

Extraordinary



Federal Republic of Nigeria Official Gazette

No. 175

Lagos -14th December, 2015

Vol. 102

Government Notice No. 128

The following is published as supplement to this *Gazette* :

<i>S. I. No.</i>	<i>Short Title</i>	<i>Page</i>
36	Part 14—Air Navigation Services	B2141-2347

Printed and Published by The Federal Government Printer, Lagos, Nigeria
FGP 26/32016/00

Annual Subscription from 1st January, 2016 is Local : ₦25,000.00 Overseas : ₦37,500.00 [Surface Mail]
₦49,500.00 [Second Class Air Mail]. Present issue ₦1,000 per copy. Subscribers who wish to obtain *Gazette* after 1st
January should apply to the Federal Government Printer, Lagos for amended Subscriptions.

B 2140

NIGERIA CIVIL AVIATION REGULATION

PART 14—AIR NAVIGATION SERVICES

INTRODUCTION

The Nigeria Civil Aviation Regulations (Nig. CARs) Part 14 together with ANS (ATM, PANS-OPS, SAR, AIS, AEROCHARTS, AEROMET and AEROTELs) (parts I, II and III) Manuals of Standards constitutes an adaptation of *Annexes* 2, 3, 4, 5, 10, 11, 12 and 15 as integral part of these regulations which addresses the Air Navigation rules, procedures and services' applications as stated in Articles 13, 37 and 38 of the Convention on International Civil Aviation (Chicago) 1944. The Implementing Standards (IS) provide detailed requirements that support the intent of the Regulations presented in a part, and unless otherwise indicated, have the legal force and effect of the referring Regulations.

B 2142

NIGERIA CIVIL AVIATION REGULATIONS
PART 14-AIR NAVIGATION SERVICES



ARRANGEMENT OF CONTENTS

Contents

- 14.0. GENERAL
 - 14.0.1. Applicability.
 - 14.0.2. Definitions.
 - 14.0.2.1. Abbreviations.
 - 14.0.3. Approval of ANSP.
 - 14.0.3.7. Exemptions.
 - 14.0.4. General Applicability.
 - 14.0.5. Airspace Classification.
- 14.1. PROVISION OF AIR TRAFFIC SERVICES
 - 14.1.2. Need for Provision of ATS.
 - 14.1.3. Designation of Airspace.
 - 14.1.4. Classification of Airspace.
 - 14.1.5. Designation of Control Area.
 - 14.1.6. Designation of Flight Information Regions.
 - 14.1.7. Designation of Advisory Areas.
 - 14.1.8. Establishment and Identification of ATS Routes.
 - 14.1.9. Change-over Points/Significant Points.
 - 14.1.10. Grant of Endorsements.
 - 14.1.11. Responsibility for Control of Air Traffic.
 - 14.1.12. Transfer of Responsibility for Control of Air Traffic.
 - 14.1.13. Reporting and Investigation of Accidents and Incidents.
 - 14.1.14. Reporting of Aeronautical Information.
 - 14.1.15. Requirement for Approval as ATS Providers.
 - 14.1.16. Responsibility of Holder of Approval for Control of Air Traffic.
 - 14.1.17. Co-ordination in Air Traffic Services.
 - 14.1.18. Display of Air Traffic Services Provider Approval.
 - 14.1.19. Safety Inspections and Audits.
 - 14.1.20. Application for Approval, Amendment or Renewal.
 - 14.1.21. Issuance of ATS Approval Certificate.

B 2144

- 14.1.22. Scope and Variation of Approval.
- 14.1.23. Period of Validity of Approval.
- 14.1.24. Transferability of Approval.
- 14.1.25. Notice of Recommendation for Suspension of Approval Certificate.
- 14.1.26. Suspension, Cancellation or Variation of an Air Traffic Service.
Provider Approval Certificate by the Authority.
- 14.1.27. Right of Appeal of Holder of Approval Certificate.
- 14.1.28. Register of Approvals.
- 14.1.29. Substitution of Air Traffic Services Provider.
- 14.1.30. Notice of Availability of Air Traffic Services.
- 14.1.31. The Authority to Carry out Air Traffic Control Functions.
- 14.1.32. Rules Applicable when a Person Performs an ATC function under Supervision.
- 14.1.33. Carrying out ATC Function without the Authority's Approval.
- 14.1.34. Provision of Air Traffic Control.
- 14.1.35. The Authority to use Ground-based Radio Equipment.
- 14.1.36. Eligibility Statement by ATS Provider for Grant of Qualification.
- 14.1.37. Agreement between an ATS Provider and Agency Providing Aviation Meteorological Services.
- 14.1.38. Application of Human Factor Principles.
- 14.1.39. Personnel Requirement.
- 14.1.40. Training and Checking of ATS Staff.
- 14.1.41. Granting of Ratings and Endorsements.
- 14.1.42. Periods of Validity of Ratings and Endorsements.
- 14.1.43. Proficiency.
- 14.1.44. ATS Provider's Obligation to provide Currency and Recency Training and Assessment.
- 14.1.45. Conduct of Practical Training.
- 14.1.46. Safety Management System.
- 14.1.47. Contingency Plan.
- 14.1.48. Security Programme.
- 14.1.49. Facilities, Equipment, Maintenance and Calibration.
- 14.1.50. Control Tower.
- 14.1.51. Fault and Defect Reporting.
- 14.1.52. Maintenance of Documents.
- 14.1.53. Record Maintenance.
- 14.1.54. Statistics.
- 14.1.55. Aeronautical search and rescue Responsibilities.

- 14.1.56. Local Air Traffic Control Instructions Manual.
- 14.1.57. External Data Sources.
- 14.1.58. Output Data.
- 14.1.59. Ancillary Qualifications.
- 14.1.60. Amendments.
- 14.2. PROVISION OF PROCEDURES DESIGN (PANS-OPS)
 - 14.2.1. Procedure Design Certificate.
 - 14.2.2. Procedures Design Authorization.
 - 14.2.3. Requirement for Approval as a Procedure Designer for Air Navigation Services.
 - 14.2.4. Privileges of an Approval Holder.
 - 14.2.5. Responsibilities of Holder of Approval.
 - 14.2.6. Display of Procedures Design for Air Navigation Service Provider Approval.
 - 14.2.7. Safety Inspections and Audit.
 - 14.2.8. Applications for Approval, Amendment or Renewal.
 - 14.2.9. Issuance of Procedure Design for Air Navigation Service Provider Approval Certificate.
 - 14.2.10. Scope and Variation of Approval.
 - 14.2.11. Period of Validity of Approval.
 - 14.2.12. Transferability of Approval.
 - 14.2.13. Notice of Recommendation for Suspension of Approval Certificate.
 - 14.2.14. Suspension, Cancellation or Variation of Procedure Design for Air Navigation Service Provider Approval Certificate by the Authority.
 - 14.2.15. Right of Appeal of Holder of Certificate.
 - 14.2.16. Register of Approvals.
 - 14.2.17. Substitution of Procedure Design for Air Navigation Service.
 - 14.2.18. Verification of Instrument Flight Procedures.
 - 14.2.19. Validation of Instrument Flight Procedures.
 - 14.2.20. Publication of Instrument Flight Procedures.
 - 14.2.21. Radio Navigation Aids.
 - 14.2.22. Maintenance of Instrument Flight Procedures.
 - 14.2.23. Application of Human Factor Principles.
 - 14.2.24. Training and Checking of Instrument Procedures Designer and Publisher Staff.
 - 14.2.25. Safety Management System.
 - 14.2.26. Facilities, Equipment, Maintenance and Calibration.
 - 14.2.27. Fault and Defect Reporting.
 - 14.2.28. Maintenance of Documents and Records.

B 2146

- 14.3 PROVISION OF AERONAUTICAL AERONAUTICAL SEARCH AND RESCUE
 - 14.3.1. Aeronautical Aeronautical search and rescue Establishment.
 - 14.3.2. Aeronautical Aeronautical search and rescue Action.
 - 14.3.3. Communication and Equipment of Rescue Unit.
 - 14.3.4. Co-operation with other Contracting States.
 - 14.3.5. Co-operation with other Agencies.
 - 14.3.6. Information Concerning Emergencies.
 - 14.3.7. Aeronautical Aeronautical search and rescue Training.
 - 14.3.8. Aeronautical search and rescue Responsibilities and Co-ordination.
 - 14.3.22 Search And Rescue Signals .
- 14.4. PROVISIONO OF AERONAUTICAL INFORMATION SERVICES
 - 14.4.1. Applicability.
 - 14.4.2. Definitions.
 - 14.4.3. Provision of Aeronautical Information Services.
 - 14.4.3. Responsibilities of Holder of Approval.
 - 14.4.4. Telecommunication Requirements.
 - 14.4.5. Quality Management System.
 - 14.4.7. Responsibilities of Holder of Approval.
 - 14.4.8. Eligibility of Applicant.
 - 14.4.9. Issuance of Aeronautical Information Service Provider Approval Certificate.
 - 14.4.10. Scope and Variation of Approvals.
 - 14.4.11. Period of Validity of Approval.
 - 14.4.12. Transferability of Approval.
 - 14.4.13. Notice of Recommendation for Suspension of Approval Certificate
 - 14.4.14. Suspension, Cancellation or Variation of an Aeronautical Information Service Provider Approval Certificate by the Authority.
 - 14.4.15. Right of Appeal of Holder of Approval Certificate.
 - 14.4.16. Substitution of Aeronautical Information Service Provider.
 - 14.4.17. Pre-Flight and Post-Flight Information.
 - 14.4.18. Electronic Terrain and Obstacle Data (E-TOD).
- 14.5 PROVISION OF AERONAUTICAL CHARTS
 - 14.5.1. General.
 - 14.5.1.1. Applicability.
 - 14.5.2. Definitions.
 - 14.5.3. Provision of Aeronautical Charts.
 - 14.5.4. Eligibility of Aeronautical Chart Provider.
 - 14.5.5. Quality System.

- 14.5.6. Contingency Plan.
- 14.5.7. Security Programme.
- 14.5.8. Issuance of Aeronautical Charts Provider Approval Certificate.
- 14.5.9. Scope and Variation of Approvals.
- 14.5.10. Period of Validity of Approval.
- 14.5.11. Transferability of Approval.
- 14.5.12. Responsibilities of an Aeronautical Charts Provider.
- 14.5.13. Display of Approval.
- 14.5.14. Safety Audit and Inspections.
- 14.5.15. Application of Human Factor Principles.
- 14.5.16. Facilities, Equipment and Maintenance.
- 14.5.17. Aeronautical search and rescue Responsibilities and Co-ordination.
- 14.5.18. Local Procedures.
- 14.5.19. Co-ordination.
- 14.5.20. Collection of Information.
- 14.5.21. Notice of Recommendation for Suspension of Approval Certificate
- 14.5.22. Suspension, Cancellation, or Variation of an Aeronautical Charts Provider Approval Certificate by the Authority.
- 14.5.23. Right of Appeal of Holder of Approval Certificate.
- 14.5.24. Maintenance of Aeronautical Charts Providers Register.
- 14.5.25. Substitution of another Aeronautical Charts Provider.
- 14.5.26. Operational Requirements and General Specifications.

- 14.6. PROVISION OF AERONAUTICAL METEOROLOGICAL SERVICES
- 14.6.1. General.
- 14.6.1.1. Applicability.
- 14.6.2. Grant of Certificate to Aeronautical Meteorological Service Providers (AMSP).
- 14.6.3.2. Co-ordination between Aeronautical Meteorological Watch Office and Associated Area Control Center.
- 14.6.4.3. Protection of Aeronautical Meteorological Equipment and Facilities
- 14.6.5. Requirement for Approval as an Aeronautical Meteorological Service Provider.
- 14.6.6. Provision of Aeronautical Meteorological Service.
- 14.6.7. Aeronautical Meteorological Services Provider's Manual of Operations.
- 14.6.8. Equipment Requirements.
- 14.6.9.1. Personnel Requirements.
- 14.6.9.2. Qualifications and Training of Personnel.
- 14.6.10. Collaboration between aeronautical Meteorological Services Provider and Agency providing Air Traffic Services.

