



ICAO NAIROBI

UNITING AVIATION

# AERODROME CERTIFICATION WORKSHOP

## ROLE OF OPERATOR



## OBJECTIVES

**By the end of this module participants will be able to:**

- Highlight the Obligations of the Aerodrome Operator in developing and Aerodrome manual
- Describe the procedures that need to be included in the Aerodrome Manual
- Highlight the requirements of SMS in Aerodrome Operations

# Aerodrome Manual



# General

- Purpose and Scope of the Aerodrome Manual
- Legal Requirements
- Conditions for Use of the Aerodrome
- Limitations on the Operation of the Aerodrome
- Responsibilities for Aerodrome Certification and Safety Issues
- Obligations of the Aerodrome Operator



# Particulars of the Aerodrome Site

## General Description of Aerodrome including:

- Location Plan
- Boundary Plan
- Aerodrome Plan
- Apron Plan
- Ground Movement Plan
- Lighting Plan

# Particulars of the Aerodrome Required by AIS

- Description of procedures to ensure accuracy and quality of AIS information
- Description of procedures to promulgation and review AIS information
- All other particulars of aerodrome required to by AIS such as General Information :,Aerodrome Name, Aerodrome Location,Geographical Location, taxiways, runways etc



# **Aerodrome Operating Procedures & Safety Measures**

## **Reporting of Aerodrome Information**

**Reporting or changing information in the AIP and Issuing NOTAMS including:**

- Procedures for checking AIP information
- Procedures for issuing a NOTAM
- Procedures for changing AIP information
- Procedures for briefing Aircraft Operators
- Details of persons responsible
- Details for reporting changes to the Authority



# Access to the Aerodrome Movement Area

Procedures for preventing unauthorized access into movement area including:

- Role of each agency with key responsibility for aerodrome security
- Procedures to control access of personnel and contractors
- Procedures to control access of vehicles and equipment.
- Details of persons responsible





# Aerodrome Movement Area Inspections

Procedures for daily inspection of movement area and OLS including:

- Description of inspections undertaken including frequency
- Inspection checklists
- Description of record keeping and corrective actions
- Description of communications with ATC & Apron Management Services
- GRF



# Aerodrome Movement Area Inspections

- Procedures for reporting results to ATC and parties responsible for defect rectification
- Runway inspection and defect reporting
- Taxiway inspection and defect reporting
- Apron inspection and defect reporting
- Procedures for restricting aircraft operations
- Details of persons responsible
- Procedures for amending all Checklists

# Aerodrome Electrical Systems & Visual Aids

Synopsis of facilities and procedures for the inspection and maintenance of the electrical system, aeronautical lights, signs and markings including:

## Electrical

- Description of electrical system and power supplies
- Single line diagram of electrical system as built
- Description of testing including frequency for secondary power supply



# Aerodrome Electrical Systems & Visual Aids

## Airfield Lighting

- ❖ Description of Aerodrome Ground Lighting.
- ❖ Description of lighting circuitry
- ❖ Details of inspection schedule, type of inspections and calibration methods
- ❖ Inspection checklists
- ❖ Details of record keeping and tracking of corrective actions
- ❖ Procedures for reporting results and parties responsible for defect rectification
- ❖ Description of preventative maintenance program
- ❖ Number of staff and details of shift structure

# Aerodrome Electrical Systems & Visual Aids

## Signs and Markings

- ❖ Description of aerodrome signs and markings
- ❖ Description of inspection schedule and inspections undertaken
- ❖ Inspection checklists
- ❖ Details of record keeping and tracking of corrective actions
- ❖ Procedures for reporting results and parties responsible for defect rectification



# Aerodrome Electrical Systems & Visual Aids

## Signs and Markings

- ❖ Description of preventative maintenance program
- ❖ Details of persons responsible for the following:
  - ✓ Electrical System
  - ✓ Airfield Lighting
  - ✓ Airfield signs
  - ✓ Pavement Markings

