



*Referenced to Nigeria Regulations*

# Advisory Circular

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**NIGERIA CIVIL AVIATION AUTHORITY (NCAA)  
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## **GUIDANCE ON PREPARATION OF AERODROME MANUAL**

Made this <sup>17<sup>th</sup></sup> ..... day of <sup>July</sup> ..... 2023

A handwritten signature in blue ink, appearing to read "Musa Shuaibu Nuhu".

**Captain Musa Shuaibu Nuhu**

Director General of Civil Aviation

**NCAA**

## **GENERAL**

Nigeria Civil Aviation Authority Advisory Circulars contain information about standards, practices and procedures that the Authority has found to be an Acceptable Means of Compliance (AMC) with the associated regulation.

An AMC is not intended to be the only means of compliance with a regulation, and consideration will be given to other methods of compliance that may be presented to the Authority. When new standards, practices or procedures are found to be acceptable, they will be added to the appropriate Advisory Circular.

## **PURPOSE**

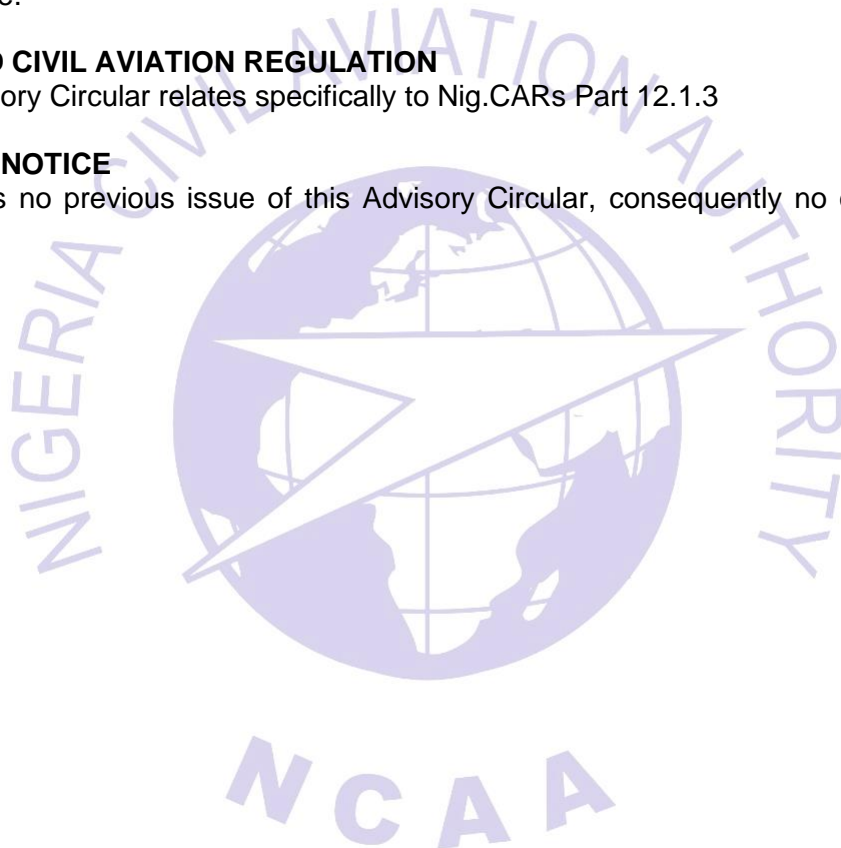
This Advisory Circular provides methods, acceptable to the Authority, for showing compliance with the Aerodrome Certification Application requirements of the Nig.CARs Part 12 as well as explanatory and interpretive material to assist in showing compliance.

## **RELATED CIVIL AVIATION REGULATION**

This Advisory Circular relates specifically to Nig.CARs Part 12.1.3

## **CHANGE NOTICE**

There was no previous issue of this Advisory Circular, consequently no change is in effect.





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## CHAPTER 1 — AERODROME MANUAL OVERVIEW

### 1.1 Introduction

Generally, the Aerodrome Manual contains operating procedures, equipment descriptions, responsibilities and other relevant information needed by aerodrome personnel to comply with the Regulations.

The criteria for granting an Aerodrome Certificate to operate an Aerodrome involves formal application as prescribed by the Authority and submission of an Aerodrome Manual together with other documents incorporated by reference into the Aerodrome Manual. Such manuals and plans may include but not limited to the following:

- Aerodrome Emergency Plan
- Aerodrome Rescue and Fire Fighting Manual
- Bird/Wildlife Hazard Management Manual
- Airside Vehicle Control Manual
- Safety Management System Manual
- Plans of the Aerodrome including obstacle chart
- Standard Operating Procedures for Maintenance of Movement areas, engineering facilities, vehicles and equipment
- etc

Incorporating the above manuals and plans into the Aerodrome Manual, it simplifies the Aerodrome Manual by including an overview on how these areas covered in the incorporated documents and plans satisfy the requirements of Nig.CARs, Part 12.

The Aerodrome Manual however needs to also include reference to the detailed procedures within each manual and plan as covered by the Aerodrome Manual overview.

Included in the Aerodrome Manual should also be a matrix that clearly identifies each clause of the Nig.CARs, Part 12 and how the Aerodrome Manual satisfies the requirements (see below for template of the matrix)

**NOTE:** - *The matrix mentioned above demonstrates to the Authority that each clause of the Nig.CARs, Part 12, specific to the operator's aerodrome operations, is complied with by given a corresponding reference in the Aerodrome Manual. This approach makes audit much easier during Aerodrome certification documentation.*



**STATEMENT OF COMPLIANCE CHECKLIST**

<b>STATEMENT OF COMPLIANCE WITH THE CLAUSES IN THE Nig.CARs, Part 12.</b>					
NAME OF AERODROME..... NAME OF CITY.....					
AERODROME REFERENCE CODE (ARC): .....					
Clause reference Nig.CARs, Part 12	No. in	To indicate standards in Nig.CARs, Part 12	Reference to indicate whether the Aerodrome is fully compliant, or non-compliant with the Nig.CARs, Part 12	To provide remarks or brief explanation when partially compliant or non-compliant with the aerodrome standards	Aerodrome Safety Inspector's comment

**1.2 Elements of compliance**

Generally, procedures, equipment, responsibilities and so on will vary from aerodrome to aerodrome. The regulations also list certain information that shall be in an Aerodrome Manual for compliance. The information can be regarded as the minimum detail required. Most of the provisions will need more explanation than the information specified and can conveniently fit as they come up. A few may lend themselves better to a separate illustration (figure, table, chart, map or diagram) which can then be referenced in the discussion of the individual provisions. For example, it may be simpler to draw up an organisation chart and a table of the lines of succession and use them as references rather than repeat the information many times.

**1.3 Guidelines for specificity**

**1.3.1** The central theme and purpose of the Aerodrome Manual is embodied in the language of Nig.CARs, Part 12. It is to be a useful working document to assist aerodrome personnel in maintaining compliance with the regulations.

The ideal Aerodrome Manual provides enough direction to achieve compliance with the regulations but stops short of smothering detail. Approach the subject as if you, the aerodrome operator, are leaving instructions for someone to carry on in your absence. When the Aerodrome Operator is writing the instructions, the Aerodrome Operator may be concerned with **WHO** is going to perform the tasks, **WHAT** the tasks consist of, any particular advice on **HOW** it is to be performed, and the timetable for performance to ensure that things happen **WHEN** the Aerodrome Operator wants them to. These points are discussed below.

**1.3.2 WHO.** There are two aspects of **WHO** that deserve discussion. There is the regular **WHO** to whom the Aerodrome Operator allocates certain responsibilities and tasks with the authority to make routine decisions without constantly referring them to the Aerodrome Operator. This person may also have to make immediate decisions to deal with an immediate and pressing situation. Then there is the other



substitute **WHO** that undertakes the functions and activities of the regular **WHO** when that person is absent for the likes of leave, conference or illness. The Aerodrome Manual should provide sufficient guidance for performing the function and, of course, instructions for calling for assistance if problems arise.