B 2148

- 14.6.11 Display of Aeronautical Meteorological Service Provider Certificate.
- 14.6.12. Safety Audit and Inspections.
- 14.6.13 Safety Management System.
- 14.6.14 Contingency Plan.
- 14.6.15 Maintenance and Calibration of Equipment and Facilities.
- 14.6.16 Minimum Equipment for Aeronautical Meteorological Services.
- 14.6.17 Fault and Defect Reporting of Equipment.
- 14.6.18 Maintenance of Documents and Records.
- 14.6.19 Responsibilities to Search and Rescue Unit.
- 14.6.20 Application of Human Factors Principles.
- 14.6.21 Application for Approval, Amendment or Renewal.
- 14.6.22 Issuance of Aeronautical Meteorological Service Provider Certificate.
- 14.6.23 Scope and Variation of AMSP Certificate.
- 14.6.24 Period of Validity of AMSP Certificate.
- 14.6.25 Transferability of AMSP Certificate.
- 14.6.26 Suspension of AMSP Certificate.
- 14.6.27 Suspension, Cancellation or Variation of an Aeronautical Meteorological Service Provider Certificate by the Authority.
- 14.6.28 Right of Appeal of Holder of AMSP Certificate.
- 14.6.29 Register of AMSP Certificates.
- 14.6.30 Substitution of Aeronautical Meteorological Service Provider.
- 14.6.31. Approval of External Source (Contract) for Aeronautical Meteorological Service Provider.
- 14.7. PROVISION OF AERONAUTICAL TELECOMMUNICATIONS SERVICES (AERONAUTICAL TELECOMMUNICATIONS)
 - 14.7.0. General.
 - 14.7.0.1. Applicability.
 - 14.7.0.2. Definitions.
 - 14.7.1. Requirements for Approval of Aeronautical Telecommunications Services.
 - 14.7.2. Requirements for Approval as an Aeronautical Telecommunications Service Provider.
 - 14.7.3. Provision of Aeronautical Telecommunications Services.
 - 14.7.4. Responsibilities of Holder of Aeronautical Telecommunications Approval.
 - 14.7.5. Privileges of an Aeronautical Telecommunications Approval Holder
 - 14.7.6. Display of Aeronautical Telecommunications Services Provider Approval.

- 14.7.7. Site Validation Inspection, Safety Inspections and Audits.
- 14.7.8. Persons Authorised to perform Inspections.
- 14.7.9. Application for Aeronautical Telecommunications Approval, Amendment or Renewal.
- 14.7.10. Issuance of Aeronautical Telecommunications Services Provider Approval Certificate.
- 14.7.11. Scope and Variation of Aeronautical Telecommunications Approval
- 14.7.12. Period of Validity of Aeronautical Telecommunications Approval.
- 14.7.13. Transferability of Aeronautical Telecommunications Approval.
- 14.7.14. Notice of Recommendation for Suspension of Aeronautical Telecommunications Approval Certificate.
- 14.7.15. Suspension, Cancellation or Variation of an Aeronautical Telecommunication Services Provider Approval Certificate by the Authority.
- 14.7.16. Right of Appeal of Holder of Aeronautical Telecommunications Approval Certificate.
- 14.7.17. Register of Aeronautical Telecommunications Approvals.
- 14.7.18. Substitution of Aeronautical Telecommunications Services Provider
- 14.7.19. Certification of Aeronautical Telecommunications Equipment, Facility and Procedures.
- 14.7.20. Provision for GNSS Procedure.
- 14.7.21. Continued Serviceability, Availability and Maintainability of Aeronautical Telecommunications Facility and Components.
- 14.7.22. Faults and Defects Reporting.
- 14.7.23. Persons Authorised to Perform Maintenance, Preventive Maintenance and Alterations.
- 14.7.24. Flight Inspection and Calibration.
- 14.7.25. Maximum Periodicity of Ground Check and Flight Calibration.
- 14.7.26. Approval for Return of Equipment/Facility to Services.
- 14.7.27. Authority to Return Equipment to Service.
- 14.7.28. Maintenance of Documents and Entries.
- 14.7.29. Aeronautical search and rescue Responsibilities and Co-ordination.
- 14.7.30. General Requirement for Maintenance and Inspection.
- 14.7.31. Performance Rules Maintenance, Preventive Maintenance or Alterations/Upgrade.

IMPLEMENTING STANDARDS (IS)

- IS 14.1.15.2. Application for Approval as an Air Traffic Service Provider.
- IS 14.1.32.2. The Authority to Carry out Air Traffic Control Function.
- IS 14.1.47.3 (a) Contingency Plan.
- IS 14.1.49.2. Facilities.
- IS 14.1.50(1-3) Control Tower.
- IS 14.1.52.1. Maintenance of Documents and Records (Operational Documents).
- IS 14.1.56.1. Contents of Local Air Traffic Control Instructions (LATCI).
- IS 14.2.2.1. Standards for Design of Instrument Flight Procedures.
- IS 14.2.3.2. Application for Approval as a Procedure Designer for Air Navigation Services.
- IS 14.2.5.1. Responsibility of Holder of Approval of a Procedure Design.
- IS 14.2.8.1. Requirement for Approval as a Procedure Designer for Air Navigation Services.
- IS 14.4.2. Provision of Aeronautical Information Service (AIS).
- IS 14.4.7.1(a) Responsibility of Holder of an AIS Approval Certificate.
- IS 14.4.7.1(b)(i) Personnel Requirements.
- IS 14.4.7.1(b)(ii) Training and Checking of Staff.
- IS 14.4.7.1(b)(iii) Contingency Plan.
- IS 14.4.7.1(b)(iv) Facilities, Equipment and Maintenance.
- IS 14.4.7.1(b)(v) Fault and Defect Reporting.
- IS 14.4.7.1(b)(vi) Maintenance of Documents and Records.
- IS 14.4.7.7. Local Operating Procedures.
- IS 14.5.3.1. Provision of Aeronautical Charts.
- IS 14.5.4.2. Application for an Aeronautical Charts Provider Approval.
- IS 14.5.4.4. Personnel Requirement and Responsibility of an Aeronautical Charts Provider.
- IS 14.5.4.5. Training and Checking of Staff of an Aeronautical Charts Provider.
- IS 14.5.5. Quality System for an Aeronautical Charts Provider.
- IS 14.5.6. Contingency Plan for an Aeronautical Charts Provider .
- IS 14.5.16. Facilities, Equipment and Maintenance.
- IS 14.5.26.1. Operational Requirements and General Specifications for Charts.
- IS 14.5.26.5. General Specifications and Other Requirements.
- IS 14.6.2.1 Hazardous Weather and Meteorological Information (*f* and *n*) on Wind.
- IS 14.6.2.2. SIGMET Information.
- IS 14.6.4.1(b) Quality Management System.
- IS 14.6.5.1 (a) AMSP Manual of Operations.

- IS 14.6.6.2. Personnel Requirements.
- IS 14.6.6.3. Training and Checking of Staff.
- IS 14.6.6.4. Agreement between AMSP and ATS Provider.
- IS 14.6.8(a)-(k) Safety Audit and Inspection.
- IS 14.7.4.1(b)(i) Personnel Requirements and Responsibilities of Aeronautical Telecommunications Service Provider.
- IS 14.7.4.1(b)(ii) Training and Checking of Aeronautical Telecommunications Personnel.
- IS 14.7.4.1(b)(iii) Safety Management System.
- IS 14.7.4.1(b)(iv) Contingency Plan of Aeronautical Telecommunications Service Provider.
- IS 14.7.4.1(b)(v) Security Plan of Aeronautical Telecommunications Service Provider.
- IS 14.7.4.1(b)(vi) Minimum Air navigation facility equipment List (MANFEL).
- IS 14.7.4.1(i) Standard Operation Procedure Manual (SOP).
- IS 14.7.10.1. Application for Approval, Amendment or Renewal as an Aeronautical Telecommunications Service Provider.
- IS 14.7.28.1. Maintenance of Documents and Entries.
- IS 14.7.26.1. Authorized Personnel to Approve Return to Service.
- IS 14.7.24. Flight Inspection and Calibration.
- IS 14.7.30.1. Equipment Certification procedures.
- IS 14.7.31.1. Facilities, Equipment and Maintenance Tools.

B 2152

S. I. No. 36 of 2015

NIGERIA CIVIL AVIATION REGULATIONS

PART 14—AIR NAVIGATION SERVICES

14.0. GENERAL

Applicability.

14.0.1. This Part shall apply to the provision of :

- (a) Air Traffic Services (within the Nigerian Airspace) ;
- (b) Procedures Design (PANS-OPS) ;
- (c) Aeronautical search and rescue ;
- (d) Aeronautical Information Services ;
- (e) Aeronautical Charts ;
- (f) Aeronautical Meteorology ; and
- (g) Aeronautical Telecommunications.

14.0.2.—(1) *Accepting Unit*—Air traffic control unit next to take control of an aircraft. Definitions.

(2) *Accident*—An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which :

- (a) a person is fatally or seriously injured as a result of :
 - (i) being in the aircraft, or
 - (ii) direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
 - (iii) direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew ; or
- (b) the aircraft sustains damage or structural failure which :
 - (i) adversely affects the structural strength, performance or flight characteristics of the aircraft, and
 - (ii) would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin ; or
- (c) the aircraft is missing or is completely inaccessible.

B 2154

Note 1. For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified as a fatal injury by ICAO.

Note : An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

Acrobatic Flight—Manoeuvres intentionally performed by an aircraft involving an abrupt change in its attitude, an abnormal attitude, or an abnormal variation in speed.

(3) *Alerting Post* : Any facility intended to serve as an intermediary between a person reporting an emergency and a rescue coordination centre or rescue subcentre.

(4) *Ditching* : The forced landing of an aircraft on water.

(5) *Joint Rescue Coordination Centre (JRCC)* : A rescue coordination centre responsible for both aeronautical and maritime aeronautical search and rescue operations.

(6) *Operator* : A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

(7) *ADS-C Agreement*—A reporting plan which establishes the conditions of ADS-C data reporting (i.e. data required by the air traffic services unit and frequency of ADS-C reports which have to be agreed to prior to using ADS-C in the provision of air traffic services).

Note—The terms of the agreement will be exchanged between the ground system and the aircraft by means of a contract, or a series of contracts.

(8) *Advisory Airspace*—An airspace of defined dimensions, or designated route, within which air traffic advisory service is available.

(9) *Advisory route*—A designated route along which air traffic advisory service is available.

(10) *Aerodrome*—A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

(11) *Aerodrome Climatological Summary*—Concise summary of specified meteorological elements at an aerodrome, based on statistical data.

(12) *Aerodrome Climatological Table*—Table providing statistical data on the observed occurrence of one or more meteorological elements at an aerodrome.

(13) *Aerodrome Control Service*—Air traffic control service for aerodrome traffic.

(14) *Aerodrome Control Tower*—A unit established to provide air traffic control service to aerodrome traffic.

(15) *Aerodrome Elevation*—The elevation of the highest point of the landing area.

(16) *Aerodrome Meteorological Office*—An office, located at an aerodrome, designated to provide meteorological service for international air navigation.

(17) *Aerodrome operating minima*—The limits of usability of an aerodrome for :

(a) take-off, expressed in terms of runway visual range and/or visibility and, if necessary, cloud conditions ;

(b) landing in precision approach and landing operations, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) as appropriate to the category of the operation ;

(c) landing in approach and landing operations with vertical guidance, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) ; and

(d) landing in non-precision approach and landing operations, expressed in terms of visibility and/or runway visual range, minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions.

(18) *Aerodrome Reference Point*—The designated geographical location of an aerodrome.

(19) *Aeronautical Chart*—A representation of a portion of the Earth, its culture and relief, specifically designated to meet the requirements of air navigation.

(20) *Aeronautical Meteorological Station*—A station designated to make observations and meteorological reports for use in international air navigation.

(21) *Aeronautical Mobile Service (RR S1.32)*—A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radio beacon stations may also participate in this service on designated distress and emergency frequencies.

(22) *Aeronautical Telecommunication Station*—A station in the aeronautical telecommunication service.

(23) *Aeronautical Information Circular (AIC)*—A notice containing information that does not qualify for the origination of a NOTAM or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters.

(24) *Aeronautical Information Publication (AIP)*—A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

(25) *Aeronautical Information Service (AIS)*—A service established within the defined area of coverage responsible for the provision of aeronautical information/data necessary for the safety, regularity and efficiency of air navigation.

(26) *Aerodrome mapping data (AMD)*—Data collected for the purpose of compiling aerodrome mapping information.

Note. Aerodrome mapping data are collected for purposes that include the improvement of the user's situational awareness, surface navigation operations, training, charting and planning.

(27) *Aerodrome Mapping Database (AMDB)*—A collection of aerodrome mapping data organized and arranged as a structured data set.

(28) *Aeronautical Information Management (AIM)*—The dynamic, integrated management of aeronautical information through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

(29) *Air Traffic Management (ATM)*—The dynamic, integrated management of air traffic and airspace (including air traffic services, airspace management and air traffic flow management)-safely, economically and efficiently - through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions.

(30) *Confidence Level*—The probability that the true value of a parameter is within a certain interval around the estimate of its value.

