



ICAO

Doc 9981

PROCEDURES FOR AIR NAVIGATION SERVICES

Aerodromes

First Edition, 2015



This first edition of Doc 9981 was approved by the President of the Council on behalf of the Council on 20 October 2014 and becomes applicable on 10 November 2016.

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AMENDMENTS

Amendments are announced in the supplements to the *Products and Services Catalogue*; the Catalogue and its supplements are available on the ICAO website at www.icao.int. The space below is provided to keep a record of such amendments.

RECORD OF AMENDMENTS AND CORRIGENDA

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TABLE OF CONTENTS

	<i>Page</i>
Foreword	(vii)
Acronyms	(xi)
Chapter 1. Definitions	1-1
Chapter 2. Certification of Aerodromes	2-1
2.1 General	2-1
2.2 Aerodrome manual	2-3
2.3 Initial certification	2-5
2.4 Aerodrome safety coordination	2-9
2.5 Continued aerodrome safety oversight	2-13
Appendix 1 to Chapter 2 — Technical inspections and on-site verifications	2-App 1-1
Appendix 2 to Chapter 2 — Critical data related to safety occurrences reported at aerodromes for the monitoring of safety	2-App 2-1
Attachment A to Chapter 2 — List of possible subjects covered in an aerodrome manual	2-Att A-1
Attachment B to Chapter 2 — Initial certification process	2-Att B-1
Attachment C to Chapter 2 — Checklist of the components of an aerodrome manual	2-Att C-1
Chapter 3. Safety assessments for aerodromes	3-1
3.1 Introduction	3-1
3.2 Scope and applicability	3-1
3.3 Basic considerations	3-2
3.4 Safety assessment process	3-3
3.5 Approval or acceptance of a safety assessment	3-6
3.6 Promulgation of safety information	3-7
Attachment A to Chapter 3 — Safety assessment flow chart	3-Att A-1
Attachment B to Chapter 3 — Safety assessment methodologies for aerodromes	3-Att B-1
Chapter 4. Aerodrome compatibility	4-1
4.1 Introduction	4-1
4.2 Impact of aeroplane characteristics on the aerodrome infrastructure	4-2
4.3 Physical characteristics of aerodromes	4-3

Appendix to Chapter 4 — Physical characteristics of aerodromes	4-App-1
Attachment A to Chapter 4 — Aeroplane physical characteristics.....	4-Att A-1
Attachment B to Chapter 4 — Aeroplane ground servicing requirements	4-Att B-1
Attachment C to Chapter 4 — List of references.....	4-Att C-1
Attachment D to Chapter 4 — Selected aeroplane characteristics.....	4-Att D-1
Chapter 5. Aerodrome operational management.....	5-1
<i>(To be developed)</i>	

FOREWORD

1. HISTORICAL BACKGROUND

1.1 The first edition of the *Procedures for Air Navigation Services — Aerodromes* (PANS-Aerodromes) was prepared by the PANS-Aerodromes Study Group (PASG) and contains material that provides for the suitable and harmonized application of aerodrome Standards and Recommended Practices (SARPs) and operational procedures found in Annex 14 — *Aerodromes*, Volume I — *Aerodrome Design and Operations*.

1.2 The Air Navigation Commission, during its final review of Amendment 10 to Annex 14, Volume I, in June 2008, expressed the view that Annex 14, Volume I, was primarily a design document, and the SARPs therein were appropriate for designing new aerodromes. At existing aerodromes where full compliance with Standards cannot be achieved, alternative measures may be required in order to accommodate a specific type of aeroplane. It was suggested that a PANS-Aerodromes was needed which would include procedures on how to address such operational issues.

1.3 The Air Navigation Commission, during the seventh meeting of its 180th session on 26 February 2009, agreed to develop PANS-Aerodromes to complement Annex 14, Volume I.

2. SCOPE AND PURPOSE

2.1 Annex 14 contains specifications applicable to aerodromes, as well as certain facilities and technical services normally provided at them. To a great extent, the specifications for individual facilities have been interrelated by a reference code system as described in Annex 14, Volume I, in accordance with the characteristics of the aeroplane for which an aerodrome is intended. It is not intended that those specifications limit or regulate the operation of an aircraft. Those matters related to the possible use of the aerodrome by more demanding aircraft and related applicable approvals are left to appropriate authorities to evaluate and take into account for appropriate measures to be implemented as necessary for each particular aerodrome in order to maintain an acceptable level of safety during operations.

2.2 The PANS-Aerodromes are complementary to the SARPs contained in Annex 14, Volume I.

2.3 The PANS-Aerodromes specify, in greater detail than the SARPs, operational procedures to be applied by aerodrome operators to ensure aerodrome operational safety. PANS-Aerodromes specify procedures to be applied by both aerodrome regulators and operators for initial aerodrome certification and continuing aerodrome safety oversight as well as aerodrome compatibility studies, in particular, where full compliance with the SARPs in Annex 14, Volume I, cannot be achieved.

2.4 The PANS-Aerodromes do not substitute nor circumvent the provisions contained in Annex 14, Volume I. It is expected that infrastructure on an existing aerodrome or a new aerodrome will fully comply with the requirements in Annex 14, Volume I. The contents of PANS-Aerodromes are designed to enable the use of the procedures and methodologies described in the document to assess the operational issues faced by existing aerodromes in a changing and challenging environment and to address those issues to ensure the continued safety of aerodrome operations.

2.5 The PANS-Aerodromes focus on the priority areas identified by the ICAO Universal Safety Oversight Audit Programme in the domains of certification of aerodromes, safety assessment and operational procedures at existing aerodromes (aerodrome compatibility). Future editions will include topics that are relevant to the provision of uniform and harmonized procedures in aerodrome operations. This edition also deals with the operational requirements of fixed-wing aircraft and therefore the term “aeroplane” is deliberately used throughout the document to indicate it does not include operational requirements for helicopters.

2.6 The procedures in this document are directed mainly towards aerodrome operators and consequently do not include procedures for aerodrome control service provided by the air traffic service (ATS), which are already covered in the *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444).

3. STATUS

3.1 The PANS do not have the same status as SARPs. While SARPs are *adopted* by the Council in pursuance of Article 37 of the Convention on International Civil Aviation and are subject to the full procedure of Article 90, the PANS are *approved* by the Council and recommended to Contracting States for worldwide application.

3.2 While the PANS may contain material that may eventually become SARPs when it has reached the maturity and stability necessary for adoption as such, they may also comprise material prepared as an amplification of the basic principles in the corresponding SARPs and designed particularly to assist the user in the application of those SARPs.

3.3 Appendices are comprised of material grouped separately for convenience but form part of the *Procedures* approved by the Air Navigation Commission.