- 1.3.3** The Aerodrome Operator wants to feel confident that the applicable **WHO** knows what is required from a regulatory standpoint; and can apply this knowledge to new situations, as they arise, as well as the daily routine. This can be accomplished with firm, clear instructions in the Aerodrome Manual and referenced manuals.

The Rescue and Fire-fighting function provides an illustration. Events can occur at the fire station that requires the urgent initiation of actions that could have consequences somewhere else. For example if a piece of fire equipment becomes inoperative, some management action may have to be taken with respect to limiting air operations, or at least initiating notification to airline operators using the aerodrome. If an emergency call is received, a decision is often required about initiating all or part of the aerodrome emergency plan. Do the rescue and fire-fighting personnel who are faced with these choices have clear, concise, and available information that will put action on the right track? Finally, it must be clear which **WHO** is the one to be responsible for carrying out the instructions.

- 1.3.4** **WHAT** and **HOW**. The **WHAT** and **HOW** of the Aerodrome and associated manuals instructions refer to the tasks assigned to various individuals or sections who are charged with achieving compliance with the regulations. Unless all the personnel assigned to the task are familiar with the regulatory requirement, the Aerodrome Manual and referenced documents should be structured to produce the desired result by providing guidance appropriate to the training and experience of the personnel.

- 1.3.5** **WHEN**. The best instructions will not produce satisfactory results if they are not put into action. Is the instruction “The rescue and fire-fighting unit will inspect the fuelling areas each day” specific enough? Is there going to be a lapse in and the second shift thought that the first one surely had done it?





## CHAPTER 2 – CONTENT OF AERODROME MANUAL

### 2.1 Purpose of this listing

All of the provisions of Nig.CARs Part 12 apply to aerodromes requiring certification. Such aerodromes must prepare and maintain an aerodrome manual that reflects the manner in which the aerodrome complies with the requirements of Nig.CARs Part 12.

The regulations Part headings are listed below with amplifying remarks or examples.

### 2.2 About this listing

Except for the requirements of a purely administrative nature, all of the items should be written to satisfy the questions **WHO, WHAT, HOW, and WHEN** as discussed in paragraph 2.5.2 of this Advisory Circular.

There are also the Elements of Compliance to be considered – refer to paragraph 1.3. The discussions and examples presented in this listing cannot cover all possible aerodrome situations. Omission of some aspect of Nig.CARs Part 12 does not mean it is not required or is of lesser importance. Any questions the Aerodrome Operator may have concerning the application of these discussions or examples to the aerodrome should be resolved with the Authority.

### 2.3. Nig.CARs, Part 12, Requirements for compliance

The requirements contained in Nig.CARs Part 12 obliges the Aerodrome Operator to comply with when developing an Aerodrome manual.

### 2.4. Nig.CARs, Part 12.2 – Exemptions

if the Aerodrome Operator has one occupying its own niche in the compliance picture of the aerodrome, it is important to understand what an exemption is and what it does, and how the Aerodrome Operator may fit it in the Aerodrome Manual. Any limitations that the Aerodrome Operator establishes for the safety of aircraft operations at the aerodrome must be copied in the Aerodrome Manual and given prominence so that each of the employees is aware of it along with any instruction they might need for compliance.

### 2.5. Nig.CARs, Part 12.4– Aerodrome Manual

The Aerodrome Manual is a document containing the day to day operations of the aerodrome and forming part of the application for an Aerodrome Certificate under the Part 12 of Nig. CARs including any amendments thereto made in accordance, accepted/approved by the Authority.





### 2.5.1 Nig.CARs, Part 12.4.1– Preparation of the Aerodrome Manual.

The Aerodrome owner/operator shall have the Aerodrome Manual structured thus:

- (1) be typewritten or printed, and signed by the aerodrome operator;
- (2) be in a format that is easy to revise;
- (3) have a system for recording the accuracy of pages or amendments thereto, including a page for logging revisions; and
- (4) be organised in a manner that will facilitate the preparation, review and acceptance/approval process.

### 2.5.2 Nig.CARs, Part 12.4.2 – Information to be included in the Aerodrome Manual

The aerodrome operator should recognise that the aerodrome manual is a legal source of reference between the aerodrome operator and the Authority relative to aerodrome standards, conditions and levels of service to be respected in order to maintain the aerodrome operating certificate valid; a reference document for aerodrome inspections; a reference document for aerodrome users; a legal registration document pertaining to any modification or deviation from approved aerodrome standards and the conditions and levels of service pertaining to airside activities.

The aerodrome manual shall include at least the following elements:

- a) Front title page containing aerodrome name and year of issue/edition.
- b) Approval page
- c) List of effective pages.
- d) Revision History
- e) Distribution list
- f) Record of amendments.
- g) Table of contents.
- h) Foreword
- i) Part 1 General Information
- j) Part 2 Particulars of the aerodrome site
- k) Part 3 Particulars of the aerodrome required to be reported to the Aeronautical Information Service(AIS)
- l) Part 4 The aerodrome operating procedures and safety measures
- m) Part 5 Details of Aerodrome Administration and Safety Management System
- n) Definitions
- o) Abbreviations
- p) Appendices
- q) Annexes
- r) Glossary of terms



### 2.5.2.1 Nig.CARs, Part 12.4.2: Part 1 – General Information

Taking the above into account, Aerodrome owner/operator is required to provide a general introductory general information including the following:

- 1) purpose and scope of the aerodrome manual;
- 2) the legal requirement for an aerodrome certificate and an aerodrome manual as prescribed in the national regulations;
- 3) 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;
- 4) the available aeronautical information system and procedures for its promulgation;
- 5) the system for recording aircraft movements; and
- 6) obligations of the aerodrome operator.
- 7) Coordination policy or letters of agreements between AIS and Aerodrome Operator on areas of coordination including but not limited to Aerodrome Emergency Planning, Aerodrome Condition Reporting and Aerodrome Vehicle Operations

### 2.5.2.2 Nig.CARs, Part 12.4.2: Part 2 – Particulars of the Aerodrome site

Under this part, the aerodrome manual should incorporate:

- a) a plan of the aerodrome showing the main aerodrome facilities for the operation of the aerodrome including, particularly, the location of each wind direction indicator;
- b) a plan of the aerodrome showing the aerodrome boundaries;
- c) a plan showing the distance of the aerodrome from the nearest city, town or other populous area, and the location of any aerodrome facilities and equipment outside the boundaries of the aerodrome; and
- d) particulars of the title of the aerodrome site. If the boundaries of the aerodrome are not defined in the title documents, particulars of the title to or interest in the property on which the Aerodrome is located and a plan showing the boundaries and position of the Aerodrome.

### 2.5.2.3 Nig.CARs, Part 12: PART 3 – Particulars of the aerodrome required to be reported to the Aeronautical Information Service (AIS)

The users of the aerodrome use the data and information promulgated in the Nigeria Aeronautical Information Publication (AIP) to assess the suitability of the aerodrome for the aeroplane types they operate. It is essential that the Aerodrome Operator provides accurate and timely data and information to the aircraft operators through the medium of the Aeronautical Information Service (AIS) and that the Aerodrome Operator maintains its currency.

The Aerodrome Operator should discuss this requirement with the Aeronautical Information Service. Nig.CARs Part 12 establish procedures for providing the aerodrome data and information. In



particular, make arrangements for the immediate notification of any changes of aerodrome conditions which require the issue of a NOTAM. The Aerodrome Operator should pay particular attention to the WHO, WHAT, HOW, and WHEN to ensure that the procedures for this vital safety function is effective and reliable.