# Aerodrome Movement Area Maintenance

Synopsis of pavement maintenance program and description of pavement management system for the movement area including:

- Pavement inventory
- Inspection schedule, types of inspection/surveys/assessment including:
- Paved and unpaved areas
- Runways and taxiways strips

# Aerodrome Movement Area Maintenance

Synopsis of pavement maintenance program and description of pavement management system for the movement area including:

- ✓ Details of record keeping and tracking of corrective actions
- ✓ FOD management arrangements
- ✓ Description of friction testing, assessment and corrective action programme
- ✓ Rubber removal programme for runways
- ✓ Drainage system maintenance and adequacy





## **Aerodrome Works Safety**

Procedures for works on or in the vicinity or the movement area or those that may extend above the OLS including:

- Methodology for development of a safety plans and control of contractors
- Methodology for implementation of airside works safety plans
- Works notification and work authority permit process
- Procedures for closing off and reopening work areas
- Formal acceptance of work areas prior to return them to service
- Supervisory oversight of works in progress
- Communications between parties (contractors, ATC, Apron Management Services, etc)
- Details of persons responsible



# Apron Management

Synopsis for apron management including communication between ATC and Apron Management Services including:

- Description of geographical areas of responsibility including points of transfer
- Procedures for transfer of control for arriving and departing aircraft
- Arrangements for allocating aircraft parking positions
- Arrangements for ensuring stand availability, equipment serviceability and stand is clear of FOD prior to aircraft arrival
- Arrangements for communicating stand availability and clearance
- Description of stand guidance system used
- Arrangements for engine start-up and ensuring clearance during push-back
- Description of follow-me procedures including communication of instructions- Radio Discipline matters

# Apron Safety Management

Synopsis of procedures and facilities used to ensure apron safety including:

- Procedures for protection from jet blast
- Procedures to protect aircraft from FOD
- Fuel spillage response and cleanup procedures
- Enforcement of safety precaution during refueling
- Procedures for reporting accidents/incidents
- Procedures for investigation
- Procedures for analysis of accidents/incidents
- Procedures for auditing safety compliance of apron personnel
- Details of any apron/ground safety committees
- Details of persons responsible

## Airside Vehicle Control

Procedure for control of surface vehicles operating on or in the vicinity of the movement area including:

- Description of airside traffic rules including:
- Speed limits
- Means of enforcement
- Description of vehicle serviceability requirements
- Method for issuing driving permits
- Method for authorization for airside vehicles/equipment
- Considerations for vehicles/equipment that will remain airside
- Details of persons responsible

# Obstacle Control

Synopsis of system to control and remove obstacles at the aerodrome and its environs (off the aerodrome) including:

- Methodology for obstacle assessment
- Frequency of obstacle assessment or confirmation
- Methodology to control new obstacles
- Methodology to monitor new building developments
- Description of systems to remove existing obstacles
- Process to notify the National Authority of obstacles
- Process to notify the National Authority of additional or removed obstacles

# Obstacle Control

Synopsis of system to control and remove obstacles at the aerodrome and its environs (off the aerodrome) including:

- Process for amending the AIS publications regarding obstacles
- Description of system to obtain and report data in the applicable data collection areas
- Details of persons responsible

# Handling Hazardous Materials

Procedures for handling and storage of hazardous material on the aerodrome including:

- Details of special areas set-up for storage of flammable liquids and any other hazardous material
- Details of special areas set-up for storage of aviation fuel
- Methods for handling hazardous materials including:
  - Description for method for accepting delivery
  - Description for method for storage
  - Description for method for dispensing

# Handling Hazardous Materials

Procedures for handling and storage of hazardous material on the aerodrome including:

- Description of system for testing the quality of aviation fuel prior dispensing into aircraft
- Procedures for ensuring apron safety during fuelling operations
- Procedures for ensuring apron safety during defuelling operations
- Details of persons responsible



# Low Visibility Operations

Procedures to be introduced for Low Visibility Operations (LVO) including:

- Lowest limits for aircraft approaches
- Lowest limits for aircraft departures
- Description of how RVR is made
- Description of how RVR is reported
- Description of safeguarding methods and stages of implementation
- Description of systems for the control of aircraft during LVO
- Description of systems for the control of vehicles during LVO
- Details of persons responsible

# Protection of Radar and Navigation Sites

Procedures for protection, operations and maintenance of radar and radio navigational aids:

- Description of aerodrome navigation aids
- Inspection schedule and types of inspection and calibration
- Inspection checklists
- Description of record keeping and tracking of corrective actions
- Procedures for reporting results and parties responsible for defect rectification
- Procedures for reporting results to units responsible for control of aircraft on movement areas

# Protection of Radar and Navigation Sites

Procedures for protection, operations and maintenance of radar and radio navigational aids:

- Procedures for follow-up of reported deficiencies
- Description of preventative measures methods
- Number of staff and details of shift structure
- Description of maintenance schedule programme
- Description of control measures in the vicinity of radars
- Description of control measures for navigation aids
- Details of persons responsible

## Rescue & Firefighting Service

- Details of persons responsible
- High-level policy statement of provided RFF categories
- Descriptions of actions required to upgrade/downgrade the facility, if higher/lower category available by prior arrangement
- Chart of defined objectives (with operational levels acceptable as per policy) for each RFF category provided including:
  - Amounts of media provided



## Rescue & Firefighting Service

- Discharge rates
- Number of foam-producing appliances
- Manning levels
- Levels of supervision
- Procedures for monitoring and maintaining adequate response time capability

## Rescue & Firefighting Service

- Management of personnel engaged in extraneous duties to ensure no effect on response capability
- Details of specialist equipment such as water tankers, rescue craft, emergency tenders, hose layers, appliances with aerial capability, etc.
- Procedures to be followed if above specialist equipment is temporarily unavailable
- Policies or letters of agreement with third party organizations that provide essential equipment for safe operation of the aerodrome (e.g. water rescue)

## **Rescue & Firefighting Service**

- Contingency plans if organizations providing essential equipment not available
- Process for selection and retention of RFS personnel
- Process for ensuring initial and continued competence of RFF personnel
- Procedures for accessing accidents within 1,000 m of the threshold of each runway and details of access to difficult environs

## Rescue & Firefighting Service

- Procedures for managing normal aircraft RFF response if the RFF responds to domestic fires or special services
- Policy if the RFF facility responds to aircraft accidents landside/off-aerodrome
- Procedures to manage the effects on continued aircraft operations if RFF facility responds to aircraft accidents landside/off aerodrome
- Description of the availability of additional water supplies following an aircraft accident
- Policy in the event of contractual work which requires isolation or depletion of water supplies
- Description of scale of available medical equipment including location and transport arrangements if not held on the RFF appliances



## Integrated Emergency Planning

- Description of arrangements for determining and implementing plans ensuring the integrated management of response to an aircraft incident/accident. These arrangements should take account of the **complexity** and **size** of the aircraft operations.
- Policy statement of the distance the RFF would respond to an off-aerodrome aircraft accident
- Additional information/instructions within the emergency plan based upon the Aerodrome Operator's hazard/risk registry



# Integrated Emergency Planning

- Public Health Emergency planning and management
- Screening of passengers during entry and exit
- Responsible persons for handling of public health emergencies
- Handling of Radioactive substances
- Fumigation and vector control measures
- Decontamination of Airport premises and equipment following Public Health emergencies



## Extraordinary Emergencies

- Extreme weather phenomena- Kansai case.
- Building fires at Airports
- Handling of Industrial Action cases
- Aircraft accidents outside area of jurisdiction but affecting Airport operations.
- Community issues

## Aircraft Recovery Plan

- Description of arrangements and implementation plans ensuring the integrated management of aircraft recovery and business continuity following an aircraft incident/accident.
- These arrangements should take account of the complexity and size of the aircraft operations and based on the largest aircraft using the aerodrome.