3.4 Attachments are comprised of material supplementary to the *Procedures* or included as a guide to their application.

4. IMPLEMENTATION

The implementation of procedures is the responsibility of Member States; they are applicable to actual operations only in so far as States have enforced them. However, with a view to facilitating their processing towards implementation by States, they have been prepared in a language that will permit direct use by aerodrome and State personnel to certify, oversee and manage the operational activities of aerodromes.

5. PUBLICATION OF DIFFERENCES

The PANS do not carry the status afforded to SARPs adopted by the Council as Annexes to the Convention and therefore do not fall under the obligation imposed by Article 38 of the Convention to notify differences in the event of non-implementation. However, attention of States is drawn to the provision in Annex 15 — *Aeronautical Information Services*, related to the publication in their aeronautical information publication (AIP) of lists of significant differences between their procedures and the related ICAO procedures.

6. CONTENTS OF THE DOCUMENT

6.1 Chapter 1 — Definitions

Chapter 1 contains a list of terms and their technical meanings as used in this document.

6.2 Chapter 2 — Certification of aerodromes

6.2.1 Chapter 2 outlines the general principles and procedures to be followed through all of the suggested stages of certifying an aerodrome operator: the initial meeting between the State and the aerodrome operator, technical inspections of the aerodrome, approval/acceptance of all or relevant portions of the aerodrome manual, on-site verification of aerodrome operational aspects including the safety management system (SMS) of the operator, analysis of the deviations from regulatory requirements and issuance of the verification report, assessment of the corrective action plan, issuance of the certificate and continued safety oversight.

6.2.2 Appendix 1 to Chapter 2 contains a list of the main items to be inspected and/or audited in each of the technical and operational areas including the SMS of the operator. Appendix 2 concerns critical data related to safety occurrences. The attachments to Chapter 2 contain a list of possible subjects for an aerodrome manual, guidance on initial certification process and a checklist that can be used by the State to assess the acceptance of an aerodrome manual and initial certification of an aerodrome. It is appreciated that these will differ according to the legal basis of the State, but some States might find these helpful.

6.3 Chapter 3 — Safety assessments for aerodromes

Chapter 3 outlines the methodologies and procedures to be followed when undertaking a safety assessment. It includes a brief description of how a safety assessment fulfils an element of the overall aerodrome operator's SMS. An aerodrome operator's SMS should enable the aerodrome operator to manage the safety risks it is exposed to as a consequence of the hazards it must face during the operations of the aerodrome.

6.4 Chapter 4 — Aerodrome compatibility

6.4.1 Chapter 4 outlines a methodology and procedure to assess the compatibility between aeroplane operations and aerodrome infrastructure and operations when an aerodrome accommodates an aeroplane that exceeds the certificated characteristics of the aerodrome.

6.4.2 This chapter addresses situations where compliance with the design provisions stipulated in Annex 14, Volume I, is either impractical or physically impossible. Where alternative measures, operational procedures and operating restrictions have been developed, these should be reviewed periodically to assess their continued validity.

6.4.3 The attachments to Chapter 4 contain selected aeroplane characteristics data. They are provided for convenience to allow the aerodrome operator to easily compare the characteristics of various commonly operated aeroplanes. However, the data will be subject to change, and accurate data should always be obtained from the aircraft manufacturers' documentation prior to any official assessment of compatibility.

6.5 Chapter 5 — Aerodrome operational management (*to be developed*)

Chapter 5 will outline the general principles and procedures to be followed in providing uniform and harmonized aerodrome operations.

Table A. Amendments to the PANS-Aerodromes

<i>Amendment</i>	<i>Source(s)</i>	<i>Subject(s)</i>	<i>Approved Applicable</i>
(1st Edition) (2015)	PANS-Aerodromes Study Group (2009)	Procedures for Air Navigation Services — Aerodromes (PANS-Aerodromes)	20 October 2014 10 November 2016

ACRONYMS

ACN	Aircraft classification number
AHWG	Ad hoc working group
AIP	Aeronautical information publication
APAPI	Abbreviated precision approach path indicator
A-SMGCS	Advanced surface movement guidance and control system
AVOL	Aerodrome visibility operational level
ATIS	Automatic terminal information service
ATS	Air traffic service
CAA	Civil aviation authority
CAD	Common agreement document
CDM	Collaborative decision-making
CFIT	Controlled flight into terrain
FOD	Foreign object debris/damage
IAIP	Integrated aeronautical information package
IFR	Instrument flight rules
ILS	Instrument landing system
LVP	Low visibility procedures
NAVAID	Aid to air navigation
NLA	New larger aeroplane
OFZ	Obstacle free zone
OLS	Obstacle limitation surfaces
PAPI	Precision approach path indicator
PASG	PANS-Aerodromes Study Group (PASG)
PCN	Pavement classification number
PRM	Precision runway monitor
QFU	Magnetic orientation of runway
RESA	Runway end safety area
RFF	Rescue and fire fighting
RVR	Runway visual range
SARPs	Standards and Recommended Practices
SMS	Safety management system
SSP	State safety programme
VASIS	Visual approach slope indicator system
VFR	Visual flight rules
WGS-84	World Geodetic System — 1984



Chapter 1

DEFINITIONS

When the following terms are used in this document, they have the following meanings:

Advanced surface movement guidance and control system (A-SMGCS). A system providing routing, guidance and surveillance for the control of aircraft and vehicles in order to maintain the declared surface movement rate under all weather conditions within the aerodrome visibility operational level (AVOL) while maintaining the required level of safety (Doc 9830 — *Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual*).

Aerodrome infrastructure. Physical elements and related facilities of the aerodrome.

Applicable regulation. Regulations applicable to the aerodrome and to the aerodrome operator that are transposed from international specifications and other relevant regulations.

Compatibility study. A study undertaken by the aerodrome operator to address the impact of introducing an aeroplane type/model new to the aerodrome. A compatibility study may include one or several safety assessments.

Critical aeroplane. The type of aeroplane which is the most demanding for the relevant elements of the physical infrastructure and the facilities for which the aerodrome is intended.

Mobile object. A movable device moving under the control of an operator, driver or pilot.

Obstacle. All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that:

- a) are located on an area intended for the surface movement of aircraft; or
- b) extend above a defined surface intended to protect aircraft in flight; or
- c) stand outside those defined surfaces and that have been assessed as being a hazard to air navigation (Annex 14 — *Aerodromes*, Volume I — *Aerodrome Design and Operations*).

Promulgation. The act of formally notifying official information to the aviation community.

Runway incursion. Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft (Doc 9870 — *Manual on the Prevention of Runway Incursions*).