#### **2.5.2.3.1 Nig.CARs, Part 12, IS12.4.2: Part 3.3.1 – General Information**

The Regulations provides the Aerodrome Operator with details of the information that the Aerodrome Operator is required to provide to AIS.

- 1) The name of aerodrome;
- 2) The location of the aerodrome;
- 3) Aerodrome working hours;
- 4) The geographical coordinates of the aerodrome reference point determined in terms of the World Geodetic System – 1984 (WGS-84) reference datum;
- 5) The aerodrome elevation and geoid undulation;
- 6) The elevation of each threshold and runway end, and elevation of any significant high or low points along the runway, and the highest elevation of the touchdown zone of a precision approach runway;
- (7) The aerodrome reference temperature;
- 8) Details of the aerodrome beacon; and
- 9) The name of aerodrome operator and the address, telephone, fax, and email addresses at which the aerodrome operator may be contacted at all times.

#### **2.5.2.3.2 Nig.CARs, Part 12, IS12.4.2: Part 3.3.2– Aerodrome dimensions and related information**

- 1) Runway: true bearing, designation numbers, length, width, displaced threshold location, slope, surface type, type of the runway and for a precision approach runway. the existence of an obstacle free zone .
- 2) Length, width and surface type of runway strip, stopway and runway end safety areas.
- 3) Length, width and surface type of taxiways.
- 4) Apron surface type and aircraft stands
- 5) Clearways length and ground profile.
- 6) Visual aids for approach procedures, approach lighting type and approach slope indicator system (PAPI/APAPI ), 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, backup power availability.
- 7) The location and radio frequency of VOR or DVOR aerodrome check points.
- 8) The geographical coordinates for each threshold.
- 9) The geographical coordinates for each aircraft stand.
- 10) The geographical coordinates and top elevation of significant obstacles in the approach and take-off areas, in the circling area and in vicinity of the aerodrome. This information must be presented in the form of charts such as those required for AIP, as prescribed in Annex 4 and Annex 15 to the Chicago Convention.

- 11) Pavement surface type and bearing strength using ACN – PCN method.
- 12) Altimeter pre-flight check locations established and their elevation.
- 13) Declared distances: take-off run available (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA) and landing distance available (LDA).
- 14) Disabled aircraft location plan: the telephone and fax numbers, email address of the aerodrome coordinator for the removal of a disabled aircraft on or adjacent to the movement area, information on the capability to remove a disabled aircraft, expressed in terms of the largest type of aircraft which aerodrome is equipped to remove.
- 15) Rescue and firefighting: the level of protection provided, expressed in terms of the category of the rescue and firefighting services which should be in accordance with the longest aircraft normally using the aerodrome and the type and amounts of extinguishing agents normally available at the aerodrome.
- 16) Information about the availability of the fuel and types of fuel, and information for contact.

**NOTE:-** *The accuracy of the information which shall be presented in PART 3 is critical to aircraft safety. Information requiring engineering survey and assessment shall be produced (or verified) by qualified and approved technical persons.*

#### **2.5.2.4 Nig.CARs, Part 12, IS12.4.2: Part 4 – particulars of the aerodrome operating procedures and safety measures**

##### **2.5.2.4.1 Nig.CARs, Part 12, IS12.4.2: Part 4.4.1– Aerodrome reporting**

The Nig.CARs Part 12 require the Aerodrome Operator to advise aircraft operators, as soon as practical, of any condition on the aerodrome which may affect the safe operations of aircraft at the aerodrome. Particulars of the procedures referred to for reporting any changes to the aerodrome information set out in the AIP and procedures for requesting the issue of NOTAMS, including the following:

- a) arrangement for reporting any changes to the Authority and recording the reporting of changes during and outside the normal hours of aerodrome operations;
- b) the names and roles of persons responsible for notifying the changes, and their telephone numbers during and outside the normal hours of aerodrome operations; and
- c) the address and telephone numbers, as provided by the Authority of the place where changes are to be reported to the Authority.

**Advisory Circular NCAA-AC-ARD011** Aerodrome Inspection Programme and Condition Reporting contains information for the Operator to address this requirement in the Aerodrome Manual.



#### 2.5.2.4.2 **Nig.CARs, Part 12, IS12.4.2, Part 4.4.2 – Access to the aerodrome movement area**

The requirements of Part 12 pertaining to this subject are oriented toward inadvertent entry into an area containing hazards for the unwary trespasser who in turn could be hazardous to aircraft operations. The prevention of intentional infiltration of aerodrome security areas is within the scope of this Part and should not be confused with this requirement.

The coverage of the Aerodrome Manual should describe the measures taken to prevent inadvertent entry by persons, vehicles or animals such as:

Particulars of the procedures that have been developed and are to be followed in coordination with the agency responsible for preventing unlawful interferences in civil aviation at the aerodrome and for preventing unauthorised 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 Authority and other government departments, as applicable; and
- b) the names and roles of the personnel responsible for controlling access to the aerodrome, and the telephone numbers for contacting them during and after working hours.

Fencing is an obvious method, and conspicuous signing is another. Neither one is much good if the gates are left invitingly open or the signs are faded or otherwise obscured.

Aerodrome Manual should provide for continuing surveillance of all of the safeguards on the aerodrome for compliance with this provision of Nig.CARs, Part 12.

#### 2.5.2.4.3 **Nig.CARs Part 12, IS12.4.2, Part 4.4.3– Aerodrome Emergency Plan**

The Aerodrome Operator is referred to the **Advisory Circular NCAA-AC- ARD007-1** and ICAO Doc 9137-AN/898 Airport Services Manual Part 7 - Aerodrome Emergency Planning for detailed guidance on the many facets of the AEP which are acceptable for compliance with this Regulation. The AEP is a mandatory part of the Aerodrome Manual and the guidelines for specific statements in paragraph 2.3 regarding responsibility and function apply when the Aerodrome Operator prepares the AEP.

AEP may form part of Aerodrome Manual or be a separate stand alone document and should contain the basic elements such as:

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; power outages; sabotage, including bomb threats (aircraft or structure); unlawful seizure of aircraft; and incidents on the aerodrome covering “during the emergency” and “after the emergency” considerations;



- b) details of test 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 organisations, agencies and persons of authority, both on- and off aerodrome, 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 organise training and other preparations for dealing with emergencies; and
- f) the appointment of an on-scene commander for the overall emergency operation.

#### 2.5.2.4.4 **Nig.CARs, Part 12, IS12.4.2, Part 4.4.4 – Aerodrome Rescue and fire fighting**

Aerodrome Operator should state what the aerodrome category is and explain what it means in terms of the aircraft operating at the aerodrome. It would be a good idea to name the largest type of aircraft that the category can serve because sooner or later the question is bound to arise.

The Aerodrome Operator is required to ensure that aircraft rescue and fire-fighting equipment and agents are available and at the correct level for the aerodrome category. That there are adequate number of qualified and trained personnel available to ride the vehicles and operate the equipment to its maximum capacity. Aerodrome Operator should state the minimum usable amount of extinguishing agents that is required for the aerodrome category and the reserve supply and replenishment.

**Advisory Circular NCAA-AC-ARD007**, Aerodrome Rescue and Fire-fighting provides further information on extinguishing agents which the Aerodrome Operator might want to include in the Aerodrome Manual.

Aerodrome Operator should state the minimum number of vehicles that is required for the aerodrome category and this a good time to equate the vehicle or vehicles with the requirements for extinguishing agents and the equipment to be carried.

The personnel requirements are the vital element for an effective rescue and fire-fighting service. **Advisory Circular NCAA-AC-ARD007**, Aerodrome Rescue and Fire-fighting, provides the Aerodrome Operator with detailed guidance regarding personnel, the required protective clothing, and the rescue and fire-fighting equipment. The Aerodrome Manual should contain a description of the alarm system for rescue and fire-fighting response and a requirement for a daily test. The air traffic service role in the alarm system, and the test, should also be included.