Note.—The interval is usually referred to as the accuracy of the estimate.

(31) *Data Product*—Data set or data set series that conforms to a data product specification (ISO 19131*).

(32) *Integrity classification (aeronautical data)*.—Classification based upon the potential risk resulting from the use of corrupted data. Aeronautical data are classified as :

(a) *routine data* : there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe ;

(b) *essential data* : there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe ; and

(c) *critical data* : there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

(33) *AIP Amendment*—Permanent changes to the information contained in the AIP.

(34) *AIP Supplement*—Temporary changes to the information contained in the

(35) AIP which are published by means of special pages.

(36) *AIRAC*—An acronym (aeronautical information regulation and control) signifying a system aimed at advance notification based on common effective dates, of circumstances that necessitate significant changes in operating practices.

(37) *Air defence Identification Zone (ADIZ)*—Special designated airspace of defined dimensions within which aircraft are required to comply with special identification and/or reporting procedures additional to those related to the provision of air traffic services (ATS).

(38) *AIS Product*—Aeronautical information provided in the form of the elements of the Integrated Aeronautical Information Package (except NOTAM and PIB), including aeronautical charts, or in the form of suitable electronic media.

(39) *Application*—Manipulation and processing of data in support of user requirements (ISO 19104*).

(40) *Aeronautical station (RR S1.81)*—A land station in the aeronautical mobile service. In certain instances, an aeronautical station may be located, for example, on board ship or on a platform at sea.

(41) *Aeroplane*—A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

(42) *Airborne Collision Avoidance System (ACAS)*—An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

(43) *Aircraft*—Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

B 2158

(44) *Aeroplane*—A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

(45) *Airborne Collision Avoidance System (ACAS)*—An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

(46) *Air*—ground control radio station—An aeronautical telecommunication station having primary responsibility for handling communications pertaining to the operation and control of aircraft in a given area.

(47) *Air-taxiing*—Movement of a helicopter/VTOL above the surface of an aerodrome, normally in ground effect and at a ground speed normally less than 37 km/h (20 kt).

Note—The actual height may vary, and some helicopters may require air-taxiing above 8m (25 ft) AGL to reduce ground effect turbulence or provide clearance for cargo slingloads.

(48) *Aircraft Stand*—A designated area on an apron intended to be used for parking an aircraft.

(49) *Air Defence Identification Zone*—Special designated airspace of defined dimensions within which aircraft are required to comply with special identification and/or reporting procedures additional to those related to the provision of air traffic services (ATS).

(50) *Aircraft Observation*—The evaluation of one or more meteorological elements made from an aircraft in flight.

(51) *AIRMET information*—Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of low-level aircraft operations and which was not already included in the forecast issued for low-level flights in the flight information region concerned or sub-area thereof.

(52) *Air-Report*—A report from an aircraft in flight prepared in conformity with requirements for position, and operational and/or meteorological reporting.

Note—Details of the AIREP form are given in the PANS-ATM (Doc 4444). *Air traffic service*—A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

(53) *Air traffic Advisory Service*—A service provided within advisory airspace to ensure separation, in so far as practical, between aircraft which are operating on IFR flight plans.

(54) *Air traffic control clearance*—Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.

Note 1.—For convenience, the term “*air traffic control clearance*” is frequently abbreviated to “*clearance*” when used in appropriate contexts.

Note 2.—The abbreviated term “*clearance*” may be pre-fixed by the words “*taxi*”, “*take-off*”, “*departure*”, “*en-route*”, “*approach*” or “*landing*” to indicate the particular portion of flight to which the air traffic control clearance relates.

(55) *Air traffic control service*—A service provided for the purpose of :

(a) preventing collisions :

(1) between aircraft, and

(2) on the manoeuvring area between aircraft and obstructions, and

(b) expediting and maintaining an orderly flow of air traffic.

(56) *Air traffic Control Unit*—A generic term meaning variously, area control centre, approach control unit or aerodrome control tower.

(57) *Air Traffic Service*—A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

(58) *Air traffic Services Airspaces*—Airspaces of defined dimensions, alphabetically designated, within which specific types of flights may operate and for which air traffic services and rules of operation are specified.

Note—ATS airspaces are classified as Class A to G.

(59) *Air traffic Services Reporting Office*—A unit established for the purpose of receiving reports concerning air traffic services and flight plans submitted before departure.

Note—An air traffic services reporting office may be established as a separate unit or combined with an existing unit, such as another air traffic services unit, or a unit of the aeronautical information service.

(60) *Air traffic Services Unit*—A generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office.

B 2160

(61) *Air Traffic Management (ATM)*—The dynamic, integrated management of air traffic and Airspace, including air traffic services, airspace management and air traffic flow management—safely, economically and efficiently through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions.

(62) *Air transit route*—A defined route for the air transiting of helicopters.

(63) *Airway*—A control area or portion thereof established in the form of a corridor.

(64) *Alerting post*—Any facility intended to serve as an intermediary between a person reporting an emergency and a rescue coordination centre or rescue subcentre.

(65) *Alert Phase*—A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

(66) *Alerting Service*—A service provided to notify appropriate organizations regarding aircraft in need of aeronautical search and rescue aid, and assist such organizations as required.

(67) *Alternate Aerodrome*—An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing. Alternate aerodromes include the following :

(68) *Take-off Alternate*—An alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.

(69) *En-Route Alternate*—An aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en-route.

(70) *ETOPS En-Route Alternate*—A suitable and appropriate alternate aerodrome at which an aeroplane would be able to land after experiencing an engine shut-down or other abnormal or emergency condition while en-route in an ETOPS operation.

(71) *Destination Alternate*—An alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the aerodrome of intended landing.

Note—The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.

(72) *Alternative Means of Communication*—A means of communication provided with equal status, and in addition to the primary means.

(73) *Altitude*—The vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL).

(74) *AIS Provider*—The body responsible for providing aeronautical information services.

(75) *Approach control service*—Air traffic control service for arriving or departing controlled flights.

(76) *Approach Control Unit*—A unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes.

(77) *Appropriate authority*—

(a) *Regarding flight over the high seas*—The relevant authority of the State of Registry.

(b) *Regarding flight other than over the high seas*—The relevant authority of the State having sovereignty over the territory being overflown.

(78) *Appropriate ATS Authority*—The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned.

(79) *Assemble*—A process of merging data from multiple sources into a database and establishing a baseline for subsequent processing.

(80) *Area control centre*—A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.

(81) *Application*—Manipulation and processing of data in support of user requirements (ISO 19104*).

(82) *Apron*—A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.

(83) *Area minimum altitude (AMA)*—The minimum altitude to be used under instrument meteorological conditions (IMC), that provides a minimum obstacle clearance within a specified area, normally formed by parallels and meridians.

(84) *Area navigation (RNAV)*—A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space- based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

Note—Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.

(85) *Arrival Routes*—Routes identified in an instrument approach procedure by which aircraft may proceed from the en-route phase of flight to an initial approach fix.

(86) *ATS Route*—A specified route designed for channelling the flow of traffic as necessary for the provision of air traffic services.

Note 1—The term *ATS route* is used to mean variously, *airway, advisory route, controlled or uncontrolled route, arrival or departure route, etc.*

Note 2—An *ATS route* is defined by route specifications that include an *ATS route designator, the track to or from significant points (waypoints), distance between significant points, reporting requirements and, as determined by the appropriate ATS authority, the lowest safe altitude.*

(87) *ATS Surveillance System*.—A generic term meaning variously, *ADS-B, PSR, SSR or any comparable ground-based system that enables the identification of aircraft.*

Note—A comparable ground-based system is one that has been demonstrated, by comparative assessment or other methodology, to have a level of safety and performance equal to or better than monopulse SSR.

(88) *Authorised Designer*—A person who is the holder of procedure design authorisation that is in force.

(89) *Automatic Dependent Surveillance*—broadcast (*ADS-B*)-A means by which aircraft, aerodrome vehicles and other objects can automatically transmit and/or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link.

(90) *Automatic Dependent Surveillance-Contract (ADS-C)*—A means by which the terms of an *ADS-C* agreement will be exchanged between the ground system and the aircraft, via a data link, specifying under what conditions *ADS-C* reports would be initiated, and what data would be contained in the reports.

Note—The abbreviated term “*ADS contract*” is commonly used to refer to *ADS event contract, ADS demand contract, ADS periodic contract or an emergency mode.*

(91) *Automatic dependent surveillance (ADS)*—A surveillance technique in which aircraft automatically provide, via a data link, data derived from on-board navigation and position-fixing systems, including aircraft identification, four-dimensional position and additional data as appropriate.

(92) *Bare Earth*.—Surface of the Earth including bodies of water and permanent ice and snow, and excluding vegetation and man-made objects.

(93) *Briefing*—Oral commentary on existing and/or expected meteorological conditions.

(94) *Calendar*—Discrete temporal reference system that provides the basis for defining temporal position to a resolution of one day (ISO 19108*).

(95) *Canopy*—Bare Earth supplemented by vegetation height.

(96) *Ceiling*—The height above the ground or water of the base of the lowest layer of cloud below 6 000 metres (20 000 feet) covering more than half the sky.

(97) *Certified designer*—A person authorised to carry on instrument on flight procedure of a type covered by the certificate subject to any condition set out therein.

(98) *Change-over point*—The point at which an aircraft navigating on an ATS route segment defined by reference to very high frequency omnidirectional radio ranges is expected to transfer its primary navigational reference from the facility behind the aircraft to the next facility ahead of the aircraft.

Note—Change-over points are established to provide the optimum balance in respect of signal strength and quality between facilities at all levels to be used and to ensure a common source of azimuth guidance for all aircraft operating along the same portion of a route segment.

* All ISO Standards are listed at the end of this chapter.

(99) *Clearance Limit*—The point to which an aircraft is granted an air traffic control clearance.

(100) *Clearway*—A defined rectangular area on the ground or water under the control of the appropriate authority, selected or prepared as a suitable area over which an aeroplane may make a portion of its initial climb to a specified height.

(101) *Cloud of Operational Significance*—A cloud with the height of cloud base below 1,500m (5,000ft) or below the highest minimum sector altitude, whichever is greater, or a cumulonimbus cloud or a towering cumulus cloud at any height.

(102) *Consultation*—Discussion with a meteorologist or another qualified person of existing and/or expected meteorological conditions relating to flight operations ; a discussion includes answers to questions.

(103) *Continental Shelf*—means the continental shelf of Nigeria.

(104) *Control Area*—A controlled airspace extending upwards from a specified limit above the earth.

B 2164

(105) *Controlled Aerodrome*—An aerodrome at which air traffic control service is provided to aerodrome traffic.

Note—The term “*controlled aerodrome*” indicates that air traffic control service is provided to aerodrome traffic but does not necessarily imply that a control zone exists.

(106) *Controlled Airspace*—An airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification.

Note—Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D and E as described in *Annex 11, 2.6*.

(107) *Controlled Flight*—Any flight which is subject to an air traffic control clearance.

(108) *Controller-Pilot Data Link Communications (CPDLC)*—A means of communication between controller and pilot, using data link for ATC communications.

(109) *Control Zone*—A controlled airspace extending upwards from the surface of the earth to a specified upper limit.

(110) *Cruise Climb*—An aeroplane cruising technique resulting in a net increase in altitude as the aeroplane mass decrease.

(1.) *Cruising Level*—A level maintained during a significant portion of a flight.

(2.) *Current Flight Plan*—The flight plan, including changes, if any, brought about by subsequent clearances.

(3.) *Contour Line*—A line on a map or chart connecting points of equal elevation.

(4.) *Culture*—All man-made features constructed on the surface of the Earth, such as cities, railways and canals.

(5.) *Cyclic Redundancy Check (CRC)*—A mathematical algorithm applied to the digital expression of data that provides a level of assurance against loss or alteration of data.

(6.) *Danger area*—An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

(7.) *Data link communications*—A form of communication intended for the exchange of messages via a data link.

(8.) *Data product specification*—Detailed description of a data set or data set series together with additional information that will enable it to be created, supplied to and used by another party (ISO 19131*).

Note—A data product specification provides a description of the universe of discourse and a specification for mapping the universe of discourse to a data set. It may be used for production, sales, end-use or other purpose.

(9.) *Database*—One or more files of data so structured that appropriate applications may draw from the files and update them.

Note—This primarily refers to data stored electronically and accessed by computer rather than in files of physical records.

(10.) *Data Product*—Data set or data set series that conforms to a data product specification (ISO 19131*).

(111) *Data Product Specification*—Detailed description of a data set or data set series together with additional information that will enable it to be created, supplied to and used by another party (ISO 19131*).