Runway/taxiway excursion. Any occurrence at any aerodrome involving the departure, wholly or partly, of an aircraft from the runway/taxiway in use during take-off, a landing run, taxiing or manoeuvring.

Safety assessment. An element of the risk management process of an SMS that is used to assess safety concerns arising from, inter alia, deviations from standards and applicable regulations, identified changes at an aerodrome or when any other safety concerns arise.

Safety management system (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures (Annex 19 — *Safety Management*).

Safety manager. The responsible individual and focal point for the implementation and maintenance of an effective SMS. The safety manager directly reports to the accountable executive.

State safety programme (SSP). An integrated set of regulations and activities aimed at improving safety (Annex 19 — *Safety Management*).

Technical inspection. Visual and/or instrumental verification of compliance with technical specifications related to aerodrome infrastructure and operations.

Chapter 2

CERTIFICATION OF AERODROMES

2.1 GENERAL

2.1.1 Introduction

This chapter contains provisions with regard to the initial certification process and to continued oversight. General principles and procedures to be followed have been developed to assist States and aerodrome operators to meet their safety obligations.

2.1.2 Scope of certification

2.1.2.1 The scope of certification covers all relevant specifications established through the regulatory framework applicable to the aerodrome.

Note.— The relevant specifications stem from Annex 14, Volume I, Standards and Recommended Practices (SARPs), as well as other relevant additional requirements.

2.1.2.2 The scope of certification includes at least the subjects below:

- a) compliance of the aerodrome infrastructure with the applicable regulations for the operations the aerodrome is intended to serve;
- b) the operational procedures and their day-to-day application, when applicable, concerning:
 - 1) aerodrome data and reporting;
 - 2) access to the movement area;
 - 3) aerodrome emergency plan;
 - 4) rescue and fire fighting (RFF);
 - 5) inspection of the movement area;
 - 6) maintenance of the movement area;
 - 7) snow and ice control, and other hazardous meteorological conditions;
 - 8) visual aids and aerodrome electrical systems;
 - 9) safety during aerodrome works;

- 10) apron management;
- 11) apron safety;
- 12) vehicles on the movement area;
- 13) wildlife hazard management;
- 14) obstacles;
- 15) removal of a disabled aeroplane;
- 16) low visibility operations; and
- 17) compliance of the safety management system (SMS) with applicable regulations.

Note 1.— Provisions on reporting aerodrome information in 2.1.2.2 b) 1) can be found in Annex 15 and the Manual on Certification of Aerodromes (Doc 9774).

Note 2.— Provisions related to the above operational procedures will be developed in subsequent editions of PANS-Aerodromes.

2.1.2.3 The aerodrome manual describes all the information, for each certified aerodrome, pertaining to the above scope of certification concerning the aerodrome site, facilities, services, equipment, operating procedures, organization and management, including its SMS.

Note.— The complexity and size of the aerodrome may necessitate the SMS to be included in a separate manual.

2.1.3 Continued oversight

Once the State has completed a thorough review of the compliance of an aerodrome with the applicable certification requirements, leading to the granting of the certificate to the aerodrome operator, continued oversight should be established by the State in order to ensure that compliance with regard to certification conditions and ongoing additional requirements is maintained.

2.1.4 Shared responsibilities and interfaces

Depending on the requirements of the State, the aerodrome operator may not be responsible for some of the subjects detailed in the above scope of certification. In this case, the aerodrome manual should clearly define, for each of these items, which coordination and procedures have been put into place in the case of multiple responsible stakeholders.

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

2.2 AERODROME MANUAL

2.2.1 Use of the aerodrome manual

2.2.1.1 Introduction

An application for an aerodrome certificate shall be accompanied by an aerodrome manual produced in accordance with the applicable regulation. Once granted a certificate, the aerodrome operator is required to maintain the aerodrome manual in conformity with the applicable regulation and enable all aerodrome operating staff to have access to the relevant parts of the manual.

Note 1.— The term “operating staff” refers to those persons, whether or not they are employed by the aerodrome operator, whose duties are concerned either with ensuring safety of aerodrome operations or require them to have access to the aerodrome movement areas and all other areas within the aerodrome perimeter.

Note 2.— 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.

2.2.1.2 Scope of the aerodrome manual

2.2.1.2.1 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.

2.2.1.2.2 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. It describes the aerodrome services and facilities, all operating procedures, and any restrictions in place.

2.2.1.3 Ownership of the aerodrome manual

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

2.2.1.3.2 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.

2.2.1.4 Format of the aerodrome manual

2.2.1.4.1 As part of the certification process, the aerodrome operator shall submit, for approval/acceptance by the State, an aerodrome manual containing, inter alia, information on how operational procedures and their safe management will be delivered.

2.2.1.4.2 The aerodrome manual accurately reflects the aerodrome's SMS and shows, in particular, how the aerodrome intends to measure its performance against safety targets and objectives.

2.2.1.4.3 All aerodrome safety policies, operational procedures and instructions are contained in detail or cross-referenced to other formally accepted or recognized publications.

Note.— At larger aerodromes, the size and complexity of operations and related procedures may imply that these procedures cannot be included in a single document. For example, the aerodrome operator may develop and maintain an SMS manual to communicate its approach to the management of safety throughout the aerodrome. In such circumstances it is acceptable to identify within the aerodrome manual references to such provisions. It is essential that any referenced information, documentation and procedures be subjected to exactly the same systems of consultation and promulgation as the aerodrome manual. A computerized database containing the referenced procedures and information could be suitable for that purpose. For many smaller aerodromes the aerodrome manual can be both simple and brief as long as it covers procedures essential for safe day-to-day operations.

2.2.2 Contents of the aerodrome manual

2.2.2.1 The aerodrome manual shall contain, as a minimum, the following sections, including some of their requirements:

- a) a table of contents;
- b) a list of the corrigenda/amendments: this section should log the updates and/or corrections made to the aerodrome manual;
- c) a distribution list;
- d) aerodrome administrative data: an organizational chart should be provided, as well as the aerodrome operator's safety responsibilities;
- e) a description of the aerodrome: this includes maps and charts. The physical characteristics of the aerodrome should be documented, as well as the information regarding the RFF level, ground aids, primary and secondary electrical power systems and main obstacles. Sufficiently detailed charts of the aerodrome should also be included (showing the aerodrome's boundaries and different areas (manoeuvring area, apron, etc.). 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);
- f) a description of the intended operations, including:
 - 1) the critical aeroplanes the aerodrome is intended to serve;
 - 2) the category of runway(s) provided (non-instrument, instrument including non-precision and precision);
 - 3) the different runways and their associated levels of service;
 - 4) the nature of aviation activities (commercial, passenger, air transport, cargo, aerial work, general aviation);
 - 5) the type of traffic permitted to use the aerodrome (international/national, IFR/VFR, scheduled/non-scheduled); and
 - 6) the minimum RVR that aerodrome operations can be permitted;
- g) a description of each of the aerodrome operator's procedures related to the safety of aeronautical operations at the aerodrome. For each procedure:
 - 1) the responsibilities of the aerodrome operator are clearly described;
 - 2) the tasks that are to be achieved by the aerodrome operator or its subcontractors are listed; and