# Safety Management System (SMS)

## Aerodrome Administration and SMS Organization:

- Organizational chart of key personnel
- Description safety accountabilities
- Description of safety management groups/committees
- Description of published safety accountabilities

# Safety Management System (SMS)

- Safety Management System (SMS)
  - Description of the SMS established for ensuring compliance with all safety requirements and achieving continuous improvement in safety performance including:
  - Statement of safety policies on the process of safety management and its relation to the operational and maintenance process

# Safety Management System (SMS)

Description of how planning and strategy is undertaken including:

- Description for setting priorities of and implementing safety initiatives
- Description for setting safety performance targets
- Description of how performance against targets is assessed
- Description of Aerodrome Quality Assurance System
- Description of internal safety auditing process and review schedule

# Safety Management System (SMS)

Description of the SMS established for ensuring compliance with all safety requirements and achieving continuous improvement in safety performance including:

- Statement of safety policies on the process of safety management and its relation to the operational and maintenance process
- Description of how planning and strategy is undertaken including:
  - Description for setting priorities of and implementing safety initiatives
  - Description for setting safety performance targets



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

- Description of how performance against targets is assessed
- Description of Aerodrome Quality Assurance System
- Description of internal safety auditing process and review schedule
- Description of method for ensuring compliance with the Regulations
- Description of quality control on safety

# Safety Management System (SMS)

- Description of documentation methods relating to safety
  - Airport operational records
  - Airport maintenance records including pavements and lighting
- Description of method used for risk identification
- Description of hazard identification, recording and reviewing
- Description of how risks are mitigated
- Description of how risks are controlled



# Safety Management System (SMS)

- Description of how critical safety areas are identified
- Description of Safety Measures Program (e.g. works safety plan, airside driver licensing, low visibility operations)
- Description of system for reporting, recording, investigating occurrences, complaints, defects, faults, discrepancies and failures
- Description of system for reporting
- Description of system for continued safety monitoring

# Safety Management System (SMS)

- Description of system for analysis of trends
- Description of methods and procedures for communicating safety measures
- Safety messages
- Enforcement of safety requirements
- Description of system for recruitment, training and competency testing of staff
- Description of system for review and evaluation of the adequacy of training provided



# Safety Management System (SMS)

- Description of certification system for testing competency
- Safety Policies should include the following:
  - Statement for maintaining or improving safety performance
  - Statement for minimizing risks of an accident
  - Statement for implementing safety systems
  - Statement about individual and management accountabilities and responsibilities for safety performance

## Safety Management System (SMS)

- Statement about priority of flight safety in relation to other priorities
- Statement about compliance with safety standards and regulatory requirements
- Statement about ensuring sub-contractors meet safety standard and requirements.
- Description of system to brief Air Transport Operators and Air Carriers
- Details of procedures to restrict operators who do not meet national civil aviation regulatory requirements or are subject to a ban; a cease-and-desist order; or grounding order



# Operator Challenges

- State owned Airports not meeting regulatory requirements yet international
- Lack of Trained airport personnel
- Insufficient Procedures
- Insufficient maintenance programs and plans
- Overreliance on consultants
- QMS verses SMS

## SUMMARY



**Purpose**



**Key tool for the Aerodrome**



**Key tool for the CAA**



**Uniform Structure and Content**



**Must reflect reality**



**Must be a living Document**





ICAO

SAFETY



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North American  
Central American  
and Caribbean  
(NACC) Office  
Mexico City

South American  
(SAM) Office  
Lima

ICAO  
Headquarters  
Montréal

Western and  
Central African  
(WACAF) Office  
Dakar

European and  
North Atlantic  
(EUR/NAT) Office  
Paris

Middle East  
(MID) Office  
Cairo

Eastern and  
Southern African  
(ESAF) Office  
Nairobi

Asia and Pacific  
(APAC) Sub-office  
Beijing

Asia and Pacific  
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THANK YOU