(112) *Data Quality*—A degree or level of confidence that the data provided meet the requirements of the data user in terms of accuracy, resolution and integrity.

(113) *Data Set*—Identifiable collection of data (ISO 19101*).

(114) *Data Set Series*—Collection of data sets sharing the same product specification (ISO 19115*).

(115) *Design Work*—in relation to a instrument flight procedure, means any of the following work :

- (a) designing the procedure or a part of the procedure ;
- (b) verifying, maintaining, reviewing or amending the procedure ;
- (c) supervising a person carrying on any work mentioned in paragraph (a) or (b)

(116) *Datum*—Any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities (ISO 19104*).

(117) *Digital Elevation Model (DEM)*—The representation of terrain surface by continuous elevation values at all intersections of a defined grid, referenced to common datum.

Note—*Digital Terrain Model (DTM)* is sometimes referred to as *DEM*.

(118) *Distress Phase*—A situation wherein there is a reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger and require immediate assistance.

B 2166

(119) *Ditching*—The forced landing of an aircraft on water.

(120) *Direct Transit Arrangements*—Special arrangements approved by the public authorities concerned by which traffic which is pausing briefly in its passage through the Contracting State may remain under their direct control.

(121) *Displaced Threshold*—A threshold not located at the extremity of a runway.

(122) *Double Channel Simplex*—Simplex using two frequency channels, one in each direction.

Note—This method was sometimes referred to as crossband.

(123) *Duplex*—A method in which telecommunication between two stations can take place in both directions simultaneously.

(124) *Effective Acceptance Bandwidth*—The range of frequencies with respect to the assigned frequency for which reception is assured when all receiver tolerances have been taken into account.

(125) *Effective Adjacent Channel Rejection*—The rejection that is obtained at the appropriate adjacent channel frequency when all relevant receiver tolerances have been taken into account.

(126) *Electronic Aeronautical Chart Display*—An electronic device by which flight crews are enabled to execute, in a convenient and timely manner, route planning, route monitoring and navigation by displaying required information.

(127) *Elevation*—The vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level.

(128) *Ellipsoid Height (Geodetic Height)*—The height related to the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question.

(129) *Emergency Phase*—A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.

(130) *Employee of a Certified Designer or an Authorised Designer*—a person who carries on design work on a terminal instrument flight procedure for the designer in the course of performing services for the designer.

(131) *Estimated off-Block Time*—The estimated time at which the aircraft will commence movement associated with departure.

(132) *Estimated Time of Arrival*—For IFR flights, the time at which it is estimated that the aircraft will arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome. For VFR flights, the time at which it is estimated that the aircraft will arrive over the aerodrome.

(133) *Essential Radio Navigation Service*—A radio navigation service whose disruption has a significant impact on operations in the affected airspace or aerodrome.

(134) *Expected Approach Time*—The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for a landing.

Note—The actual time of leaving the holding fix will depend upon the approach clearance.

(135) *Extended Range Operation*—Any flight by an aeroplane with two turbine engines where the flight time at the one engine in operative cruise speed (in ISA and still air conditions), from a point on the route to an adequate alternate aerodrome, is greater than the threshold time approved by the State of the Operator.

(136) *Fan Marker Beacon*—A type of radio beacon, the emissions of which radiate in a vertical fan-shaped pattern.

(137) *Feature*—Abstraction of real world phenomena (ISO 19101*).

(138) *Feature Attribute*—Characteristic of a feature (ISO 19101*).

Note—A feature attribute has a name, a data type and a value domain associated with it.

(139) *Feature operation*—Operation that every instance of a feature type may perform (ISO 19110*).

Note—An operation upon the feature type dam is to raise the dam. The result of this operation is to raise the level of water in the reservoir.

(140) *Feature Relationship*—Relationship that links instances of one feature type with instances of the same or a different feature type (ISO 19101*).

(141) *Feature Type*—Class of real world phenomena with common properties (ISO 19110*).

B 2168

Note—In a feature catalogue, the basic level of classification is the feature type. Filed flight plan—The flight plan as filed with an ATS unit by the pilot or a designated representative, without any subsequent changes.

(142) *Final Approach*—That part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified,

(a) at the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified ; or

(b) at the point of interception of the last track specified in the approach procedure ; and ends at a point in the vicinity of an aerodrome from which :

(1) a landing can be made ; or

(2) a missed approach procedure is initiated.

(143) *Final Approach and Take-off Area (FATO)*—A defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take-off manoeuvre is commenced. Where the FATO is to be used by performance Class 1 helicopters, the defined area includes the rejected take-off area available.

(144) *Final Approach fix or Point*—That fix or point of an instrument approach procedure where the final approach segment commences.

(145) *Final Approach Segment*—That segment of an instrument approach procedure in which alignment and descent for landing are accomplished.

(146) *Flight Information Region*—An airspace of defined dimensions within which flight information service and alerting service are provided.

(147) *Flight Crew Member*—A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.

(148) *Flight Information Centre*—A unit established to provide flight information service and alerting service.

(149) *Flight Information Service*—A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

(150) *Flight Level*—A surface of constant atmospheric pressure which is related to a specific pressure datum, 1 013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals.

Note 1.—A pressure type altimeter calibrated in accordance with the Standard Atmosphere :

- (a) when set to a QNH altimeter setting, will indicate altitude ;
- (b) when set to a QFE altimeter setting, will indicate height above the QFE reference datum ;
- (c) when set to a pressure of 1013.2 hPa, may be used to indicate flight levels.

Note 2.—The terms "height" and "altitude", used in Note 1 above, indicate altimetric rather than geometric heights and altitudes.

(151) *Flight Plan*—Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.

(152) *Flight Visibility*—The visibility forward from the cockpit of an aircraft in flight.

(153) *Forecast*—A statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace.

(154) *GAMET Area Forecast*—An area forecast in abbreviated plain language for low-level flights for a flight information region or sub-area thereof, prepared by the meteorological office designated by the meteorological authority concerned and exchanged with meteorological offices in adjacent flight information regions, as agreed between the meteorological authorities concerned.

(155) *Geodesic Distance*—The shortest distance between any two points on a mathematically defined ellipsoidal surface.

(156) *Geodetic Datum*—A minimum set of parameters required to define location and orientation of the local reference system with respect to the global reference system/frame.

(157) *Geoid*—The equipotential surface in the gravity field of the Earth which coincides with the undisturbed mean sea level (MSL) extended continuously through the continents.

Note—The geoid is irregular in shape because of local gravitational disturbances (wind tides, salinity, current, etc.) and the direction of gravity is perpendicular to the geoid at every point.

(158) *Geoid Undulation*—The distance of the geoid above (positive) or below (negative) the mathematical reference ellipsoid.

Note—In respect to the World Geodetic System-1984 (WGS-84) defined ellipsoid, the difference between the WGS-84 ellipsoidal height and orthometric height represents WGS-84 geoid undulation.

B 2170

(159) *Glide Path*—A descent profile determined for vertical guidance during a final approach.

(160) *Gregorian Calendar*—Calendar in general use ; first introduced in 1582 to define a year that more closely approximates the tropical year than the Julian calendar (ISO 19108*).

Note—In the Gregorian calendar, common years have 365 days and leap years 366 days divided into twelve sequential months.

(161) *Grid Point Data in Digital Form*—Computer processed meteorological data for a set of regularly spaced points on a chart, for transmission from a meteorological computer to another computer in a code form suitable for automated use.

Note—In most cases, such data are transmitted on medium-or high-speed telecommunications channels.

(162) *Ground Visibility*—The visibility at an aerodrome as reported by an accredited observer or by automatic systems.

(163) *Heading*—The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid).

(164) *Head Designer for a Certified Designer*—A person appointed as head designer for the certified designer.

(165) *Height*—The vertical distance of a level, a point or an object considered as a point, measured from a specified datum.

(166) *Helicopter Stand*—An aircraft stand which provides for parking a helicopter and where ground taxi operations are completed or where the helicopter touches down and lifts off for air taxi operations.

(167) *Heliport*—An aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters.

(168) *Holding Procedure*—A predetermined manoeuvre which keeps an aircraft within a specified airspace while awaiting further clearance.

(169) *Hot Spot*—A location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

(170) *Human Factors Principles*—Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.

(171) *Hypsometric Tints*—A succession of shades or colour gradations used to depict ranges of elevation.

(172) *ICAO Doc.8168 (PANS-OPS)*—Doc.8168-OPS/611 Volume II (Procedures for Air Navigation Services-Construction of Visual and Instrument Flight Procedures) approved and published by decision of the Council of the International Civil Aviation Organisation, as in force from time to time.

(173) *Initial Approach Segment*—That segment of an instrument approach procedure between the initial approach fix and the intermediate approach fix or, where applicable, the final approach fix or point.

(174) *Instrument Approach Procedure*—A series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply. Instrument approach procedures are classified as follows :

(175) *Non-Precision Approach (NPA) Procedure*—An instrument approach procedure which utilizes lateral guidance but does not utilize vertical guidance.

(176) *Approach Procedure with Vertical Guidance (APV)*—An instrument approach procedure which utilizes lateral and vertical guidance but does not meet the requirements established for precision approach and landing operations.

(177) *Precision Approach (PA) Procedure*—An instrument approach procedure using precision lateral and vertical guidance with minima as determined by the category of operation.

Note—Lateral and vertical guidance refers to the guidance provided either by :

- (a) a ground-based navigation aid ; or
- (b) computer-generated navigation data.

(178) *Integrated Aeronautical Information Package*—A package which consists of the following elements :

- (i) AIP, including amendment service ;

B 2172

- (ii) Supplements to the AIP ;
- (iii) NOTAM and PIB ;
- (iv) AIC ; and
- (v) checklists and lists of valid NOTAM.

(179) *Integrity (Aeronautical Data)*—A degree of assurance that an aeronautical data and its value has not been lost or altered since the data origination or authorized amendment.

(180) *International Airport*—Any airport designated by the Contracting State in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out.

(181) *International NOTAM Office (NOF)*—An office designated by a State for the exchange of NOTAM internationally.

(182) *International Airways Volcano Watch (IAVW)*—International arrangement for monitoring and providing warnings to aircraft of volcanic ash in the atmosphere.

Note—The IAVW is based on the cooperation of aviation and non-aviation operational units using information derived from observing sources and networks that are provided by States. The watch is coordinated by ICAO with the cooperation of other concerned international organizations.

(183) *Logon Address*—A specified code used for data link logon to an ATS unit.

(184) *Intermediate Approach Segment*—That segment of an instrument approach procedure between either the intermediate approach fix and the final approach fix or point, or between the end of a reversal, racetrack or dead reckoning track procedure and the final approach fix or point, as appropriate.

(185) *Intermediate Holding Position*—A designated position intended for traffic control at which taxiing aircraft and vehicles shall stop and hold until further cleared to proceed, when so instructed by the aerodrome control tower.

(186) *International Airways Volcano Watch (IAVW)*—International arrangements for monitoring and providing warnings to aircraft of volcanic ash in the atmosphere.

Note—The IAVW is based on the cooperation of aviation and non-aviation operational units using information derived from observing sources and networks that are provided by States. The watch is coordinated by ICAO with the cooperation of other concerned international organizations.

(187) *Isogonal*—A line on a map or chart on which all points have the same magnetic variation for a specified epoch.

(188) *Isogriv*—A line on a map or chart which joins points of equal angular difference between the North of the navigation grid and Magnetic North.

(189) *Joint rescue coordination centre (JRCC)*—A rescue coordination centre responsible for both aeronautical and maritime aeronautical search and rescue operations.

(190) *Landing Area*—That part of a movement area intended for the landing or take-off of aircraft.

(191) *Landing Direction Indicator*—A device to indicate visually the direction currently designated for landing and for take-off.

(192) *Level*—A generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level.

(193) *Logon address*—A specified code used for data link logon to an ATS unit.

(194) *Magnetic Variation*—The angular difference between True North and Magnetic North.

Note—The value given indicates whether the angular difference is East or West of True North.

(195) *Manoeuvring Area*—That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

(196) *Marking*—A symbol or group of symbols displayed on the surface of the movement area in order to convey aeronautical information.

(197) *Mean power (of a radio transmitter)*—The average power supplied to the antenna transmission line by a transmitter during an interval of time sufficiently long compared with the lowest frequency encountered in the modulation taken under normal operating conditions.

Note—A time of 1/10 second during which the mean power is greatest will be selected normally.

B 2174

(198) *Metadata*—Data about data (ISO 19115*).

Note—Data that describes and documents data.

(199) *Meteorological Authority*—The authority providing or arranging for the provision of meteorological service for international air navigation on behalf of a Contracting State.

(200) *Meteorological Bulletin*—A text comprising meteorological information preceded by an appropriate heading.