- 3) the means and procedures required to complete these tasks are described or appended, together with the necessary details such as the frequency of application and operating modes; and
- h) a description of the operator's SMS (see Note following 2.1.2.3):
 - 1) the SMS section of the manual is developed, and the related procedures and documents are enclosed, as well as the safety policy of the aerodrome operator signed by the accountable executive;

Note.— Annex 19 specifies a framework for the implementation of an SMS at an aerodrome.

- 2) the aerodrome SMS should be commensurate with the size of the aerodrome and with the level and complexity of the services provided.

Note.— A list of other possible topics for inclusion in the manual is given in Attachment A to this chapter.

2.2.2.2 Responsibilities attributed to other aerodrome stakeholders should be clearly identified and listed.

2.2.3 Updating of the aerodrome manual

2.2.3.1 Responsibility for maintaining the accuracy of the aerodrome manual is clearly defined in the manual.

2.2.3.2 The manual is updated using a defined process and includes a record of all amendments, effective dates and amendment approvals.

2.2.3.3 The method of enabling all aerodrome operating staff to have access to the relevant parts of the manual is 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.

2.2.3.4 Any amendments or additions should be communicated to the State in accordance with the continued oversight requirements established by the State.

2.3 INITIAL CERTIFICATION

2.3.1 Points to be covered

2.3.1.1 When an aerodrome operator applies for initial certification, the State shall assess the compliance of that aerodrome with the applicable certification requirements described in 2.1.2. If the aerodrome is found to be compliant, a certificate is issued.

2.3.1.2 Compliance of the aerodrome is assessed through:

- a) technical inspections of the infrastructure of the aerodrome and its equipment, as related to the requirements associated with the intended operations;
- b) review of the aerodrome manual and supporting documentation and acceptance of its relevant safety parts; and

- c) on-site verification of the aerodrome operator's procedures, its organization and its SMS based upon the contents of the aerodrome manual.

Note 1.— Guidance on the initial certification process, including timelines, is shown at Attachment B to this chapter.

Note 2.— Technical inspections are planned and conducted so that their results can be used for on-site verifications. Scope and methodologies for technical inspections and on-site verifications are detailed in Appendix 1 to Chapter 2.

2.3.2 Aerodrome technical inspections

2.3.2.1 The technical inspections of the aerodrome should include, as a minimum:

- a) an inspection of the infrastructure, obstacle limitation surfaces (OLS), visual and non-visual aids and aerodrome equipment for the use of aeroplanes;
- b) an inspection of the RFF services; and
- c) an inspection of wildlife hazard management.

Note 1.— Several options to carry out these inspections are presented below.

Note 2.— The methodology for technical inspections is proposed in Appendix 1 to this chapter.

Option 1: full inspections by the State

2.3.2.2 At aerodromes where an SMS is not fully operational, full inspections should be conducted by the State.

2.3.2.3 Those inspections should be conducted using checklists developed by the State (see Appendix 1 for critical areas to be inspected).

2.3.2.4 If technical inspections have previously been conducted, and depending on the changes that occurred at the aerodrome since the last inspection, the State can undertake a follow-up inspection instead of a full inspection, which should consist of:

- a) assessing that the conditions prevailing at the aerodrome that led to the conclusions of the previous technical inspections are still valid;
- b) reviewing any new applicable regulation; and
- c) reviewing the implementation of the previously accepted corrective action plan.

2.3.2.5 A report of the follow-up inspection should be produced, including any deviations or observations made during the follow-up inspection. Any immediate and corrective action can be taken, if needed, during follow-up inspections.

Option 2: demonstration of compliance by the operator

2.3.2.6 At aerodromes where an SMS has been fully implemented, the aerodrome operator should ensure that the requirements in the checklists provided by the State have been complied with.

Note.— According to the answers to the checklist, the aerodrome operator may need to undertake safety assessments and provide them, together with the completed checklists, to the State for acceptance.

2.3.2.7 The State should then analyse the documents completed by the applicant and conduct sample on-site checks according to this analysis.

Note.— The methodology that should be used for conducting on-site checks should be the same as the one used for other on-site inspections as described in Appendix 1.

2.3.3 Approval/acceptance of the aerodrome manual

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

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.

Note 2.— The information required in the aerodrome manual is given in section 2.2.

Note 3.— The checklist given in Attachment C to this chapter also shows the information required in the aerodrome manual and has been organized to follow the list of topics given in Attachment A.

2.3.3.2 Prior to the approval/acceptance of the aerodrome manual, the State should 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.

2.3.3.3 The State formally informs the aerodrome operator when the aerodrome manual is accepted.

2.3.3.4 The aerodrome operator should inform the State of any changes to the approved/accepted aerodrome manual between the time of the application for a certificate and the end of the on-site verification.

2.3.4 On-site verification

2.3.4.1 The scope of the on-site verification covers the subjects included in the aerodrome manual.

2.3.4.2 The on-site verification confirms that the aerodrome operations are carried out effectively in accordance with the applicable regulation and procedures described in the manual.

2.3.4.3 The on-site verification of the SMS is normally included at this stage of initial certification, but depending on the implementation status of the SMS at the aerodrome, a specific verification of the SMS can be conducted separately.

Note.— Because the aerodrome operator's SMS may not yet be fully operational, its effectiveness will be assessed during continued oversight and will constitute an important factor in deciding the continued oversight that will be carried out.

2.3.4.4 On-site verification of the SMS focuses explicitly on the components required for granting the certificate and, when applicable, covers all other requirements for an SMS.

Note 1.— The minimal SMS components that are to be in operation before the certificate can be granted are described in Appendix 1.

Note 2.— SMS requirements also apply to the aerodrome operator's subcontractors in the domains within the scope of certification.

2.3.4.5 When technical inspections have been previously conducted by the State, the on-site verification takes into account the results of the previous technical inspections and the associated corrective actions, if relevant.

2.3.4.6 If the on-site verification team notices any deviations from the technical inspection reports, they are included in the team's report.

2.3.4.7 If the aerodrome operator is not directly responsible for some of the activities within the scope of certification, the on-site verification ensures that there is appropriate coordination between the aerodrome operator and the other stakeholders.