**Response Capability:** Having provided the necessary elements of rescue and fire-fighting for the category of the aerodrome, this is now the vital area where the Aerodrome Operator needs clear instructions about the disposition of the rescue and fire-fighting elements to achieve the response capability.





In particular, the Aerodrome Operator should establish a daily check system of the serviceability of the vehicles, and confirmation of the availability of the rescue and fire-fighting personnel. The Aerodrome Operator must also be aware that this capability is the first step of the aerodrome emergency plan.

One aspect of Aerodrome Operator's response time capability which must be covered in the Aerodrome Manual is the requirement for fire coverage during operations.

The Aerodrome Operator's rescue and fire-fighting unit should be instructed to maintain a response capability at all times during arriving and departing of each aeroplane movement requiring coverage. It would be advantageous to impress on the air operators the importance of keeping the Aerodrome Operator informed of any changes to their flight schedules and to provide instructions in the Aerodrome Manual for contacting those operators for information on any flight delays or schedule changes.

As identified previously, it is not necessary to include details of all the above requirements in the Aerodrome Manual where such details are already included in Aerodrome Rescue and Fire Fighting Manual; however an overview and cross reference to the appropriate procedures contained within the Aerodrome Rescue and Fire Fighting Manual must be included.

#### **2.5.2.4.5 Nig.CARs, Part 12, IS12.4.2, Part 4.4.5– Inspection of the movement area and obstacle limitation surface by the aerodrome operator.**

This activity is very important because it impacts so many other areas of compliance with the regulations. The Aerodrome inspection programme enables the Aerodrome Operator to monitor aerodrome conditions for compliance with other requirements of the regulations. **Advisory Circular NCAA-AC-ARD011**, Aerodrome Inspection Programme and Condition Reporting, will help the Aerodrome Operator structure a comprehensive programme for the aerodrome.

The Aerodrome Operator is required to ensure that all regularly scheduled and periodic inspections are conducted and reported in accordance with the standards and procedures specified in the organisation exposition.

*Note that daily inspections are not absolutely required as there may be periods of no aeroplane movements at the aerodrome, but be wary of a long interval between inspections.*

In any event, the schedule of inspections and the concomitant responsibilities should be included in the Aerodrome Manual detailing elements such as:

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

- a) arrangement 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) arrangement and means of communicating with the aerodrome air traffic control services 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) arrangement for reporting the results of inspections and for taking prompt follow-up actions to ensure correction of unsafe conditions;
- g) the names and roles of persons responsible for carrying out inspections, and their telephone number during and after working hours;
- h) procedure to monitor and report the condition of movement areas;
- i) procedures to report the presence of water on runway; and
- j) procedures to report slippery runway condition.

#### **2.5.2.4.6 Nig.CARs, Part 12, IS12.4.2, Part 4.4.6 –Visual Aids and Aerodrome Electrical System**

The maintenance task is to fix or replace the broken or missing item on time. However there are a few additional points to be considered. If the light is burned out, it should be a simple matter to replace the bulb. But if the light has been smashed out of recognisable existence or missing, the Aerodrome Operator needs to be sure that whoever replaces it knows what kind of fixture to use. Similar information is required regarding markings. Well written instructions supplemented by an aerodrome diagram are valuable insurance against incorrect replacement of an item.

The Aerodrome Operator should also include clear instructions on how many, and in what sequence, lights may be out before the system is considered inoperative as prescribed in section 14.5 of the Nig.CARs, Part 12. This is an appropriate place to describe the runway and taxiway system of identification. Beyond the system description it is recommended that a runway, taxiway and apron configuration diagram be provided, especially if the identification system varies from the norm or is otherwise complicated. The Aerodrome Operator should also know who is responsible for the aerodrome lighting and include the means of contacting them.

The location of marked or lighted (or both) obstructions that fall within the aerodrome's authority and responsibility should be included. The narrative description should be enhanced by locating the objects on a map or obstacle chart keying them to the description. An aerodrome can be a confusing array of obstruction lights with different parties responsible for their maintenance. Be specific in the Aerodrome Manual identifying which ones are the maintenance responsibilities and which ones are the responsibilities of others. The Aerodrome Operator should also include explanation of who is to contact them in case of an outage and how they do it.

Nevertheless, the Aerodrome Manual shall contain 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) arrangement for carrying out inspections during and outside the normal hours of aerodrome operation, and the checklist for such inspection;
- b) arrangements for recording the results 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;
- 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;
- f) submission of markings, signs and lighting plans and SMGCS approved by the Authority; and
- g) procedure to prevent aircraft from entering permanently closed runways and taxiways.

The Regulation also requires each visual aid for navigation to provide accurate guidance to the user. **Advisory Circular NCAA-AC-ARD011**, Aerodrome Inspection Programme and Condition Reporting, provides guidance regarding the ground and flight checking of visual aids which the Aerodrome Operator can translate into the Aerodrome Manual. Ensure that the procedures for inspection also include the procedures to instigate the correction of any defect found.

#### **2.5.2.4.7 Nig.CARs, Part12, IS12.4.2, Part 4.4.7– Maintenance of the movement area**

This and other extensive maintenance type requirements will have similar patterns in the Aerodrome Manual.

Refer to paragraph 2.3 of this Advisory Circular and cover those areas of WHO, WHAT, HOW, and WHEN. The aerodrome inspection programme will normally identify deficiencies and thus initiate a requirement for maintenance work. This portion of the Aerodrome Manual should prescribe the procedures needed by the maintenance personnel for the conduct of corrective maintenance. . 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

The regulations also requires the operator to develop a preventative maintenance programme designed to alleviate the deterioration of any element of the aerodrome to a state where it might be a hazard to aircraft operations. It is important that aerodrome maintenance should be carried out at a time and manner that minimises disruptions to aircraft operations as they are the reason for the existence of, and are the business of, the aerodrome. Prompt or timely corrective action required for any reported occurrence of safety concern.

Aerodrome maintenance can be broken down to several categories as follows:



### **Regular major maintenance**

These are items that need to be budgeted for several years in advance and are the likes of:—

- ❖ re-sealing of movement areas:
- ❖ friction enhancing treatment such as runway grooving and de-rubberising.

These items should be programmed in advance to make use of optimum weather conditions and to, if possible, avoid busy traffic periods.

### **Routine preventative maintenance**

These are activities the likes of:—

- ❖ painting of markings:
- ❖ servicing of electrical installations and navigation aid:
- ❖ cleanliness of movement areas and drainage systems.

These activities should be addressed in a maintenance scheme with schedules and procedures established for the maintenance personnel and again with minimum disruption to aircraft operations.

### **Unscheduled minor maintenance**

These can be items the likes of:—

- ❖ urgent repairs to the surface of a movement area:
- ❖ removal of fuel and oil spills on the surface of a movement area  
any other maintenance required for the ongoing safety of aircraft operations

This type of activity usually requires a degree of urgency and may require that aircraft operations be suspended or restricted during the required work.

#### **2.5.2.4.8 Nig.CARs, Part12, IS12.4.2, Part 4.14.8 –Aerodrome Works Safety**

The important aspect is the Aerodrome Operator control of works on aerodromes and the procedures established to ensure that any works conducted will not endanger aircraft operations and minimise any disruptions to aircraft operations. 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 the aerodrome air traffic services during the progress of such work;
- b) the names, telephone numbers and roles of the persons and organisations responsible for planning and carrying out the work, and arrangements for contacting those persons and organisations at all times;
- c) the names and telephone numbers, during and after working hours, of the aerodrome fixed-based operators, ground handling agents and aircraft operators who are to be notified of the work.
- d) a distribution list for work plans, if required;
- e) procedure to return a runway to operational status after pavement overlay.