(201) *Meteorological Information*—Meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions.

(202) *Meteorological Office*—An office designated to provide meteorological service for international air navigation.

(203) *Meteorological Report*—A statement of observed meteorological conditions related to a specified time and location.

(204) *Meteorological Satellite*—An artificial Earth satellite making meteorological observations and transmitting these observations to Earth.

(205) *Minimum en-route Altitude (MEA)*—The altitude for an en-route segment that provides adequate reception of relevant navigation facilities and ATS communications, complies with the airspace structure and provides the required obstacle clearance.

(206) *Minimum Obstacle Clearance Altitude (MOCA)*—The minimum altitude for a defined segment of flight that provides the required obstacle clearance.

(207) *Minimum Sector Altitude*—The lowest altitude which may be used which will provide a minimum clearance of 300 m (1,000 ft) above all objects located in an area contained within a sector of a circle of 46 km (25 NM) radius centred on a radio aid to navigation.

(208) *Missed Approach Point (MAPt)*—That point in an instrument approach procedure at or before which the prescribed missed approach procedure must be initiated in order to ensure that the minimum obstacle clearance is not infringed.

(209) *Missed Approach Procedure*—The procedure to be followed if the approach cannot be continued.

(210) *Movement Area*—That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).

(211) *Navigation Specification*—A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:

(212) *Required Navigation Performance (RNP) Specification*—A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH.

(213) *Area Navigation (RNAV) Specification*—A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.

Note 1.—The Performance-based Navigation (PBN) Manual (Doc. 9613), Volume II, contains detailed guidance on navigation specifications.

Note 2.—The term RNP, previously defined as “a statement of the navigation performance necessary for operation within a defined airspace”, has been removed from this Annex as the concept of RNP has been overtaken by the concept of PBN. The term RNP in this Annex is now solely used in the context of navigation specifications that require performance monitoring and alerting, e.g. RNP 4 refers to the aircraft and operating requirements, including a 4 NM lateral performance with on-board performance monitoring and alerting that are detailed in Doc. 9613.

(214) *NOTAM*—A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

(215) *Observation (Meteorological)*—The evaluation of one or more meteorological elements.

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

- (a) are located on an area intended for the surface movement of aircraft ;
- or (b) extend above a defined surface intended to protect aircraft in flight ;
- or (c) stand outside those defined surfaces and that have been assessed as being a hazard to air navigation.

Note.—The term obstacle is used in this Annex solely for the purpose of specifying the charting of objects that are considered a potential hazard to the safe passage of aircraft in the type of operation for which the individual chart series is designed.

(217) *Obstacle clearance altitude (OCA) or obstacle clearance height (OCH)*—The lowest altitude or the lowest height above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria.

Note 1.—*Obstacle clearance altitude is referenced to mean sea level and obstacle clearance height is referenced to the threshold elevation or in the case of non-precision approaches to the aerodrome elevation or the threshold elevation if that is more than 2 m (7 ft) below the aerodrome elevation. An obstacle clearance height for a circling approach is referenced to the aerodrome elevation.*

Note 2.—*For convenience when both expressions are used they may be written in the form “obstacle clearance altitude/height” and abbreviated “OCA/H”.*

Note 3.—*See Procedures for Air Navigation Services - Aircraft Operations (Doc 8168), Volume I, Part I, Section 4, Chapter 1, 1.5, and Volume II, Part I, Section 4, Chapter 5, 5.4, for specific applications of this definition.*

(218) *Obstacle Free Zone (OFZ)*—The airspace above the inner approach surface, inner transitional surfaces, and balked landing surface and that portion of the strip bounded by these surfaces, which is not penetrated by any fixed obstacle other than a low-mass and frangibly mounted one required for air navigation purposes.

(219) *Orthometric Height*—Height of a point related to the geoid, generally presented as an MSL elevation.

(220) *Operational Control*—The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight.

(221) *Operational Flight Plan*—The operator's plan for the safe conduct of the flight based on considerations of aeroplane performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes concerned.

(222) *Operational Planning*—The planning of flight operations by an operator.

(223) *Operator*—A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

(224) *Performance-Based Navigation (PBN)*—Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

Note.—Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.

(225) *Pilot-in-Command*—The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

(226) *Prevailing Visibility*—The greatest visibility value, observed in accordance with the definition of “visibility”, which is reached within at least half the horizon circle or within at least half of the surface of the aerodrome. These areas could comprise contiguous or non-contiguous sectors.

Note.—This value may be assessed by human observation and/or instrumented systems. When instruments are installed, they are used to obtain the best estimate of the prevailing visibility.

(227) *Point Light*—A luminous signal appearing without perceptible length.

(228) *Portrayal*—Presentation of information to humans (ISO 19117*).

(229) *Position (Geographical)*—Set of co-ordinates (latitude and longitude) referenced to the mathematical reference ellipsoid which define the position of a point on the surface of the Earth.

(230) *Precision Approach Procedure*—An instrument approach procedure utilizing azimuth and glide path information provided by ILS or PAR.

(231) *Pre-Flight Information Bulletin (PIB)*—A presentation of current NOTAM information of operational significance, prepared prior to flight.

(232) *Procedure Altitude/Height*—A specified altitude/height flown operationally at or above the minimum altitude/height and established to accommodate a stabilized descent at a prescribed descent gradient/angle in the intermediate/ final approach segment.

(233) *Procedure Turn*—A manoeuvre in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.

Note 1.—Procedure turns are designated "left" or "right" according to the direction of the initial turn.

Note 2.—Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.

B 2178

(234) *Pilot-in-Command*—The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

(235) *Pressure-Altitude*—An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere.*

(236) *Primary means of Communication*—The means of communication to be adopted normally by aircraft and ground stations as a first choice where alternative means of communication exist.

(237) *Problematic use of Substances*—The use of one or more psychoactive substances by aviation personnel in a way that :

(a) constitutes a direct hazard to the user or endangers the lives, health or welfare of others ; and/or

(b) causes or worsens an occupational, social, mental or physical problem or disorder.

(238) *Prognostic Chart*—A forecast of a specified meteorological element(s) for a specified time or period and a specified surface or portion of airspace, depicted graphically on a chart.

(239) *Prohibited Area*-An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

(240) *Protected Service Volume*—A part of the facility coverage where the facility provides a particular service in accordance with relevant SARPs and within which the facility is afforded frequency protection.

(241) *Psychoactive Substances*—Alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded.

(242) *Quality*—Degree to which a set of inherent characteristics fulfils requirements (ISO 9000*).

Note 1.—The term "quality" can be used with adjectives such as poor, good or excellent.

Note 2.—“*Inherent*”, as opposed to “*assigned*”, means existing in something, especially as a permanent characteristic.

(243) *Quality assurance*—Part of quality management focused on providing confidence that quality requirements will be fulfilled (ISO 9000*).

(244) *Quality Control*—Part of quality management focused on fulfilling quality requirements (ISO 9000*).

(245) *Quality Management*—Co-ordinated activities to direct and control an organization with regard to quality (ISO 9000*).

(246) *Radio navigation service*—A service providing guidance information or position data for the efficient and safe operation of aircraft supported by one or more radio navigation aids.

(247) *Radiotelephony*—A form of radiocommunication primarily intended for the exchange of information in the form of speech.

(248) *Regional Air Navigation Agreement*—Agreement approved by the Council of ICAO normally on the advice of a regional air navigation meeting.

(249) *Rescue*—An operation to retrieve persons in distress, provide for their initial medical or other needs, and deliver them to a place of safety.

(250) *Rescue Co-ordination Centre (RCC)*—A unit responsible for promoting efficient organization of aeronautical search and rescue services and for co-ordinating the conduct of aeronautical search and rescue operations within a aeronautical search and rescue region.

(251) *Rescue subcentre (RSC)*—A unit subordinate to a rescue co-ordination centre, established to complement the latter according to particular provisions of the responsible authorities.

(252) *Relief*—The inequalities in elevation of the surface of the Earth represented on aeronautical charts by contours, hypsometric tints, shading or spot elevations.

(253) *Repetitive Flight Plan (RPL)*—A flight plan related to a series of frequently recurring, regularly operated individual flights with identical basic features, submitted by an operator for retention and repetitive use by ATS units.

(254) *Reporting point*—A specified (named) geographical location in relation to which the position of an aircraft can be reported.

Note.—There are three categories of reporting points : ground-based navigation aid, intersection and waypoint. In the context of this definition, intersection is a significant point expressed as radials, bearings and/or distances from ground-based navigation aids. A reporting point can be indicated as “on request” or as “compulsory”.

(255) *Requirement*—Need or expectation that is stated, generally implied or obligatory (ISO 9000*).

B 2180

Note 1.—“*Generally implied*” means that it is custom or common practice for the organization, its customers and other interested parties, that the need or expectation under consideration is implied.

Note 2.—*A qualifier can be used to denote a specific type of requirement, e.g. product requirement, quality management requirement, customer requirement.*

Note 3.—A specified requirement is one which is stated, for example, in a document.

Note 4.—Requirements can be generated by different interested parties.

(256) *Resolution*—A number of units or digits to which a measured or calculated value is expressed and used.

(267) *Restricted Area*—An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

(268) *Reversal Procedure*—A procedure designed to enable aircraft to reverse direction during the initial approach segment of an instrument approach procedure. The sequence may include procedure turns or base turns.

(269) *Route stage*—A route or portion of a route flown without an intermediate landing.

(270) *Runway*—A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

(271) *Runway—holding position*—A designated position intended to protect a runway, an obstacle limitation surface, or an ILS/MLS critical/sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise authorized by the aerodrome control tower.

Note.—*In radiotelephony phraseologies, the expression “holding point” is used to designate the runway-holding position.*

(272) *Runway Strip*—A defined area including the runway and stopway, if provided, intended :

- (a) to reduce the risk of damage to aircraft running off a runway ; and
- (b) to protect aircraft flying over it during take-off or landing operations.

(273) *Runway Visual Range (RVR)*—The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line.

(274) *Aeronautical Search and Rescue Services Unit*—A generic term meaning, as the case may be, rescue co-ordination centre, rescue subcentre or alerting post.

(275) *Safety-Sensitive Personnel*—Persons who might endanger aviation safety if they perform their duties and functions improperly including, but not limited to, crew members, aircraft maintenance personnel and air traffic controllers.

(276) *Search*—An operation normally co-ordinated by a rescue co-ordination centre or rescue subcentre using available personnel and facilities to locate persons in distress.

(277) *Aeronautical Search and Rescue Aircraft*—An aircraft provided with specialized equipment suitable for the efficient conduct of aeronautical search and rescue missions.

(278) *Aeronautical Search and Rescue Facility*—Any mobile resource, including designated aeronautical search and rescue units, used to conduct aeronautical search and rescue operations.

(279) *Aeronautical Search and Rescue Service*—The performance of distress monitoring, communication, co-ordination and aeronautical search and rescue functions, initial medical assistance or medical evacuation, through the use of public and private resources, including co-operating aircraft, vessels and other craft and installations.

(280) *Aeronautical search and rescue region (SRR)*—An area of defined dimensions, associated with a rescue co-ordination centre, within which aeronautical search and rescue services are provided.

(281) *Aeronautical search and rescue unit*—A mobile resource composed of trained personnel and provided with equipment suitable for the expeditious conduct of aeronautical search and rescue operations.

(282) *State of Registry*—The State on whose register the aircraft is entered.

(283) *Uncertainty phase*—A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

(284) *Shoulder*—An area adjacent to the edge of a pavement so prepared as to provide a transition between the pavement and the adjacent surface.

(285) *SIGMET Information*—Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations.

(286) *Signal Area*—An area on an aerodrome used for the display of ground signals.

(287) *Special VFR Flight*—A VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below VMC.

(288) *Significant Point*—A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes.

Note.—*There are three categories of significant points : ground-based navigation aid, intersection and waypoint. In the context of this definition, intersection is a significant point expressed as radials, bearings and/or distances from ground-based navigation aids.*

(289) *Simplex*—A method in which telecommunication between two stations takes place in one direction at a time.

Note.—*In application to the aeronautical mobile service, this method may be subdivided as follows :*

(a) single channel simplex ; (b) double channel simplex ; (c) offset frequency simplex.

(290) *Single channel simplex*—Simplex using the same frequency channel in each direction.

(291) *Standard isobaric surface*—An isobaric surface used on a worldwide basis for representing and analysing the conditions in the atmosphere.

(292) *Stopway*—A defined rectangular area on the ground at the end of take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off.

(293) *Station Declination*—An alignment variation between the zero degree radial of a VOR and true north, determined at the time the VOR station is calibrated.