Note 1.— The methodology used to conduct on-site verifications is available in Appendix 1.

Note 2.— Because the scope of certification is broad, a sampling method for verifying particular subjects may be used rather than the whole scope.

2.3.4.8 At the end of an on-site verification, a preliminary list of findings is given to the aerodrome operator.

2.3.4.9 An on-site verification report is also sent to the aerodrome operator after the classification of findings by the State.

2.3.5 Analysis of the findings and monitoring of the related corrective action plans

2.3.5.1 In case of findings, the State should require the operator to develop a corrective action plan proposing ways to eliminate or mitigate the findings, with deadlines for each subsequent action.

2.3.5.2 The State may impose immediate appropriate measures on the aerodrome operator, if necessary, until actions have been taken to remove or mitigate the findings.

2.3.6 Issuance of the certificate

2.3.6.1 When no findings are reported or once the corrective action plans are accepted, and mitigation measures are agreed upon, the State grants the aerodrome certificate to the applicant. An appendix may be attached to the certificate describing the essential conditions prevailing at the aerodrome, which may include:

- a) the aerodrome reference code;
- b) critical aeroplane type;
- c) the operational conditions for the accommodation of critical aeroplanes for which the facility is provided;
- d) RFF category;

- e) the operational restrictions at the aerodrome; and
- f) the authorized deviations related to aerodrome compatibility described in Chapter 4, their inherent operational conditions/restrictions and validity.

Note.— In determining the duration of validity of the certificate, account may be taken of the number of technical staff required for the inspection activities, the complexity of the inspection activities to be performed including the number of aerodromes to be inspected and the maturity of the aerodrome operator's safety management system.

2.3.6.2 The State may accept a deviation on the basis of a safety assessment if permitted by the State's regulatory framework.

Note 1.— A methodology for conducting safety assessments is available in Chapter 3.

Note 2.— Accepted deviations are listed in the aerodrome manual (see 2.2.2.1 e)).

2.3.6.3 As long as the granting conditions are maintained, the validity of the certificate is either limited in time or unlimited.

Note.— Unavailability or downgrading of an infrastructure, facility or service, of a temporary nature, may not necessarily invalidate the certificate of an aerodrome.

2.3.6.4 During the period of validity of the certificate, the State monitors the timely implementation of the corrective action plans within the continued oversight developed in 2.5.

2.3.7 Promulgation of the status of certification

2.3.7.1 The State shall promulgate the status of certification of aerodromes in the aeronautical information publication, including:

- a) aerodrome name and ICAO location indicator;
- b) date of certification and, if applicable, validity of certification; and
- c) remarks, if any.

2.3.7.2 Where safety concerns have been observed on the aerodrome, special conditions or operational restrictions may be attached to the certificate and published in the aeronautical information publication (AIP) or by NOTAM until completion of the corrective action plan. In this case, validity may be shortened to be consistent with the duration and content of the corrective action plan. Other possible measures that may be taken by the State include suspension and revocation of the certificate.

2.4 AERODROME SAFETY COORDINATION

2.4.1 Introduction

This section specifies the role of the State in the coordination process and the interaction between the aerodrome operator and other stakeholders which is necessary for the safety of operations at the aerodrome.

2.4.2 Coordination affecting aerodrome safety

2.4.2.1 The State verifies that coordination exists between the aerodrome operator, aeroplane operators, air navigation service providers and all other relevant stakeholders to ensure the safety of operations.

2.4.2.2 The aerodrome operator should ensure that all users of the aerodrome, including ground-handling agencies and other organizations that perform activities independently at the aerodrome in relation to flight or aircraft handling, comply with the safety requirements of the aerodrome operator. The aerodrome operator monitors such compliance.

2.4.3 State's feedback on occurrences

2.4.3.1 Aerodrome operators are required to report safety occurrences at their aerodromes to their State in accordance with the applicable regulation.

2.4.3.2 Aerodrome operators shall report accidents and serious incidents, including:

- a) runway excursions;
- b) undershoots;
- c) runway incursions;
- d) landing or take-off on a taxiway; and
- e) wildlife strike-related events.

2.4.3.3 In addition to accidents and serious incidents, aerodrome operators should report safety occurrences of the following types:

- a) foreign object debris/damage- (FOD) related event;
- b) other excursions (i.e. from a taxiway or apron);
- c) other incursions (i.e. on taxiway or apron); and
- d) ground collisions.

Note.— Appendix 2 details the list of safety occurrences types and related critical data which should be reported at an aerodrome. The related tasks for reporting these occurrences and to feed the data when required are shared and coordinated between the various aerodrome stakeholders.

2.4.3.4 Aerodrome operators should ensure that analysis of safety occurrences at the aerodrome is performed by competent personnel who have been trained to perform these tasks.

2.4.3.5 Aerodrome operators should coordinate with all users of the aerodrome, including aircraft operators, ground-handling agencies, air navigation service providers and other stakeholders to improve the completeness and accuracy of the collection of safety occurrences and their related critical data.

2.4.3.6 The State should review and analyse the information provided by the operator in the occurrences reports to ensure that:

- a) all occurrences in 2.4.3.2 and 2.4.3.3 are adequately analysed by the aerodrome operator;

- b) significant trends are identified (either on a specific aerodrome or at a national level). Further in-depth analysis on the subject should be carried out if required so that the appropriate actions can be taken; and
- c) the most serious/significant occurrences should be carefully followed up by the State.

2.4.3.7 The output of these analyses can be used as input for the planning of continued oversight.

Note.— Variations in the frequency of occurrences reports on a specific aerodrome, other than those occurring as a result of seasonal variations in the types and/or levels of operations, could be considered to be an indicator of a potential problem in the reporting culture on the aerodrome or a specific danger that should have been studied by the aerodrome operator. The continued oversight of the reporting processes or subjects with a high frequency of occurrence should be reinforced.

2.4.4 Management of change

2.4.4.1 As part of their SMS, aerodrome operators should have in place procedures to identify changes and to examine the impact of those changes on aerodrome operations.

Note 1.— Changes on an aerodrome can include changes to procedures, equipment, infrastructures and special operations.

Note 2.— Further guidance on the management of change can be found in Doc 9859 — Safety Management Manual (SMM), Chapter 4.

2.4.4.2 A safety assessment will be carried out to identify hazards and propose mitigation actions for all changes that are found to have an impact on the aerodrome operations.

Note 1.— Depending on the scope of the envisaged change as well as the level of the impact on operations, the methodology and level of detail required to carry out the required safety assessment may vary.

