

5.7 Hazardous meteorological conditions

	YES	NO
Description of the procedures	☐	☐

5.8 Visual Aids

	YES	NO
a) Responsibilities with respect to the aerodrome ground lighting system.	☐	☐
b) A full description of all visual aids available on each approach, runway, taxiway and apron, including signs, markings and signals.	☐	☐
c) Procedures for operational use and brilliancy settings of the lighting system.	☐	☐
d) Standby and emergency power arrangements, including operating procedures both in LVP and during main power failure situations.	☐	☐
e) Procedures for routine inspection and photometric testing of approach lights, runway light and PAPIs.	☐	☐
f) The location of and responsibility for obstacle lighting on and off the actions to be taken in the event of failures.	☐	☐
g) Procedures for recording inspection and maintenance of visual aids and actions to be taken in the event of failures.	☐	☐
h) The control of work, including trenching and agricultural activity, which may affect the safety of the aircraft.	☐	☐

5.9 Apron Management	YES	NO
a) Arrangements between air traffic control, the aerodrome operator and the apron management unit	☐	☐
b) Arrangements for allocating aircraft stands	☐	☐
c) Arrangements for initiating engine start and ensuring clearance of aircraft pushback.	☐	☐

5.10 Apron Safety Management	YES	NO
a) Means and procedures for jet blast protection	☐	☐
b) Arrangements of safety precautions during aircraft refueling operations	☐	☐
c) Arrangements for apron sweeping and cleaning.	☐	☐
d) Arrangements for reporting incidents and accidents on apron	☐	☐
e) Arrangements for assessing the safety compliance of all personnel working on the apron	☐	☐
f) Arrangements for the use of advanced visual docking systems, if provided	☐	☐

5.11 Vehicles on the movement area	YES	NO
a) Details of the applicable traffic rules (including speed limits and the means of enforcing the rules)	☐	☐
b) Method and criteria for allowing drivers to operate vehicles on the movement area	☐	☐
c) Arrangements and means of communicating with air traffic control	☐	☐
d) Details of the equipment needed in vehicles that operate on the movement area	☐	☐

5.12 Wildlife hazard management	YES	NO

a) Arrangements and method for the dispersal of bird and other wildlife	☐	☐
b) Measure to discourage birds and other wildlife hazards	☐	☐
c) Arrangements for assessing wildlife hazards	☐	☐
d) Arrangements for implementing wildlife control programmes	☐	☐

5.13 Obstacles

	YES	NO
a) Arrangement for monitoring the height of buildings or structures within the boundaries of the obstacle limitation surfaces (OLS)	☐	☐
b) Arrangements for controlling new developments in the vicinity of aerodromes	☐	☐
c) The reporting procedures and actions to be taken in the event of the appearance of unauthorised obstacles.	☐	☐
d) Arrangements for removal of an obstacle	☐	☐

5.14 The removal of a disabled aircraft

	YES	NO
a) Details of the capability for removal of a disabled aircraft	☐	☐
b) Arrangements for removing a disabled aircraft to be set up for the storage of dangerous goods.	☐	☐

5.15 Dangerous goods

	YES	NO
a) Arrangements for special areas on the aerodrome to be set up for the storage of dangerous goods	☐	☐

5.16 Low visibility operations

	YES	NO
a) Obtaining and disseminating meteorological information, including runway visual range (RVR) and surface visibility	☐	☐
b) Protection of runways during LVP if such operations are permitted	☐	☐

c) The arrangement and rules before, during and after low visibility operations including applicable rules for vehicles and personnel operating in the movement area	☐	☐

5.17 Protection of sites for radar, navigation aids and meteorological equipment

	YES	NO
a) Description of the areas to be protected and procedures for their protection	☐	☐

6.Safety Management System (SMS)

	YES	NO
a) Safety policy	☐	☐
b) Operator's structure and responsibility. This should include:	☐	☐
1. the name, status and responsibilities of the accountable executive	☐	☐
2. the name, status and responsibilities of the safety manner	☐	☐
3. the name, status and responsibilities of other senior operating staff	☐	☐
4. the name, status and responsibilities of the official in charge of day-to-day operations;	☐	☐
5. instructions as to the order and circumstances in which the above-named staff may act as the official in charge or accountable executive;	☐	☐
6. an organizational chart supporting the commitment to the safe operation of the aerodrome as well as one simply showing the hierarchy of responsibility for safety management.	☐	☐
c) Training	☐	☐
d) Complying with regulatory requirements relating to accidents, incidents and mandatory occurrence reporting	☐	☐
e) Hazard analysis and risk assessment	☐	☐
f) The management of change	☐	☐
g) Safety criteria and indicators	☐	☐
h) Safety audits.	☐	☐
i) Documentation	☐	☐
j) Safety-related committees	☐	☐

k) Safety promotion

l) Responsibility for monitoring the contractors and third parties operating on the aerodrome

☐	☐
☐	☐

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