(294) *Taxiing*—Movement of an aircraft on the surface of an aerodrome under its own power, excluding take-off and landing.

(295) *Taxi-Route*—A defined path established for the movement of helicopters from one part of a heliport to another. A taxi-route includes a helicopter air or ground taxiway which is centred on the taxi-route.

(296) *Taxiway*—A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including :

(a) *Aircraft stand taxilane*—A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.

(b) *Apron taxiway*—A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron.

(c) *Rapid exit Taxiway*—A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on other exit taxiways thereby minimizing runway occupancy times.

(297) *Terminal arrival altitude (TAA)*—The lowest altitude that will provide a minimum clearance of 300 m (1,000 ft) above all objects located in an arc of a circle defined by a 46 km (25 NM) radius centred on the initial approach fix (IAF), or where there is no IAF on the intermediate approach fix (IF), delimited by straight lines joining the extremity of the arc to the IF. The combined TAAs associated with an approach procedure shall account for an area of 360 degrees around the IF.

(298) *Terminal control area*—A control area normally established at the confluence of ATS routes in the vicinity of one or more major aerodromes

(299) *Terrain*—The surface of the Earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water, permanent ice and snow, and excluding obstacles.

Note.—*In practical terms, depending on the method of data collection, terrain represents the continuous surface that exists at the bare Earth, the top of the canopy or something in-between, also known as “first reflective surface”.*

(300) *Threshold*—The beginning of that portion of the runway usable for landing.

Total estimated elapsed time—For IFR flights, the estimated time required from take-off to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights, the estimated time required from take-off to arrive over the destination aerodrome.

(301) *Touchdown and Lift-off Area (TLOF)*—A load bearing area on which a helicopter may touch down or lift off.

(302) *Touchdown zone*—The portion of a runway, beyond the threshold, where it is intended landing aeroplanes first contact the runway.

B 2184

(303) *Track*—The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (true, magnetic or grid).

(304) *Traffic Avoidance Advice*—Advice provided by an air traffic services unit specifying manoeuvres to assist a pilot to avoid a collision.

(305) *Traffic Information*—Information issued by an air traffic services unit to alert a pilot to other known or observed air traffic which may be in proximity to the position or intended route of flight and to help the pilot avoid a collision.

(306) *Transition Altitude*—The altitude at or below which the vertical position of an aircraft is controlled by reference to altitudes.

(307) *Tropical Cyclone*—Generic term for a non-frontal synoptic-scale cyclone originating over tropical or sub-tropical waters with organized convection and definite cyclonic surface wind circulation.

(308) *Tropical Cyclone Advisory Centre (TCAC)*—A meteorological centre designated by regional air navigation agreement to provide advisory information to meteorological watch offices, world area forecast centres and international OPMET databanks regarding the position, forecast direction and speed of movement, central pressure and maximum surface wind of tropical cyclones.

(309) *Unmanned Free Balloon*—A non-power-driven, unmanned, lighter-than-air aircraft in free flight.

Note.—Unmanned free balloons are classified as heavy, medium or light in accordance with specifications contained in Appendix 4.

(310) *Upper-Air Chart*—A meteorological chart relating to a specified upper-air surface or layer of the atmosphere.

(311) *Validation*—Confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled (ISO 9000*).

(312) *Vectoring*—Provision of navigational guidance to aircraft in the form of specific headings, based on the use of an ATS surveillance system.

(313) *Verification*—Confirmation, through the provision of objective evidence, that specified requirements have been fulfilled (ISO 9000*).

Note 1.—The term "verified" is used to designate the corresponding status.

Note 2. Confirmation can comprise activities such as :

- (i) performing alternative calculations ;
- (ii) comparing a new design specification with a similar proven design specification ;
- (iii) undertaking tests and demonstrations ; and
- (iv) reviewing documents prior to issue.

(314) *Visibility*—Visibility for aeronautical purposes is the greater of :

(a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background ;

(b) the greatest distance at which lights in the vicinity of 1,000 candelas can be seen and identified against an unlit background.

Note.—The two distances have different values in air of a given extinction coefficient, and the latter (b) varies with the background illumination. The former (a) is represented by the meteorological optical range (MOR).

(315) *Visual approach procedure*—A series of predetermined manoeuvres by visual reference, from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, a go-around procedure can be carried out.

(316) *Volcanic Ash Advisory Centre (VAAC)*—A meteorological centre designated by regional air navigation agreement to provide advisory information to meteorological watch offices, area control centres, flight information centres, world area forecast centres and international OPMET databanks regarding the lateral and vertical extent and forecast movement of volcanic ash in the atmosphere following volcanic eruptions.

(317) *VOLMET*—Meteorological information for aircraft in flight.

(318) *Data link-VOLMET (D-VOLMET)*—Provision of current aerodrome routine meteorological reports (METAR) and aerodrome special meteorological reports (SPECI), aerodrome forecasts (TAF), SIGMET, special air-reports not covered by a SIGMET and, where available, AIRMET via data link.

(319) *VOLMET broadcast.*—Provision, as appropriate, of current METAR, SPECI, TAF and SIGMET by means of continuous and repetitive voice broadcasts.

B 2186

(320) *Waypoint*—A specified geographical location used to define an area navigation route or the flight path of an aircraft employing area navigation. Waypoints are identified as either :

(321) *World Area Forecast Centre (W AFC)*—A meteorological centre designated to prepare and issue significant weather forecasts and upper-air forecasts in digital form on a global basis direct to States by appropriate means as part of the aeronautical fixed service.

(322) *World Area Forecast System (WAFS)*—A worldwide system by which world area forecast centres provide aeronautical meteorological en-route forecasts in uniform standardized formats.

(323) *Z Marker Beacon*—A type of radio beacon, the emissions of which radiate in a vertical cone-shaped pattern.

* ISO Standard

9000—*Quality Management Systems—Fundamentals and Vocabulary*

19101—*Geographic information—Reference model*

19104—*Geographic information—Terminology*

19108—*Geographic information—Temporal schema*

19109—*Geographic information—Rules for application schema*

19110—*Geographic information—Feature cataloguing schema*

19115—*Geographic information—Metadata*

19117—*Geographic information—Portrayal*

19131—*Geographic information—Data product specification*

14.0.2.1.—ABBREVIATIONS

A

ACC	Area Control Centre	AEROMET	Aeronautical Meteorology
AFS	Aeronautical Fixed Service		
AFTN	Aeronautical Fixed Telecommunication Network		
AIP	Aeronautical Information Publication		
AIP SUP	Aeronautical Information Publication Supplements		
AIC	Aeronautical Information Circular		
AIRAC	Aeronautical Information Regulation and Control		
AIS	Aeronautical Information Services		
AMSP	Aeronautical Meteorological Service Provider		
ANS	Air Navigation Standards		
ANSP	Air Navigation Service Provider		
ARD	Aerodrome		

ARFFS	Aerodrome Rescue and Fire Fighting Services
ATC	Air Traffic Control
ATE	Aeronautical Telecommunications
ATIS	Automatic Terminal Information Service
ATM	Air Traffic Management
ATS	Air Traffic Services
ATSEP	Air Traffic Safety electronic Personnel
<i>C</i>	
CAA	Civil Aviation Authority
CAP	Corrective Action Plan CAT Category
<i>D</i>	
D- ATIS	Data ATIS
DTGM	DAAS Technical Guidance Materials
<i>E</i>	
ENR	En-route
E-TOD	Electronic Terrain and Obstacle Data
<i>F</i>	
FIC	Flight Information Centre
FIR	Flight Information Region
Ft.	Foot (feet)
<i>G</i>	
GEN	General
GNSS	Global Navigation Satellite System
<i>I</i>	
ICAO	International Civil Aviation Organisation
ICAO PANS	International Civil Aviation Organisation Procedural Air Navigation Services
IFR	Instrument Flight Rules
IS	Implementing Standards
ISO	International Organisation for Standardisation
<i>K</i>	
Km.	Kilometre(s)
Kt.	Knots
<i>L</i>	
LATCI	Local Air Traffic Control Instructions
<i>M</i>	
M	Metre
MANFEL	Minimum Air Navigation Facility Equipment List
Met.	Meteorology/Meteorological

B 2188

METAR Aerodrome Routine Meteorological Report
MOO Manual of Operations
MOS Manual of Standards
MoU Memorandum of Understanding

N

NCAA Nigerian Civil Aviation Authority
NEMA Nigerian Emergency Management Agency
NIG. CARS Nigerian Civil Aviation Regulations
NOF International NOTAM Office

O

OPMET Operational Meteorological Information
OVC Overcast

P

PANS-OPS Procedures of Air Navigation Services—Operations
PANS-RAC Rules of the Air and Air Traffic Control
PANS-ABC ICAO Abbreviation and Codes
PIB Pre-flight Information Bulletin

Q

QFE Atmospheric pressure at aerodrome level
QNH Observed Atmospheric pressure at aerodrome elevation
corrected for temperature and reduced to mean sea level
using the ICAO formula
QMS Quality Management System

R

RCC Rescue Coordination Centre
RFFS Rescue and Fire Fighting Services
RVR Runway Visual Range
RNP Required Navigation Performance

S

SADIS Satellite Distribution System
SAR Aeronautical search and rescue
SARP Standards and Recommended Practices
SKC Sky Clear
SIGMET Significant Meteorological Information
SOP Standard Operating Procedure
SRR Aeronautical search and rescue Region

T

TCU Towering Cumulus
TGM Technical Guidance Materials
TURB Turbulence

U

UTC Universal Co-coordinated Time

V

VOR Very High Frequency Omni directional Ranging

W

WAFC World Area Forecast Centre

WAFS World Area Forecast System WGS-84 World Geodetic Survey

WMO World Meteorological Organisation

14.0.3. APPROVAL OF ANSP

14.0.3.1. Provision of Air Navigation Services, in designated airspaces, aerodromes and portions of the airspace over the high seas that lie within the designated airspace, is subject to approval under the Nig. CARs Part 14.

14.0.3.2. A prospective ANSP will be granted an ANSP certificate upon submission of a formal application and proof of conformance with prescribed requirements.

14.0.3.3. An applicant for an ANSP certificate shall make a formal application to the Authority in a manner prescribed by the Authority.

14.0.3.4. The applicant shall undergo a five phase approval process as listed below :

Phase 1 : Pre-application

Phase 2 : Formal Application

Phase 3 : Document Evaluation

Phase 4 : Demonstration and Inspection

Phase 5 : Certification

14.0.3.5. In some cases, the sequence of events may not be entirely appropriate. In such situations, the Authority and the Service Provider would proceed in a manner that considers existing conditions and circumstances. The Service Provider, however, should not expect to be approved until the Authority is assured that the Nig. CARs will be complied with in an appropriate and continuing manner.

14.0.3.6. Each phase is described in sufficient detail to provide a general understanding of the entire approval process in the ANS Advisory Circular for approval of Air Navigation Services' Provider.

14.0.3.7. Exemptions.

B 2190

(a) The Authority may exempt, in writing, Air Navigation Service Provider (ATM, PANS-OPS, SAR, AIS, AEROCHARTS, AEROMET and AEROTELs) from complying with specific provisions of these Regulations ;

(b) The exemption process shall be in accordance with Part 1. 4 ;

(c) An exemption is subject to the Air Navigation Service Provider (ATM, PANS-OPS, SAR, AIS, AEROCHARTS, AEROMET and AEROTELs) complying with the conditions and procedures specified by the Authority in the Air Navigation Service Provider (ATM, PANS-OPS, SAR, AIS, AEROCHARTS, AEROMET and AEROTELs)Certificate as being necessary in the interest of safety. ;

(d) When an Air Navigation Service does not meet the requirement of a standard or practice specified in the Manual Of Standards, these Regulations and other relevant advisory documents, the Authority may determine, after evaluating the aeronautical studies conducted by the Air Navigation Service Provider (ATM, PANS-OPS, SAR, AIS, AEROCHARTS, AEROMET and AEROTELs), the conditions and procedures that are necessary to ensure a level of safety equivalent to that established by the relevant Regulations ;

(e) Deviation from these Regulations and the conditions and procedures as set out in the certificate, shall be published in the AIP..

14.0.4. APPLICABILITY OF THE RULES OF THE AIR

14.0.4.1. Territorial application of the rules of the air

The rules of the air shall apply to aircraft bearing the nationality and registration marks of Nigeria, wherever they may be, including Nigeria's territorial waters.

14.0.4.2. Compliance with the rules of the air

The operation of an aircraft either in flight or on the movement area of an aerodrome shall be in compliance with the general rules and, in addition, when in flight, either with :

- (a) the visual flight rules ; or
- (b) the instrument flight rules.