Note 2.— The types of changes that have to be assessed are described in section 2.4.4.3, and the key principles on safety assessments are available in Chapter 3, Safety Assessments.

2.4.4.3 Need for a safety assessment according to the category of changes

2.4.4.3.1 *Routine tasks.* Changes related to routine tasks do not have to be assessed using the safety assessment methodology developed in Chapter 3 because these tasks are established and managed through specific procedures, training, feedback and reviews.

Note.— Routine tasks can be described as the actions related to an activity or service that are detailed in formal procedures, which are subject to periodic review, and for which the personnel in charge are adequately trained. These tasks may include movement area inspections, grass cutting on runway strips, sweeping of apron areas, regular and minor maintenance of runways, taxiways, visual aids, radio navigation and electrical systems.

2.4.4.3.1.1 The actions resulting from the regular assessment, feedback and review process related to these tasks should ensure that any changes related to them are managed, thus ensuring the safety of the specific task. However, a change related to a routine task for which feedback is not yet sufficient cannot be considered as sufficiently mature. Therefore, a safety assessment using the methodology developed in Chapter 3 should be carried out.

2.4.4.3.2 *Specific changes.* Impact on the safety of aerodrome operations may result from:

- a) changes in the characteristics of infrastructures or the equipment;
- b) changes in the characteristics of the facilities and systems located in the movement area;
- c) changes in runway operations (e.g. type of approach, runway infrastructure, holding positions);
- d) changes to the aerodrome networks (e.g. electrical and telecommunication);
- e) changes that affect conditions as specified in the aerodrome's certificate;
- f) long-term changes related to contracted third parties;
- g) changes to the organizational structure of the aerodrome; and
- h) changes to the operating procedures of the aerodrome.

Note.— When the change involves an aeroplane type/model new to the aerodrome, a compatibility study, as specified in Chapter 4, is conducted.

2.4.4.3.2.1 For any change in aerodrome operations as defined above, a safety assessment should be conducted.

2.4.5 Obstacle control

2.4.5.1 Obstacle control raises an issue for each State in regard to the responsibilities of each potential party involved. The responsibilities of those parties have to be clearly defined as follows:

- a) who is responsible for obstacle surveys;
- b) who is responsible for the surveillance of the emergence of new obstacles; and
- c) when obstacles are identified, who is responsible for taking action (i.e. removal, marking, lighting, displacement, instrument procedures) and enforcing that action.

2.4.5.2 Once the responsibilities have been defined, appropriate authority should be given to the entity responsible for the enforcement action required.

Note.— Guidance on the control of obstacles, roles and responsibilities of stakeholders and the practices of certain States can be found in Doc 9137 — Airport Services Manual, Part 6 — Control of Obstacles.

2.4.6 Oversight of third parties

Compliance of third parties with the safety provisions established by the aerodrome operator as specified in 2.4.2.2 should be monitored using the appropriate means.

2.5 CONTINUED AERODROME SAFETY OVERSIGHT

2.5.1 General

2.5.1.1 The scope of initial certification is described in 2.3. This section describes the procedures for continued aerodrome safety oversight. Continued oversight actions may not need to be as exhaustive but should be based on principles ensuring that compliance is maintained throughout the planning of adequate oversight actions.

2.5.1.2 Specific and targeted actions, in addition to the planned activities, may be carried out by the State, for example, in relation to changes, analysis of occurrences, safety of aerodrome works, monitoring of corrective action plans, or those related to the State safety plan. States may also have to address other issues regarding aerodrome safety depending on the aerodrome organization, such as obstacle control or oversight of ground handlers.

Note.— In order to have a complete perspective on aerodrome compliance, the results of those technical inspections undertaken during initial certification should be available for the team verifying the aerodrome operational procedures on site.

2.5.2 Continued oversight principles

2.5.2.1 The State should plan continued oversight actions in such a way as to ensure that each subject covered by the scope of certification is subject to oversight (see 2.1.2).

Note.— The planning of continued oversight actions by the State may take into account the aerodrome safety performance and risk exposure (see 2.5.4).

2.5.2.2 The development and operation of an aerodrome's SMS should ensure that the aerodrome operator takes appropriate actions regarding the safety on the aerodrome.

Note.— When an aerodrome has a fully developed and operational SMS, the continued oversight of the aerodrome does not have to be as exhaustive as for one with a developing SMS. Oversight activities in this case should focus on the SMS itself in order to ensure that the aerodrome SMS is operating continuously and adequately.

2.5.2.3 Sample checks of the aerodrome's compliance with certification requirements and specifications should be carried out in order to ensure the SMS has identified all deviations, if any, and adequately managed them. This also provides an indication on the level of maturity of the SMS. Consequently, a periodic audit cycle should be developed which consists of:

- a) at least one audit of the SMS; and
- b) sample checks on specific subjects.

2.5.2.4 If the SMS of the aerodrome operator is not fully implemented, specific oversight actions should target the SMS to ensure it is developing adequately and at a normal pace. In this case, the SMS should be audited as appropriate until it is considered to be sufficiently mature.

Note.— The maturity of the SMS is determined by the results of the oversight actions, according to the criteria developed in Appendix 1.

2.5.3 Audit of selected items

2.5.3.1 After initial certification has taken place, continued oversight actions of a subject may not require complete audit of all subject items and may instead be on the basis of sample assessment of selected items based on risk profile.

Note.— An aerodrome can be assessed through an analysis of the safety occurrences at the aerodrome, including any significant development, change or other known information that may highlight subjects of concern.

2.5.3.2 The audit of the selected items should consist of:

- a) a desk-based review of the appropriate documents, and
- b) an on-site verification.

2.5.3.3 The same checklists as those used for initial certification of the subject items should be used, but if a sampling item selection is made, only the selected checklist items should be audited.

2.5.4 Influence of aerodrome safety performance and risk exposure

2.5.4.1 The number of audits of the SMS during the period should be determined taking into account the following criteria:

- a) the regulator's confidence in the operator's SMS. This confidence is evaluated using the results of the SMS audits or other oversight actions. For example, feedback on the operator's occurrence reporting and management system might indicate that the analyses of the safety occurrences are not carried out as adequately as desired, or that a significant number of incidents have arisen on the aerodrome; and
- b) other factors contributing to the level of risk at the aerodrome, for example, the complexity of the aerodrome, the aerodrome's infrastructure or organization, the density of traffic, type of operations and other specific conditions.

Note.— The content of an SMS audit may be developed using the criteria in Appendix 1.