Further guidance is given to the Aerodrome Operator in **Advisory Circular NCAA-AC-ARD006**. Operational Safety during Works on Aerodromes, which the Aerodrome Operator can translate into procedures and instructions in the Aerodrome Operator's Aerodrome Manual.

#### **2.5.2.4.9 Nig.CARs, Part 12, IS12.4.2, Part 4.4.9–Apron management**

The Aerodrome Operator should appreciate that the apron is not part of the aerodrome manoeuvring area with established safety related regulations and procedures for the movement of aeroplanes and any essential ground vehicles. As suggested by the regulations the Aerodrome Operator should first assess the volume of traffic, aeroplanes and ground vehicles, which use the apron to determine if the Aerodrome Operator need to regulate their use of the apron.

The objective of this service would be to prevent collisions between aeroplanes, between aeroplanes and obstacles or ground vehicles. If the Aerodrome Operator do determine that a service is required the Aerodrome Operator must then determine who is going to do the service then issue appropriate procedures and instructions to personnel and to the apron users. Particulars of the apron management procedures, including the following:

- a) arrangements between air traffic and the apron management services;
- 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 or follow-me vehicle service

#### **2.5.2.4.10 Nig.CARs, Part 12, IS12.4.2, Part 4. 4.10 –Apron Safety Management**

The intensity and variety of movements on the apron make the apron as the most likely area of incidence of accidents. This is partly due to the presence among the people using the apron differences in awareness of risk e.g. between an aircraft engineer and that of an ordinary passenger; differences in professionalism e.g. between a jet pilot and vehicle driver; and differences in culture e.g. between the ground stewardess and a fireman. To ensure that the actual incidence of accidents are minimized, and perhaps eliminated, every apron user must take conscious steps and precautions to avoid accidents. The users of the apron actually form a matrix of possible sources and victims of accidents and incidents. This matrix may be stated to consist of:

- a) Aircraft,
- b) Vehicles and equipment,
- c) Employees,
- d) Passengers and
- e) Apron pavement and structures.

In cognisance of the above, the aerodrome operator may describe the procedures for Safety management considering that safety of the apron is the responsibility of every user of that facility and that all major users



of the apron such as Ground handling companies, Fixed Base Operators, Re-fueling companies etc. must have safety procedures of the service it renders on the apron. Procedures to ensure apron safety, including:

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

#### **2.5.2.4.11 Nig.CARs, Part 12, IS12.4.2, Part 4. 4.11– Airside Vehicle Control**

Tight control of ground vehicles can forestall many problems on the Aerodrome Operator aerodrome movement areas, and clear precise procedures in the Aerodrome Manual can help ensure that control. If the aerodrome has an air traffic service, the Aerodrome Manual should also contain any procedures or regulations that the Aerodrome Operator have jointly agreed to including radio or other communication requirements. The Aerodrome Operator is reminded that the operation of any radio equipment in the aeronautical mobile frequency band must be in accordance with the applicable requirements of current aeronautical telecommunications regulations.

If the aerodrome has no air traffic service, or for those periods when the air traffic service is not in attendance, the Aerodrome Manual should contain the procedures to control ground vehicles on the movement areas through pre-arranged signs or signals. Particulars of the procedure for the control of surface vehicles on or in the vicinity of the movement area, including the following:

- a) Details of the application 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.

If the Aerodrome Operator has special written agreements with tenants concerning vehicle discipline in compliance with Nig.CARs, Part 12, there should be an appendix in the Aerodrome Manual for guidance of aerodrome personnel tasked with their enforcement.

#### **2.5.2.4.12 Nig.CARs, Part 12, IS12.4.2, Part 4.4.12 –Wildlife Hazard Management**

In addressing wildlife hazards at the aerodrome, one of three types of entries are needed in the Aerodrome Manual: a statement of negative activity; a brief statement of activity not considered hazardous; or an environmental management programme to minimise or eliminate hazardous activities. To be incorporated in the manual should be particulars of the procedures to deal with the danger posed to aircraft operations by the presence of bird or wildlife 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.

If there is no wildlife activity at the aerodrome, or at least no activity that the Aerodrome Operator considered needed a programme, a statement in the Aerodrome Manual to that effect is needed.

If wildlife activity at the aerodrome triggered an environmental programme study, and it was subsequently determined that a programme is not required, the Aerodrome Manual should contain a brief statement that identifies the type and extent of the activity that triggered the study.

This will serve as an approximate gauge for comparison with subsequent wildlife observations for reevaluation of the situation. In this case the Aerodrome Operator can probably draw on the study to include some specifics on the type of wildlife activity likely to be observed, and some helpful guidance on when the activity may be approaching the limit of acceptability.

If it has been determined that the aerodrome must have an environmental management programme, it becomes a permanent part of the Aerodrome Manual unless a subsequent determination removes that requirement.

#### **2.5.2.4.13 Nig.CARs, Part 12, IS12.4.2, Part 4. 4.13– Obstacle Control**

The viability, and safety, of aerodrome use, by aircraft operators, can be assured by establishing effective obstacle control to maintain the obstacle limitation surfaces. Further guidance is provided in **Advisory Circular NCAA-AC-ARD013** should be followed to enable the development of adequate procedures for control of obstacles on and around aerodrome vicinity. Particulars setting out the procedures, including the following:

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

#### **2.5.2.4.14 Nig.CARs, Part 12, IS12.4.2, Part 4.4.14– Removal of Disabled Aircraft**

Although the ultimate responsibility for the removal of disabled aircraft rest with the airlines, a situation may arise whereby an airline may not have the capability to remove a disabled aircraft or is dilatory in doing so. The aerodrome operator should determine the arrangement that all airlines have made jointly or separately for the removal of disabled aircraft. To guard against such a situation the aerodrome operator is





expected to designate a disabled aircraft removal coordinator who will establish and be ready to coordinate the implementation of a disabled aircraft removal plan. The details of the operator's plan should be set out in the aerodrome manual. Guidance on the establishment of disabled aircraft removal plan is contained in ICAO Doc 9137 Part 5- Disabled aircraft removal plan. 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 aerodrome air traffic services;
- 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.

#### **2.5.2.4.15 Nig.CARs, Part 12, IS12.4.2, Part 4.4.15 – Handling of hazardous materials**

Hazardous material includes hazardous waste, petro-chemicals, and explosives. The aerodrome operator is expected to establish specific procedures to deal with hazardous material in order to: ensure the safety of aviation activities on or near the aerodrome; protect persons on the aerodrome from possible adverse effects of hazardous substances; avoid or minimise possible disruptions to the operation of the aerodrome as a result of improper handling of such materials. The procedures should detail the role of fuelling companies, ground handling agents and other relevant organisation in the handling of hazardous substances and related training requirements. Particulars of the procedures for the safe handling and storage of hazardous material 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 solid, 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.*

#### **2.5.2.4.16 Nig.CARs, Part 12. , IS12.4.2, Part 4.4.16– Low-visibility operations**

The establishment of low visibility procedures by aerodrome operator will be required for operators conducting operation below conditions designated by the state as low visibility minima. In this case the aerodrome operator is expected to install all necessary visual and non visual aids required for operations under this condition.





The procedure should include the measurement and reporting of runway visual range as and where required, and the personnel, their telephone numbers, responsible for measuring the Runway Visual Range. Further guidance on the establishment of low visibility procedures is contained in ICAO Doc 9137 Part 8- Airport Operational Practices

#### **2.5.2.4.17 Nig.CARs, Part 12, IS12.4.2, Part 4.4.17– Protection of Sites for Radar and Navigation Aids**

This is another area where the Aerodrome Manual should reflect the assignment of a person or position to be alert to activity that may derogate the guidance from a navigation aid.