14.0.4.3. Responsibility for compliance with the rules of the air

The pilot-in-command of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the pilot-in-command may depart from these rules in circumstances that render such departure absolutely necessary in the interests of safety.

14.0.4.4. Pre-flight action

Before beginning a flight, the pilot-in-command of an aircraft shall become familiar with all available information appropriate to the intended operation. Pre-flight action for flights away from the vicinity of an aerodrome, and for all IFR flights, shall include a careful study of available current weather reports and forecasts, taking into consideration fuel requirements and an alternative course of action if the flight cannot be completed as planned.

14.0.5. AIRSPACE CLASSIFICATION :

14.0.5.1. ATS airspaces shall be classified and designated in accordance with the following:

(i) Class A. IFR flights only are permitted, all flights are provided with air traffic control service and are separated from each other.

(ii) Class B. IFR and VFR flights are permitted, all flights are provided with air traffic control service and are separated from each other.

(iii) Class C. IFR and VFR flights are permitted, all flights are provided with air traffic control service and IFR flights are separated from other IFR flights and from VFR flights. VFR flights are separated from IFR flights and receive traffic information in respect of other VFR flights.

(iv) Class D. IFR and VFR flights are permitted and all flights are provided with air traffic control service, IFR flights are separated from other IFR flights and receive traffic information in respect of VFR flights, VFR flights receive traffic information in respect of all other flights.

(v) Class E. IFR and VFR flights are permitted, IFR flights are provided with air traffic control service and are separated from other IFR flights. All flights receive traffic information as far as is practical. Class E shall not be used for control zones.

(vi) Class F. IFR and VFR flights are permitted, all participating IFR flights receive an air traffic advisory service and all flights receive flight information service if requested.

Note.—Where air traffic advisory service is implemented, this is considered normally as a temporary measure only until such time as it can be replaced by air traffic control. (See also PANS-ATM, Chapter 9.)

(vii) Class G. IFR and VFR flights are permitted and receive flight information service if requested.

14.0.5.2. The requirements for flights within each class of airspace shall be as shown in the table in Appendix 4 of ATM MOS.

Note.—Where the ATS airspaces adjoin vertically, i.e. one above the other, flights at a common level would comply with requirements of, and be given services applicable to, the less restrictive class of airspace. In applying these criteria, Class B airspace is therefore considered less restrictive than Class A airspace; Class C airspace less restrictive than Class B airspace, etc.

14.1. PROVISION OF AIR TRAFFIC SERVICES

14.1.1 The Authority shall determine the portions of the Nigerian airspace and the aerodromes which shall be provided with air traffic services to :

- (a) prevent collisions between aircraft ;
- (b) prevent collisions between aircraft on the maneuvering area of the aerodrome concerned and obstructions on such area ;
- (c) expedite and maintain an orderly flow of air traffic ;
- (d) provide advice and information useful for the safe and efficient conduct of flights ; and
- (e) provide aeronautical search and rescue and related support services.

14.1.2. NEED FOR PROVISION OF ATS.

The need for the provision of air traffic services shall be determined after consideration of :

- (a) the types of air traffic involved ;
- (b) the density of air traffic ;
- (c) the meteorological conditions ; and
- (d) any other factor which may be relevant.

14.1.3. DESIGNATION OF AIRSPACE.

14.1.3.1. The Authority may designate a particular portion of the airspace as a :

- (a) Flight information region : To encompass the portions of the airspace over the territory of Nigeria and her territorial waters, where air traffic services shall be provided ;
- (b) Control area : where air traffic control service shall be provided to meet the objectives of 14.1.1 (a), (b) and (c) of these Regulations ;
- (c) Control zone : where air traffic control service shall be provided to meet the objectives of 14.1.1 (a), (b) and (c) of these Regulations ; or
- (d) Advisory area : where air traffic service shall be provided to meet objectives of 14.1.1 (a), (b), (c) and (d) of these Regulations.

14.1.3.2. A particular portion of the airspace shall only be designated under 14.1.1 :

- (a) after consultation with all stakeholders within the industry ; and
- (b) in relation to the air traffic services which are to be provided.

14.1.3.3. The Authority shall publish the designation of a particular portion of the airspace in accordance with the AIRAC cycle in the AIP, AIP SUP or NOTAM.

14.1.3.4. The Authority may, on a temporary basis, designate a particular portion of the airspace, after consultation with all users ;

14.1.4. CLASSIFICATION OF AIRSPACE.

14.1.4.1 The Authority shall classify ATS airspaces using ICAO classification system for the purpose of providing air traffic services ; and shall publish the classification of airspace in accordance with the AIRAC cycle in the AIP, AIP SUP or NOTAM.

14.1.4.2. When applicable, the Authority shall prescribe RNP types for designated areas of the airspace.

14.1.4.3. The Authority shall upgrade a particular airspace of a lower cadre to a higher classification, when the need arises.

14.1.5. DESIGNATION OF CONTROL AREA.

14.1.5.1. The Authority shall, when designating a particular portion of the airspace as a control area, in line with this regulation, prescribe the horizontal and vertical limits of such area.

14.1.5.2. The lowest limit of designated control areas shall be at least 700 feet above the ground or water.

14.1.5.3. Control zones and aerodrome traffic zones shall extend upwards from the surface of the earth.

14.1.6. DESIGNATION OF FLIGHT INFORMATION REGIONS.

14.1.6.1. The Authority shall, when designating a particular portion of the airspace as a flight information region under this Part, prescribe the borders of such region and make such designation in accordance with the requirements prescribed in this Part.

14.1.7. DESIGNATION OF ADVISORY AREAS.

14.1.7.1. The Authority shall, when designating a particular portion of the airspace as an advisory area under this Part, prescribe the horizontal and vertical limits of such area.

14.1.8. ESTABLISHMENT AND IDENTIFICATION OF ATS ROUTES

14.1.8.1. Where ATS routes are established for protecting and channeling air traffic flow, a safe spacing between adjacent ATS routes shall be provided ;

14.1.8.2. ATS routes shall be identified by approved designators.

14.1.9. Establishment of Change- Over Points/ Significant Points.

14.1.9.1. Change-over points shall be established on ATS route segments defined with reference to VORs ;

14.1.9.2. Significant points shall be established by the Authority for the purpose of defining ATS routes and, or in relation to the requirements of air traffic services for information regarding the progress of flights.

14.1.10. ENDORSEMENT OF ATC LICENCE.

14.1.10.1. The Authority shall endorse an ATC licence if it is satisfied that the holder is competent to perform a particular air traffic control function at a particular aerodrome, or in relation to a particular airspace.

14.1.10.2. The Authority may designate an ANSP to grant an endorsement to a person who :

- (a) is a senior controller within the ATS organisation ;
- (b) has held a rating for five years for the position in which an endorsement is being sought ; and
- (c) has been assessed as appropriate.

14.1.11. RESPONSIBILITY FOR CONTROL OF AIR TRAFFIC.

14.1.11.1. Only one air traffic control unit shall control a controlled flight at any given time.

14.1.11.2. Responsibility for control of individual flights

14.1.11.2.1. A controlled flight shall be under the control of only one air traffic control unit at any given time.

14.1.11.3. Responsibility for control within a given block of airspace

14.1.11.3.1. Responsibility for the control of all aircraft operating within a given block of airspace shall be vested in a single air traffic control unit. However, control of an aircraft or groups of aircraft may be delegated to other air traffic control units provided that coordination between all air traffic control units concerned is assured.

14.1.12. TRANSFER OF RESPONSIBILITY FOR CONTROL OF AIR TRAFFIC.

14.1.12.1. An air traffic control unit may transfer the responsibility for control of an aircraft or group of aircraft to another air traffic control unit, provided that coordination between such air traffic control units are effected in line with these Regulations.

14.1.12.2. The holder of a certificate shall ensure that, where transfer of responsibility for control takes place between one air traffic control unit and any other air traffic control unit, the procedures as prescribed in the letter of agreement are complied with, to ensure safe co-ordination.

14.1.12.3. The conditions and requirements for and the rules, procedures and standards connected with a transfer of responsibility for control shall be prescribed in its Manual of Operations.

14.1.13. REPORTING AND INVESTIGATION OF ACCIDENTS AND INCIDENTS.

14.1.13.1. The holder of an ANSP certificate shall report any accident or incident reported to or witnessed by it to the Authority.

14.1.13.2. The reporting and investigation of accidents and incidents by the holder of an ANSP certificate shall be done in accordance with the requirements as prescribed in the Civil Aviation (Investigation of Air Accidents and Incidents) Regulation.

14.1.14. REPORTING OF AERONAUTICAL INFORMATION.

14.1.14.1. An ATS provider, shall as soon as practicable after obtaining any aeronautical information, notify the Authority of :

- (a) information on aerodrome conditions and any changes thereto, which are relevant and applicable in its area of responsibility ;
- (b) the operational and serviceability status of associated facilities, services and navigation aids within its area of responsibility ;
- (c) meteorological information as required for the safe and expeditious operation of flights, and
- (d) any other information considered to be of operational significance.

14.1.14.2. Aerodrome Operating Minima

(a) The Authority shall develop and review aerodrome operating minima based on horizontal visibility and type of navigation aid and landing aid for each landing facility ;

(b) No aircraft may be operated in any aerodrome with conditions below such published aerodrome operating minima or amendments thereto ;

B 2196

(c) Such aerodrome operating minima (as amended) shall be published in the Nigeria AIP.

14.1.15. REQUIREMENT FOR APPROVAL AS ATS PROVIDERS.

14.1.15.1. No person or organisation, shall provide air traffic services in Nigerian airspace and aerodromes unless such person or organisation belongs to any of the under mentioned categories and holds a certificate issued by the Authority in accordance with this section :

- (a) the organisation is established as a designated ATS provider ; or
- (b) the person or organisation has a co-operation arrangement with a designated ATS provider ; or
- (c) there is a commercial agreement with a designated ATS provider.

14.1.15.2. An application for approval as an ATS provider shall be made in the form specified in IS 14.1.15.2.

14.1.16. RESPONSIBILITY OF HOLDER OF CERTIFICATE FOR ATS.

14.1.16.1. The holder of an Air Traffic Services provider certificate shall :

- (a) provide the services listed in its Manual of Operations, in accordance with the procedures as prescribed in these Regulations ;
- (b) the service provider's Manual of Operations shall include the following information in its manual of operations :

- (i) personnel requirements and the responsibilities of personnel.
- (ii) training and checking of staff and how that information is tracked ;
- (iii) Quality Assurance/Safety Management System ;
- (iv) Contingency plans developed for part or total system failure for which the organisation provides the service ;
- (v) Security plan ;
- (vi) Facilities and equipment and how those facilities are maintained ;
- (vii) Fault and Defect reporting ;
- (viii) Maintenance of documents and records ;
- (ix) Aeronautical search and rescue responsibilities and co-ordination ;
- (x) procedures for aerodrome surface movement guidance and control ;
- (xi) any other information requested by the Authority.

(c) an approval to operate as a Service Provider shall include in its manual of operations, any letters of agreement that the service provider has entered into ;

(d) hold at least one complete and current copy of its Manual of Operations at each air traffic service unit specified in its Manual of Operations ;

(e) comply with all procedures detailed in its Manual of Operations ;

(f) comply with the Manual of Standards, prescribed by the Authority, for the provision of Air Traffic Services ;

(g) make each applicable part of the Manual of Operations available to the personnel who require those parts to carry out their duties ;

(h) continue to comply with the appropriate requirements prescribed in these Regulations ;

(i) keep the records of all regular internal inspections for a period of five years from the date of each inspection ;

(j) furnish the Authority with the en route facility financial data and enroute facility traffic statistics ;

(k) replace or upgrade any obsolete installation ;

(l) keep the Authority informed of its plans for the development and modernisation of its facilities.

14.1.17. CO-ORDINATION IN AIR TRAFFIC SERVICES.

14.1.17.1. Air Traffic Services Providers, in carrying out their objectives, shall have due regards for the requirement to co-ordinate with other airspace users. In particular, Air Traffic Services Providers shall :

(a) make available to other Service Providers such information as may be available to the ATS provider to enable the operators meet their obligations under these Regulations ;

(b) establish close co-operation and liaison with the military authorities responsible for activities that may affect civil flights. Military activities potentially hazardous to civil aircraft, whether over the territory of a state or over the high seas shall be co-ordinated with the appropriate ATS provider ;

(c) make adequate arrangement for the reception of the most up-to-date meteorological information for aircraft operations with the appropriate Aeronautical Meteorological Service Provider ;

(d) provide operational information to the Aeronautical Information Services Provider in sufficient time to allow the aeronautical information services provider to provide up-to-date information to meet the need for the provision of in-flight information ; and

B 2198

(e) include the agreement between the applicant and an Aviation Meteorological Service Provider for the provision of Aeronautical Meteorological Services. The agreement should specify the criteria for special observations and reports and the duplication of meteorological indicators concurrently in the meteorological office and the Control Tower. The agreement should also include that the calibration of meteorological equipment used by the Air Traffic Services Provider will be in accordance with these regulations.