2.5.4.2 For aerodromes with a fully implemented SMS, in addition to the audit of the SMS, some sample subjects should be checked to ensure that the SMS has identified all safety-critical issues. This also helps to ensure that the SMS is operating adequately. The selection of these subjects should be determined taking into account:

- a) an analysis of the safety occurrences on the aerodrome;
- b) known information related to safety at the aerodrome that may highlight subjects of concern;
- c) specific subjects most significant for safety;
- d) the complexity of the aerodrome;
- e) any significant development or change to aerodrome infrastructure; and
- f) the subjects previously selected in order to cover all within a certain number of oversight cycles.

2.5.5 Continued oversight plans and programmes

2.5.5.1 Following the above principles, an oversight plan should be determined by the State, for each certified aerodrome and communicated to the aerodrome operator. This plan should ensure that:

- a) for aerodromes where an SMS is not fully functional:
 - 1) each subject within the scope of certification appears at least once and is subject to specified oversight actions; and
 - 2) the SMS is audited as appropriate;

Note 1.— The development of an SMS may be phased. During a phased implementation, only the elements under development within a specific phase will be assessed and reviewed.

Note 2.— It may be appropriate to audit an immature SMS at least once a year.

- b) for the aerodromes with a fully functional SMS:
 - 1) the SMS is audited at least once; and
 - 2) other oversight actions on selected subjects are conducted as appropriate.

2.5.5.2 The plan and programme should be updated annually to show the oversight actions that have actually been carried out, including observations on certain actions that have not been undertaken as planned.

2.5.6 Unannounced inspections

2.5.6.1 Planning of the aerodrome audit is intended to assist the regulator and aerodrome in planning resources and manpower and in ensuring a consistent and adequate level of oversight. However, it does not prevent the State from carrying out unannounced inspections, if deemed necessary.

2.5.6.2 These inspections follow the same methodology as the scheduled audit or technical inspection as appropriate and may be carried out using the same checklists or could be aimed at a specific subject of concern.

2.5.7 Monitoring of corrective actions plans

2.5.7.1 Corrective actions plans resulting either from initial certification or from continued oversight audits or technical inspections should be monitored by the State until all items are closed to ensure that mitigating actions are carried out to the standard and timescale agreed.

2.5.7.2 The State should regularly review the status of each pending action.

2.5.7.3 When a deadline has been reached, the State should verify that the related corrective actions have been adequately implemented.

2.5.7.4 Where a corrective action plan does not result in appropriate action being taken within acceptable timelines, increased oversight can be taken by the State.

2.5.8 Increased oversight

2.5.8.1 When an aerodrome's corrective action plan does not ensure that appropriate corrective action has been taken within acceptable timelines, and after coordination between the State and the operator, the State may decide that increased oversight of this operator is necessary. The scope of increased oversight may cover specific subjects or be all-encompassing.

2.5.8.2 The State should notify the aerodrome operator in writing:

- a) that it is being placed under increased oversight and outline the subjects concerned and from which date;
- b) the reasons for the increased oversight and what it consists of; and
- c) what actions are required by the aerodrome.

2.5.8.3 When an aerodrome is placed under increased oversight, the State should:

- a) carry out appropriate oversight actions on the subjects concerned;
- b) follow very carefully the implementation of the corrective actions plan; and
- c) allocate sufficient time/resources to the oversight of the concerned aerodrome.

2.5.8.4 The oversight actions carried out under increased oversight are the same as those carried out normally, but are more exhaustive and address all the subjects concerned.

2.5.8.5 When increased oversight is concluded on an aerodrome for a specific subject, the State should advise the aerodrome operator in writing, stating the end of the procedure and the reason.

2.5.8.6 The aerodrome certificate can be amended, suspended or revoked according to the outcome of the increased oversight.

Appendix 1 to Chapter 2

TECHNICAL INSPECTIONS AND ON-SITE VERIFICATIONS

1. INTRODUCTION

- 1.1 The aim of this section is to list the main items to be reviewed during the initial certification.
- 1.2 The following list may be expanded in accordance with applicable certification requirements.
- 1.3 By following these lists, States should base their checks on the same items while adapting their checklists to the applicable regulation, thus harmonizing their inspections.
- 1.4 The oversight audit checklist can be based on the same lists.

2. TECHNICAL INSPECTIONS

2.1 Infrastructure and ground aids

Initial certification of the infrastructure and ground aids includes:

a) Obstacle restrictions:

1) OLS:

- i) the surfaces are defined;
- ii) as few objects as possible penetrate the OLS;
- iii) any obstacles that do penetrate the OLS are appropriately marked and lit. Operational restrictions may apply as appropriate;

2) obstacle free zone (OFZ):

- i) these surfaces are defined when required;
- ii) no object penetrates the OFZ unless essential for the safety of air navigation and is frangible;

3) objects on the areas near the runway or the taxiways (runway strips, clearway, stop way, runway end safety area, taxiway strips, radio altimeter operating area, pre-threshold area) comply with the requirements;

b) Physical characteristics:

- 1) in order to facilitate the verification of compliance of the physical characteristics of the aerodrome, States may use the reference code method developed in Annex 14, Volume I. The reference code provides a simple method for interrelating the numerous specifications concerning the characteristics of aerodromes so as to provide a series of aerodrome facilities that are suitable for the aeroplanes that are intended to operate at the aerodrome;
 - 2) the aerodrome operator may indicate in its aerodrome manual the reference code chosen for each element of the movement area so that the State can check compliance of the runways and taxiways and their associated characteristics against the requirements of the reference code as well as other specifications (bearing strength, surface characteristics, slopes);
 - 3) runways:
 - i) the physical characteristics:
 - are compliant with the applicable regulation and the reference code;
 - characteristics are adequately and regularly measured;
 - ii) the published declared distances are in accordance with the situation on site;
 - iii) the areas near the runway (runway shoulders, runway strips, clearway, stopway, runway end safety area, radio altimeter operating area, pre-threshold area) are compliant with the applicable regulation and the reference code in terms of width, length, type of surface, resistance, slopes, grading and objects on them;
 - iv) the relevant separation distances are compliant with the applicable regulation and the reference code;
 - 4) taxiways:
 - i) the physical characteristics (width, curve radius, extra taxiway width, longitudinal and transverse slopes, radius of turn-off curve for rapid exit taxiways, surface type, bearing strength) are compliant with the published reference code for each taxiway;
 - ii) the taxiway shoulders and strips are compliant with their reference code in terms of width, type of surface, slopes and objects on them;
 - iii) the taxiways on bridges are compliant with their reference code in terms of width;
 - iv) the relevant separation distances are compliant with applicable regulations and the reference code;
 - 5) service roads:
 - i) road-holding positions are established at the intersection of a road and a runway at a distance compliant with the reference code;
 - 6) holding bays, runway-holding positions and intermediate holding positions:
 - i) the holding bays, runway-holding positions and intermediate holding positions are located in accordance with the applicable reference code;
- c) Electrical systems:
- 1) adequate primary power supply is available;