Depending on the placement of the navigation aids, there may also be a need to write procedures and assignments in the Aerodrome Manual for security patrols, fence maintenance, and so on. 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 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.*

#### **2.5.2 4.18 Nig.CARs, Part 12, IS12.4.2, Part 4.4.18 –Runway Incursion Prevention**

Particulars of the facilities, equipment and procedures in place to prevent runway incursion, including:

- (a) integration of markings, lights, and signs as a whole into the runway incursion prevention plan, taking account of different traffic intensities and visibility conditions
- (b) control of the movement of persons and vehicles on the manoeuvring area



#### **2.5.2.4.19 Nig.CARs, Part 12, IS12.4.2, Part 4.4.19—Hazardous Meteorological Conditions**

Particulars for the dissemination of information by the meteorological service provider including the following:

- (a) descriptions of the procedures of handling hazardous meteorological conditions such as thunderstorm, strong surface winds and gusts, sandstorms;
- (b) procedures describing the actions to be taken and defining the responsibilities and criteria for suspension of operations on the runway;
- (c) Procedure for coordination of aerodrome operator with the meteorological service provider in order to be advised of any significant meteorological conditions.

#### **2.5.2.5 Nig.CARs, Part 12, IS12.4.2, PART 5– aerodrome administration and Safety Management System**

The organisation is required to nominate a person to be identified as the Chief Executive. This person must have the overall authority within the organisation, including financial authority, to ensure that all the necessary resources are available to operate and maintain the aerodrome and its facilities in compliance with Nig.CARs, Part 12 and to ensure compliance with the procedures in its Aerodrome and referenced manuals.

The person(s) nominated in the manuals must represent the management structure of the aerodrome operator and are required by the Nig.CARs to meet the criteria in the regulations in respect of being competent person(s). The Aerodrome Operator may choose to appoint safety managers for all or any combination of these areas of responsibility, however, it must be clear to whom the responsibilities devolve. It is necessary in any case that these manager(s) report to and are ultimately responsible to the chief executive. To be accepted such nominated person(s) should have adequate training, knowledge and satisfactory experience in the civil aviation system associated with the operation of aerodromes.

The titles, responsibilities, and numbers of the nominated person(s) will vary dependent on the size and scope of the aerodrome organisation.

Irrespective of the titles that may be used or the number of person(s) nominated to the following areas of responsibility, the Aerodrome Operator is expected to address those areas that are applicable to the aerodrome activities such as:

##### **2.5.2.5.1 Internal Safety Audits**

Responsibility for internal safety audit procedures is to assure compliance with the Aerodrome Manual and with Nig.CARs, Part 12. Responsibilities include ensuring the adequacy of the Aerodrome Manual and associated procedures in meeting the requirements of Nig.CARs, Part 12 and in reflecting the scope of services and facilities provided and



ensuring that corrective actions in respect of any deficiencies are fully implemented.

The Aerodrome Operator's internal safety audits and reporting system is an independent internal control system aimed at ensuring that any deviation from a performance standard will be detected and appropriate corrective action taken before the deviation becomes a hazard to the operations of aeroplanes at the aerodrome. The Aerodrome Operator's internal safety system should conduct ongoing reviews of the aerodrome operator's documentation, procedures and performance of the aerodrome elements on a regular basis. These reviews will ensure that all relevant requirements, standards, and procedures are adequately defined, documented, continue to be appropriate for the operation of the aerodrome, and are being complied with Nig.CARs, Part 12 and **Advisory Circular NCAA-AC-ARD016**, Aerodrome Safety Management System, contains information about standards and practices that are applicable to organisations required to establish internal quality assurance systems that the Aerodrome Operator should refer to for compliance with Nig. CARs.

This Authority is considering a phase approach to the implementation of safety management system by aerodrome operator as specified in Nig.CARs, Part 12. The phased plan will require operators to implement SMS in 4 phases with stipulated timelines for each of the phases. Operators will be required to develop a safety management manual that would outline criteria governing the implementation of established SMS.

The Aerodrome Operator's safety management system should have procedures for investigating the cause of any non-compliance with standards and for analysing the performance of any element of aerodrome operation. It will also show when reviews are due, when they are completed, and provide a system of reports that can be seen by the Authority on request.

It is normal practice to document the safety management system in a separate document, Reference to the applicable sections of the document that satisfy the Aerodrome Manual requirements should however be included.

### **2.5.3 Nig.CARs, Part 12.4.3– location of the Aerodrome Manual**

- (a) The aerodrome operator is required to indicate in the manual that it would provide the Authority with a complete and current copy of the Aerodrome Manual; and
- (b) That it shall keep at least one complete and current copy of the Aerodrome Manual at the aerodrome and one copy at the operator's principal place of business if other than the aerodrome;
- (c) The aerodrome operator is required to make a copy of the Aerodrome Manual available for inspection by authorised officers of the Authority.



#### **2.5.4 Nig.CARs, Part 12.4.4– Amendment of the Aerodrome Manual**

- (a) The aerodrome operator is required to provide pages for the amendment and revision of the Aerodrome Manual in order to update the accuracy of the information in the manual;

#### **2.5.5 Nig.CARs, Part 12.4.5 – The authority’s acceptance/approval of the Aerodrome Manual**

The Aerodrome owner/operator is required to provide a page for the Authority's acceptance/approval of the Aerodrome Manual and any amendments thereto, provided they meet the requirements.

#### **2.5.6 Nig.CARs, Part 12.4.6–Aerodrome Manual Controller**

The Aerodrome Operator is required to document and designate in the Aerodrome Manual a person to serve as Aerodrome Manual Controller, whose functions shall include:

- a) Keeping a record of persons who hold copies of the whole or part of the Aerodrome Manual;
- b) Updating of information in the manual given to those holders referred to in (a).



## CHAPTER 3 - HELIPORT MANUAL OVERVIEW

### 3.1 Contents for compliance

Generally, the Heliport Manual contains operating procedures, equipment descriptions, responsibilities, and other relevant information needed by aerodrome personnel to comply with the Regulations.

The criteria for granting a Heliport Certificate to operate a Heliport involves a formal application as prescribed by the Authority and submission of a Heliport Manual describing procedures for the following:

- ❖ Heliport Emergency Plan
- ❖ Heliport Rescue and Fire Fighting
- ❖ Bird/Wildlife Hazard Management
- ❖ Airside Vehicle Control, if any
- ❖ Safety Management System
- ❖ Control of obstacle within the obstacle limitation surfaces and obstacle chart
- ❖ Maintenance of heliport landing/safety areas, visual aids, vehicles and equipment
- ❖ etc

Included in the Heliport Manual should also be a matrix that clearly identifies each Nig.CARs, Part 12 requirements and how the Heliport Manual satisfies the requirements.

**NOTE:** - *The matrix mentioned above demonstrates to the Authority that each clause of the Nig.CARs, Part 12 Vol. II, specific to the operator's Heliport, is complied with by given a corresponding reference in the Heliport Manual. This approach makes audit much easier during Heliport certification documentation*

### 3.2 Special elements of compliance

The material for procedures, equipment, responsibilities and so on, will vary from Heliport to Heliport. The regulations also lists certain information that shall be in the Heliport Manual for compliance. These information can be regarded as the minimum detail required. Most of the provisions will need more explanation than the information specified and can conveniently fit as they come up. A few may lend themselves better to a separate illustration (figure, table, chart, map or diagram) which can then be referenced in the discussion of the individual provisions. For example, it may be simpler to draw up an organisation chart and a table of the lines of succession and use them as references rather than repeat the information many times.

### 3.3 Guidelines for specificity

#### 3.3.1

The central theme and purpose of the Heliport Manual is embodied in the language of the Nig.CARs Part 12 Vol. II. It is to be a useful working document to assist Heliport personnel in maintaining compliance with the regulations.

The ideal Heliport Manual provides enough direction to achieve compliance with the regulations but stops short of smothering detail. Approach the subject as if the Heliport operator is leaving instructions for



someone to carry on in the Operator's absence. When the Heliport Operator is writing the instructions the Operator may be concerned with **WHO** is going to perform the tasks, **WHAT** the tasks consist of, any particular advice on **HOW** it is to be performed, and the timetable for performance to ensure that things happen **WHEN** the Operator wants them to. These points are discussed below.

**3.3.2** **WHO.** There are two aspects of **WHO** that deserve discussion. There is the regular **WHO** to whom the Operator allocate certain responsibilities and tasks with the authority to make routine decisions without constantly referring them to the Heliport Operator. This person may also have to make immediate decisions to deal with an immediate and pressing situation. Then there is the other substitute **WHO** that undertakes the functions and activities of the regular **WHO** when that person is absent for the likes of leave, conference or illness. The Heliport Manual should provide sufficient guidance for performing the function and, of course, instructions for calling for assistance if problems arise.

**3.3.3** The Heliport operator wants to feel confident that the applicable **WHO** knows what is required from a regulatory standpoint; and can apply this knowledge to new situations, as they arise, as well as the daily routine. This can be accomplished with firm, clear instructions in the Heliport Manual and referenced manuals.

The Rescue and Fire-fighting function provides an illustration. Events can occur at the fire station that requires the urgent initiation of actions that could have consequences somewhere else. For example, if a piece of fire equipment becomes inoperative, some management action may have to be taken with respect to limiting air operations, or at least initiating notification to airline operators using the Heliport. If an emergency call is received a decision is often required about initiating all or part of the Heliport emergency plan. Do the rescue and fire-fighting personnel who are faced with these choices have clear, concise, and available information that will put action on the right track? Finally, it must be clear which **WHO** is the one to be responsible for carrying out the instructions.

**3.3.4** **WHAT** and **HOW.** The **WHAT** and **HOW** of the Heliport and associated Standard Operating Procedures instructions refer to the tasks assigned to various individuals or sections who are charged with achieving compliance with the regulations. Unless all the personnel assigned to the task are familiar with the regulatory requirement, the Heliport Manual and referenced documents should be structured to produce the desired result by providing guidance appropriate to the training and experience of the personnel.

**3.3.5** **WHEN.** The best instructions will not produce satisfactory results if they are not put into action. Is the instruction "The rescue and fire-fighting unit will inspect the fuelling areas each day" specific enough? Is there going to be a lapse in and the second shift thought that the first one surely had done it?



## CHAPTER 4 - CONTENTS OF HELIPORT MANUAL

### 4.1 Purpose of the Listing

Part of the provisions of Nig.CARs Part 12 apply to Heliports requiring certification.

Such Heliports must prepare and maintain a Heliport manual that reflects the manner in which the Heliport complies with the requirements of Nig.CARs Part 12.

The regulations Part headings are listed below with amplifying remarks or examples.

### 4.2 About the Listing

Except for the requirements of a purely administrative nature, all of the items should be written to satisfy the questions **WHO, WHAT, HOW**, and **WHEN** as discussed in paragraph 4.5.2 of this Advisory Circular.

There are also the Elements of Compliance to be considered - refer to paragraph 3.3. The discussions and examples presented in this listing cannot cover all possible Heliport situations. Omission of some aspect of Nig.CARs Part 12 does not mean it is not required or is of lesser importance. Any questions the Heliport Operator may have concerning the application of these discussions or examples to the Heliport should be resolved with the Authority.

### 4.3 Nig.CARs Part 12, Requirements for compliance

The requirements contained in Nig.CARs Part 12 obliges the Heliport Operator to comply with when developing a Heliport manual.

### 4.4 Nig. CARs Part 12.9 - Exemptions

An exemption, if the Heliport has one, occupies its own niche in the compliance picture of the Heliport. It is important to understand when an exemption is and what it does, and how the Heliport Operator may fit it in the Heliport Manual. Any limitations that the Heliport Operator establishes for the safety of aircraft operations at the Heliport must be copied in the Heliport Manual and given prominence so that each of the employees is aware of it along with any instruction they might need for compliance.

### 4.5. Nig.CARs Part 12.11- Heliport Manual

The Heliport Manual is a document containing the day to day operations of the Heliport and forming part of the application for a Heliport Certificate under the Part 12 of Nig. CARs including any amendments thereto made in accordance, accepted/approved by the Authority.





#### 4.5.1 Nig.CARs Part 12.11.1—Preparation of the Heliport Manual.

Nig.CARs Part 12.11.1 requires that a Heliport Operator/Owner shall prepare a Heliport Manual in respect of his Heliport and:

- (1) Be typewritten or printed, and signed by the Heliport operator;
- (2) Be in a format that is easy to revise (folder form);
- (3) Have a system for recording the accuracy of pages or amendments thereto, including a page for logging revisions; and
- (4) Be organised in a manner that will facilitate the preparation, review and acceptance/approval process.

#### 4.5.2 Nig.CARs Part 12, IS 12.11.3 — Information to be Included in Heliport Manual

The Heliport operator should recognise that the Heliport manual is a legal source of reference, between the Heliport operator and the Authority relative to aerodrome standards, conditions and levels of service to be respected in order to maintain the operating certificate valid; a reference document for Heliport inspections; a reference document for Heliport users; a legal registration document pertaining to any modification or deviation from approved standards and the conditions and levels of service pertaining to airside activities.

The Heliport Manual shall include at least the following information:

- a) Front title page containing Heliport name and year of issue/edition.
- b) Approval page
- c) List of effective pages.
- d) Revisions History
- e) Distribution list
- f) Record of amendments.
- g) Table of contents.
- h) Foreword
- i) Part 1 General Information
- j) Part 2 Particulars of Heliport site
- k) Part 3 Particulars of the Heliport required to be included to the Aeronautical Information Services(AIS
- l) Part 4 Particulars of heliport operation procedures and safety measures
- m) Part 5 Heliport internal safety measures and safety management system
- n) Definitions
- o) Abbreviations
- p) Appendices
- q) Annexes

##### 4.5.2.1. General Information:

- (a) Purpose, and scope of the heliport manual;
- (b) Conditions for use of the heliport;
- (c) The available aeronautical information system and procedures for its promulgation;



- (d) The system for recording helicopter movements;
- (e) Obligations of the heliport operator.

#### **4.5.2. 2. Particulars of Heliport Site:**

- (a) A plan of the heliport showing the main heliport facilities and heliport boundaries;
- (b) A plan showing distance of heliport from the nearest city and airport.
- (c) Particulars of the title of the heliport site.

#### **4.5.2. 3. Particulars of the Heliport required to be reported to the Aeronautical Information Service (AIS):**

- (a) The name of the heliport;
- (b) The location of the heliport;
- (c) The geographical co-ordinates of the heliport reference point determined by reference to the World Geodetic System 1984 (WGS -84) reference datum;
- (d) The heliport dimensions and related information;
- (e) The declared distances, if any;
- (f) Information about visual aids systems;
- (g) The operational status of associated facilities services, navigational aids and heliport conditions.

#### **4.5.2. 4. Heliport operating procedures and safety measures:**

- (a) Heliport administration;
- (b) Heliport emergency plan;
- (c) Heliport lighting including inspection and maintenance;
- (d) Heliport reporting system;
- (e) Vehicle and movement control, if any;
- (f) Obstacle control measures;
- (g) Particulars of environmental protection.
- (h) Access to heliport and measures to protect navigational aids within the heliport.

##### **4.5.2.4.(a) Heliport administration,.**

The organisation is required to nominate a person to be identified as the Chief Executive. This person must have the overall authority within the organisation, including financial authority, to ensure that all the necessary resources are available to operate and maintain the Heliport and its facilities in compliance with Nig.CARs Part 12 and to ensure compliance with the procedures in its Heliport and referenced manuals.