- 2) the switch-over time meets the requirements;
 - 3) when required, a secondary power supply is available;
 - 4) the air traffic service (ATS) has feedback on the status of ground aids when required;
- d) Visual aids:
- 1) markings:
 - i) all the markings:
 - are in place where required;
 - are located as required and in the required number;
 - have the dimensions and colours required;
 - ii) this includes, when required:
 - the runway markings (runway designation marking, threshold marking, runway centre line marking, runway side stripe marking, aiming point marking, touchdown zone marking, runway turn pad marking);
 - the taxiway markings (taxiway centre line and enhanced taxiway centre line marking, taxiway side stripe marking, runway-holding position marking, intermediate holding position marking);
 - the apron markings;
 - the mandatory instruction markings;
 - the information markings (that do not have to be displayed but are to be compliant when displayed);
 - a road-holding position marking (that is compliant with the applicable regulation);
 - a VOR aerodrome checkpoint marking;
 - a non-load bearing surface marking;
 - 2) signs:
 - i) all the signs:
 - are in place where required;
 - are located as required;
 - have the dimensions and colours required;
 - have an adequate lighting system when required;
 - are frangible when required;

ii) this includes when required;

- mandatory instruction signs (runway designation signs, runway-holding position signs, Category I, II and III holding position signs, no entry signs);
- information signs (direction signs, location signs, runway vacated signs, runway exit signs, intersection take-off signs, destination signs, road-holding position signs, VOR checkpoint signs, aerodrome identification sign);

3) lights:

i) there should not be any non-aeronautical lights that might endanger the safety of an aeroplane;

ii) all the aeronautical lights:

- are displayed when required;
- located as required and in the required number;
- have the required colours and intensity levels;
- comply with their serviceability levels or maintenance objectives;
- are frangible when elevated as required;

iii) this includes, when required:

- the approach lighting system;
- the runway lead-in lighting systems;
- the visual approach slope indicator system (VASIS or PAPI);
- the runway lights (runway centre line lights, runway edge lights, runway threshold identification lights, runway end lights, runway threshold and wing bar lights, runway touchdown zone lights, stopway lights, runway turn pad lights);
- the taxiway lights (taxiway centre line lights, taxiway edge lights, stop bars, no-entry bars, intermediate holding position lights, rapid exit taxiway indicator lights);
- de-icing/anti-icing facility exit lights;
- runway guard lights;
- road-holding position lights;
- unserviceability lights;
- aeronautical beacons;
- obstacle lights;

4) markers:

i) all the markers:

- are in place where required;
- are located as required and in the required number;
- have the required colours;
- are frangible;

ii) this includes, when required:

- the taxiway markers (taxiway edge markers, taxiway centre line markers);
- the unpaved runway edge markers;
- the boundary markers;
- the stopway edge markers;
- the edge markers for snow-covered runways;
- unserviceability markers;

5) indicators:

i) a wind direction indicator:

- is provided in the correct location;
- complies with the location and characteristics requirements;
- is illuminated at an aerodrome intended for use at night.

2.2 RFF services

Initial certification of RFF services includes:

a) Level of protection:

- 1) the level of protection is promulgated in the AIP;
- 2) the aerodrome operator has a procedure to regularly reassess the traffic and update the level of protection including unavailability;
- 3) the aerodrome operator has made arrangements with the aeronautical information services, including ATS, to provide up-to-date information in case of any change in the level of protection;

b) RFF personnel:

- 1) the number of RFF personnel is consistent with the level of protection appropriate to the aerodrome RFF category;

Note.— Guidance on the use of a task resource analysis in determining the minimum number of RFF personnel required can be found in the Airport Services Manual (Doc 9137), Part 1 — Rescue and Fire Fighting.

- 2) the training of all RFF personnel is adequate and monitored;
- 3) the training facilities, which may include simulation equipment for training on aeroplane fires, are available;
- 4) the procedures that RFF personnel follow are kept up to date;

c) Response:

- 1) the RFF service is provided with an up-to-date map of its response area, including the access roads;
- 2) the response time complies with the applicable regulation and is regularly tested. This check should be formalized in the RFF procedures;
- 3) the RFF service has procedures that describe this response and ensure that in case of an incident/accident a report is written and filed;
- 4) a communication and alerting system is provided between the fire station, the control tower and the RFF vehicles;

d) Rescue equipment:

- 1) the number of RFF vehicles is consistent with the applicable regulation;
- 2) the RFF service has a procedure describing the maintenance of the RFF vehicles and ensuring that this maintenance is formally monitored;
- 3) the types and quantities of the extinguishing agents, including the reserve supply, are consistent with the applicable regulation;
- 4) the protective clothing and respiratory equipment provided are consistent in quality and quantity in accordance with the applicable regulation, and the respiratory equipment is properly checked and their quantities formally monitored;
- 5) specific rescue equipment is provided in adequate number and type when the area to be covered by the RFF service includes water;
- 6) any other equipment required by the applicable regulation is provided in sufficient number.

2.3 Wildlife hazard management

The following checks on wildlife hazard management can either be a technical inspection or included in the audit of the aerodrome operator's procedures:

- a) The required equipment is provided;

- b) Fences are provided as required;
- c) The aerodrome operator has a procedure describing the actions taken for discouraging the presence of wildlife, including:
 - 1) who is in charge of those actions and what their training is;
 - 2) how and when these actions are carried out, including reporting and filing of these actions;
 - 3) what equipment is used to conduct these actions;
 - 4) analyses of the aerodrome vicinity and the preventive actions to be taken subsequently to discourage wildlife;
 - 5) monitoring of these actions, including, where applicable, the conduct of appropriate wildlife assessments;
 - 6) coordination with ATS;
- d) The aerodrome operator has a procedure to:
 - 1) record and analyse the incidents involving wildlife;
 - 2) collect the wildlife's remains;
 - 3) monitor the corrective actions to be taken subsequently; and
 - 4) report to the State incidents involving wildlife.

3. ON-SITE VERIFICATION OF THE OPERATOR'S PROCEDURES AND SMS

3.1 On-site verification of the operator's procedures

On-site verification of the aerodrome operator's procedures should include the following:

- a) Aerodrome data and reporting:
 - 1) completeness, correctness and integrity of the data reported in accordance with the AIP including:
 - i) data collection, including the status of the movement area and its facilities;
 - ii) data validity checks;
 - iii) data transmission;
 - iv) changes to published data, whether permanent or not;
 - v) checks of the information once published;
 - vi) information update after construction works;