The person(s) nominated in the manuals must represent the management structure of the Heliport operator and is/are required by the Nigeria Civil Aviation Regulations to meet the criteria in the regulations in respect of being competent person(s). The Heliport Operator may choose to appoint safety managers for all or any combination of these areas of responsibility. However, it must be clear to whom the responsibilities devolve. It is necessary in any case that these manager(s) report to and are ultimately responsible to the chief executive. To be accepted, such nominated person(s) should have



adequate training, knowledge and satisfactory experience in the civil aviation system associated with the operation of Heliports.

The titles, responsibilities, and numbers of the nominated persons will vary dependent on the size and scope of the Heliport organisation.

Irrespective of the titles that may be used or the number of persons nominated to the following areas of responsibility, the Heliport Operator is expected to address those critical areas that are applicable to the Heliport activities such as:

#### **4.5.2.4.(b) Heliport Emergency Plan**

The Heliport Operator is required to develop procedures to ensure that all participants in any heliport emergency with allocated duties are familiar with and are properly trained for their assignments; test the effectiveness of the emergency management system through periodic exercise including a full-scale heliport emergency exercise annually; correct any deficiencies identified during any full-scale exercise and review the system with the aim of achieving improved efficiency and safety.

#### **4.5.2.4(c) Heliport inspection and maintenance**

The Heliport Operator is required to develop an inspection programme for ensuring that all regularly scheduled and periodic inspections are conducted and reported in accordance with the standards and procedures specified in the organisation exposition. The Heliport operator is required inspect the Heliport daily and as circumstances require to ensure aviation safety.

The Heliport Operator is required to develop a maintenance programme for ensuring that the conduct of preventive maintenance for the Heliport, its equipment and services always meet the regulations and the timely correction of any reported defects. The Heliport operator shall provide and maintain at least one wind direction indicator, markings and markers, heliport beacon, Visual approach slope indicator( HAPI and PAPI, APAPI) lights including approach lightings where desirable and practicable, , aiming point lights, taxiway lights and floodlighting of obstacles in accordance with the requirements specified in Nig.CARs, Part 12.

#### **4.5.2.4 (d) Notifying and Reporting.**

The Heliport Operator should give particulars of procedures for coordination with Air Traffic Services Unit[s], including –

- a. procedures for arrivals;
- b. procedures for departures; and
- c. communication facilities provided.).
- d. procedures for notifying and reporting appropriately to the Authority, the air traffic service provider and pilots any condition that may affect aviation safety, within the specified time limits required by these Regulations



#### **4.5.2.4(e) Aircraft rescue and fire-fighting**

This Heliport Operator should develop a particulars of the procedures to ensure that the aircraft rescue and fire-fighting equipment and agents at the Heliport are available and at the correct level for the Heliport category as prescribed in Nig.CARs, Part 12 Vol. II. The amounts of water for foam production and the complementary agents to be provided shall be in accordance with the heliport firefighting category determined in Nig.CARs, Part 12 Vol. II as appropriate. That there are adequate number of qualified and trained personnel available to ride the vehicles and/or fire extinguishers and operate the rescue equipment described in Table 6-5 of ICAO Doc. 9261 to its maximum capacity.

#### **4.5.2.4(f) Obstacle Environment**

The Heliport Operator should establish the obstacle limitation surfaces and meet the requirements for the surfaces and any obstacles that may affect them, as set out for Heliports in Nig.CARs, Part 12 Vol.II.

#### **4.5.2.4(g) Particulars of environmental protection.**

This requires the Heliport Operator to provide:

- a) Particulars of procedures for environmental protection
- b) Arrangement for preventing contamination of the land upon which they occupy, and any pollution that results from their activities is managed and cleaned up.
- c) Arrangement for training the RFF personnel or assigned person to undertake a fuel spill response.
- d) Arrangement for ensuring that fuelling is performed with precautions to prevent spill onto the soil or into drainage systems. Aircraft, vehicles or component washing is performed in designated areas, where run-off can be collected and diverted from spillage or leakage onto soil.
- e) Arrangement for ensuring that all waste oils, fuels, chemicals and hazardous waste are stored, handled or disposed in accordance with environmental laws.
- f) Arrangement for mitigation against the impact of noise pollution within residential areas around heliports vicinity.

#### **4.5.2.4(h) Particulars for public protection and Heliport security**

The Heliport Operator should provide particulars for public protection and Heliport security including:

- (a) provision of perimeter fence, road, barriers and doors with controlled access to prevent inadvertent and unauthorised entry of animals and human beings and where necessary provide security lighting on the perimeter fence;



- (b) Affixing of signs and prohibition notices at the perimeter of security areas within the heliport;
- (c) Monitoring of the erection of unapproved structures within the vicinity of the heliport for safety of aircraft operations

#### 4.5.2.5 Internal safety measures and safety management system

The Heliport Operator is required to develop a procedures for internal safety measures and safety management system. Responsibilities include ensuring the adequacy of the Heliport Manual and associated procedures in meeting the requirements of Nig.CARs Part 12 and in reflecting the scope of services and facilities provided and ensuring that corrective actions in respect of any deficiencies are fully implemented.

The Heliport Operator's internal safety audits and reporting system is an independent internal control system aimed at ensuring that any deviation from a performance standard will be detected and appropriate corrective action taken before the deviation becomes a hazard to the operations of Helicopters at the Heliport. The internal safety system should conduct ongoing reviews of the Heliport Operator's documentation, procedures and performance of the Heliport facilities on a regular basis. These reviews will ensure that all relevant requirements, standards, and procedures are adequately defined, documented, continue to be appropriate for the operation of the Heliport, and are being complied with. Nig.CARs, Part 12 Vol. II contains information about standards that are applicable to organisations required to establish internal quality assurance systems that the Heliport Operator should refer to for compliance with Nig. CARs.

The safety system should have procedures for investigating the cause of any non-compliance with standards and for analysing the performance of any element of Heliport operation. It will also show when reviews are due, when they are completed, and provide a system of reports that can be seen by the Authority on request.

It is normal practice to document the safety management system in a separate document, which should be included with the Heliport Manual but however, if the level of operation at the heliport is simple in nature then, the entire procedures of SMS could be enshrined in the Heliport Manual.

#### 4.5.3 Nig.CARs, Part 12.11.2— Location of the Heliport Manual

- (a) This requires the Heliport Operator to indicate in the manual that it would provide the Authority with a complete and current copy of the approved Heliport Manual;
- (b) That it shall keep at least one complete and current copy of the approved Heliport Manual at the Heliport and one copy at the operator's principal place of business if other than the Heliport; and
- (c) The Heliport operator should indicate that a copy of the approved Heliport Manual shall be made available for inspection by authorised officers of the Authority.



#### 4.5.4 **Nig.CARs, Part 12.11.5— Amendment of the Heliport Manual**

The procedures for control, amendment and distribution of the Heliport manuals including:

- (a) Maintaining the accuracy of the Heliport Manual;
- (b) Ensuring the safe and efficient operation of aircraft at the Heliport; or
- (c) ) Ensuring the safety of air navigation.
- (d) ) Ensuring each supervisory member of the Heliport operating staff including those employed by the operator' s contractors or agent, where relevant, have copies of relevant sections of the Heliport Manual.

#### 4.5.5 **Nig.CARs, Part 12.11.7— The Authority's Acceptance/ Approval of the Heliport Manual**

The Heliport owner/ operator is required to provide a page for Authority's acceptance/approval of the Heliport Manual and any amendment (s) thereto, provided they meet the requirements.

#### 4.5.6 **Nig.CARs, Part 12.11.8— Heliport Manual Controller**

The Heliport owner/operator is required to document and designate in the Heliport Manual a person to serve as a Heliport Manual controller, whose functions shall include:

- a) Keeping a record of persons who hold copies of the whole or part of the Heliport Manual;
- b) Updating of information in the manual given to those holders referred to in (a).