14.1.18. DISPLAY OF AIR TRAFFIC SERVICES PROVIDER CERTIFICATE.

The holder of an air traffic service provider certificate shall display the certificate in a prominent place, generally accessible to the public at such holder's principal place of business and, if a copy of the original certificate is displayed, it shall produce the original to the Authority's officials, if so requested.

14.1.19. SAFETY INSPECTIONS AND AUDITS.

14.1.19.1. An applicant for the issuance of an Air Traffic Service Provider certificate shall permit an air traffic service inspector to carry out such safety inspections and audits as may be necessary to verify the validity of any application made in accordance with these Regulations.

14.1.19.2. The holder of an Air Traffic Service certificate shall permit an Air Traffic Service Inspector to carry out such safety inspections and audits as may be necessary to determine compliance with the appropriate requirements prescribed in this Part.

14.1.20. APPLICATION FOR APPROVAL, AMENDMENT OR RENEWAL.

14.1.20.1. An applicant is eligible to become an ATS provider if he is able to comply with the requirements of these Regulations.

14.1.20.2. An application for the issuance of an ATS Provider certificate or an amendment thereof shall be made in the manner prescribed by the Authority and shall include :

- (a) a copy of the applicant's Manual of Operations ;
- (b) a written statement setting out air traffic services that the applicant proposes to provide ;
- (c) enough information to identify, for each air traffic service :
 - (i) the location from which the service is proposed to be provided ;
 - (ii) if the service is to be provided within a particular airspace allocated to the applicant by the airspace authority-the airspace ;

(iii) if the service is to be provided for an aerodrome allocated to the applicant by the airspace authority-the aerodrome ;

(d) a written statement setting out the hours during which each aeronautical information service is proposed to be available ;

(e) a written statement describing the arrangements the applicant has made to comply with the requirements of these Regulations ;

(f) the appropriate fee prescribed by the Authority.

14.1.20.3. In the case of certificate renewal, the holder of a certificate shall ensure that the process for renewal is commenced at least 60 days prior to the date on which such certificate expires.

14.1.20.4. If an ATS provider's certificate is subject to conditions, the provider shall comply with the conditions so specified.

14.1.21. ISSUANCE OF ATS CERTIFICATE.

14.1.21.1. The Authority shall issue an ATS provider a certificate to provide air traffic services, if the applicant complies with the requirements prescribed in these Regulations.

14.1.21.2. The Authority shall issue the certificate in the appropriate form.

14.1.21.3. The certificate shall authorise the provision of :

(a) a single air traffic service by means of a single air traffic service unit ; or

(b) a combination of air traffic services by means of a network of air traffic service units.

14.1.21.4. An certificate issued under this Part shall include the following information :

(a) the provider's name and address of its principal place of business ;

(b) a list of the air traffic services covered by the provider's certificate ; and

(c) for each air traffic service :

(i) the location from which the service will be provided ;

(ii) if the service is to be provided within a particular airspace allocated to the provider by the airspace authority - the airspace ;

(iii) if the service is to be provided for an aerodrome allocated to the provider by the airspace authority-the aerodrome.

B 2200

14.1.22. SCOPE AND VARIATION OF CERTIFICATE.

14.1.22.1. The holder of a certificate shall be entitled to provide any service or combination of services listed in its Manual of Operations.

14.1.22.2. If an ATS provider wants to vary its certificate, it shall apply to the Authority under this Regulation for that purpose :

(a) the application shall contain, or have with it, a copy of the proposed variation ;

(b) if the Authority approves the variation, the variation shall take effect from the day proposed by the applicant ;

(c) where no date is proposed by the applicant, the effective date of the variation shall be the date the certificate notice is given to the provider.

14.1.23. PERIOD OF VALIDITY OF CERTIFICATE.

14.1.23.1. A certificate shall be valid for a period determined by the Authority, which period shall not exceed five years from the date of issuance or renewal thereof.

14.1.23.2. The certificate shall remain in force until it is expired, suspended, or cancelled by the Authority.

14.1.23.3. The holder of a certificate which expires shall forthwith surrender the certificate to the Authority.

14.1.23.4. The holder of a certificate, which is suspended, shall forthwith produce the certificate to the Authority for appropriate endorsement.

14.1.23.5. The holder of a certificate, which is cancelled, shall, within 7 days from the date on which the certificate is cancelled, surrender such certificate to the Authority.

14.1.24. TRANSFERABILITY OF CERTIFICATE.

14.1.24.1. An ATS provider certificate shall not be transferable.

14.1.24.2. A change in ownership of the holder of a certificate shall be deemed to be a change of significance that shall be notified to the Authority.

14.1.25. SUSPENSION OF CERTIFICATE.

14.1.25.1. An Air Traffic Service Provider Certificate may be suspended in the event of violation of any provision of these Regulations.

14.1.26. Suspension, Cancellation or Variation of an Air Traffic Service Provider Certificate by the Authority.

14.1.26.1. The Authority may, by written notice given to an Air Traffic Service Provider, suspend, cancel or vary the air traffic service provider certificate if there are reasonable grounds for believing that the certificate holder :

- (a) has breached a condition of the certificate ; or
- (b) has contravened a provision of this Part ; or
- (c) does not meet, or continue to meet, a requirement of this Part for getting or holding the certificate ; or
- (d) has otherwise been guilty of conduct that renders the Air Traffic Service Provider's continued holding of the certificate likely to have an adverse effect on the safety of air navigation.

14.1.26.2. Before suspending, cancelling or varying an Air Traffic Service Provider certificate, the Authority :

- (a) shall give written notice to the certificate holder of the facts or circumstances that, in the opinion of the Authority, amount to grounds for the suspension, cancellation or variation of the certificate ;
- (b) shall invite the certificate holder to show cause in writing, within 7 days after the date of the notice, why the certificate should not be suspended, cancelled or varied ; and
- (c) shall take into account any written representations made, within the time allowed under paragraph (b), by or on behalf of the air traffic service provider explaining why the certificate should not be cancelled.

14.1.27. RIGHT OF APPEAL OF HOLDER OF CERTIFICATE.

14.1.27.1. The holder of a certificate who feels aggrieved by the suspension of the certificate may appeal against such suspension to the Authority, within 7 days after such holder becomes aware of such suspension.

14.1.27.2. Procedure for the appeal shall be as prescribed in Part 1.10

14.1.28. REGISTER OF CERTIFICATES.

14.1.28.1. The Authority shall maintain a register of all Air Traffic Service certificates issued under this Part.

14.1.28.2. The register shall contain information recorded on the Air Traffic Service certificate and any other information required by the Authority.

14.1.28.3. Persons who intend to access the register of aircraft for the purpose of obtaining information shall apply in writing to the Authority and shall pay the appropriate search fees as may be prescribed by the Authority.

14.1.29. SUBSTITUTION OF AIR TRAFFIC SERVICES PROVIDER.

14.1.29.1. The Authority may, when it considers it necessary in the interest of aviation safety, appoint the holder of an Air Traffic Service certificate as a substitute air traffic service provider to provide an air traffic service in respect of a certificate which has been suspended by the Authority under this Part, for the duration of such suspension.

14.1.30. NOTICE OF AVAILABILITY OF AIR TRAFFIC SERVICES.

14.1.30.1. An ATS provider shall provide the Aeronautical Information Service Provider details of each air traffic service that it provides in a particular airspace, or for a particular aerodrome, including the hours during which the service is available ;

14.1.30.2. An ATS provider shall inform the Aeronautical Information Service Provider about changes, interruptions or the un-serviceability of any of its air traffic services.

14.1.31. AUTHORITY TO CARRY OUT AIR TRAFFIC CONTROL FUNCTIONS.

(1) A person may carry out an air traffic control function in Nigeria if, at the time the person carries out the function :

(a) he or she holds an ATC licence with a rating for the function and an endorsement for the place where, or the airspace in relation to which, he or she carries it out ; and

(b) the licence, rating and endorsement are in force ;

(c) he or she :

(i) satisfies the recency and currency requirements in relation to the endorsement ; and

(ii) satisfies the currency requirement in relation to the rating as specified in this regulation.

(2) A person may carry out an air traffic control function in Nigeria under the supervision of a person who meets the requirements of 14.1.31(1) ;

(3) A person who may carry out an air traffic control function in Nigeria under supervision is a person who the Authority has authorised in writing to carry out the relevant function and is ;

(a) a person who :

(i) holds an ATC licence with a rating for the function and an endorsement for the place where, or the airspace in relation to which, he or she carries it out ; but at the relevant time, in relation to the rating or endorsement, does not satisfy the recency or currency requirement ;

(b) a person who :

(i) holds an ATC licence ; and

(ii) carries out the function in the course of training for a rating or endorsement (whether or not the person holds a rating or endorsement at the time) ;

(c) a person (other than a person who held an ATC licence that has been cancelled) who :

(i) has completed an approved course of training in the theory of air traffic control ; and

(ii) carries out the function in the course of undergoing practical training for an ATC licence.

14.1.32. RULES APPLICABLE WHEN A PERSON PERFORMS AN ATC FUNCTION UNDER SUPERVISION.

14.1.32.1. A person defined as a trainee when carrying out an air traffic control function under supervision of an appropriately designated supervisor shall comply with the supervisor's directives.

14.1.32.2. The Supervisor is accountable for any deficiency in the provision of ATC during training.

14.1.33. CARRYING OUT ATC FUNCTION WITHOUT THE AUTHORITY'S APPROVAL

14.1.33.1. A person shall not carry out ATC function in Nigeria except he or she is a holder of a valid licence issued under Part 2 of these Regulations.

14.1.33.2. A trainee shall not carry out an air traffic control function in Nigeria unless he or she is under the supervision of a person who meets the requirements of IS 14.1.33.2.

14.1.34. PROVISION OF AIR TRAFFIC CONTROL.

14.1.34.1. The ATS provider shall provide ATC services in accordance with the Manual of Standards.

14.1.34.2. The ATS provider shall not deviate from the standards specified by the Authority except in emergency, or other circumstance that may make the deviation necessary in the interest of safety.

14.1.34.3. As soon as practicable, the provider shall report, the deviation to the Authority, stating how long the deviation is expected to last.

14.1.34.4. An ATS provider shall ensure that the air traffic services it provides are provided in accordance with the radiotelephony procedures and the procedures for aeronautical telecommunications.

B 2204

14.1.34.5. An ATS provider shall ensure that any air traffic service that it provides is provided in accordance with its Manual of Operations.

14.1.35. AUTHORITY TO USE GROUND- BASED RADIO EQUIPMENT.

14.1.35.1. A person authorised to provide an air traffic control service shall operate, for the purpose of performing an air traffic control function, a radio-communication system used for the purpose of ensuring the safety of air navigation but not installed in or carried on an aircraft.

14.1.35.2. This paragraph applies to the following :

(a) a person who is authorised to carry out an air traffic control function in Nigeria ; or

(b) a person who is engaged by an ATS provider (whether or not as an employee), and who is acting in the course of his or her duties.

14.1.36. A statement of an ATS Provider ,given in accordance with procedures set out in its operations manual, that a person meets the requirements in part 2 of Nig. CARs is, in the absence of contrary evidence, sufficient evidence of that fact.

Eligibility Statement by ATS Provider for Grant of Qualification.

14.1.37. An application for the provision of Air Traffic Services shall include the agreement between the applicant and an Aeronautical Meteorological Service Provider for the provision of Aeronautical Meteorology services. The agreement shall specify the criteria for special observations and reports and the duplication of meteorological indicators concurrently in the meteorological office and the Control Tower. The agreement shall also include that the calibration of meteorological equipment used by the Air Traffic Services Provider will be in accordance with these regulations.

Agreement between an ATS provider and an agency providing Aeronautical Meteorological services.

14.1.38. The applicant shall demonstrate that human factors principles are considered when assessing the appropriateness of equipment, systems, software, facilities, procedures, jobs, environments, training, staffing, and personnel management to produce safe, comfortable, and effective human performance.

Application of Human Factor principles.

14.1.39. PERSONNEL REQUIREMENT.

14.1.39.1. An applicant for the provision of ATS shall provide in its Operations Manual :

(a) current unit organisational chart and written delegated responsibilities and position descriptions ;

(b) staffing-levels for operational positions ;

(c) designated instructors and ratings and proficiency assessment officers ;

(d) staffing numbers and qualifications at unit level ; and

(e) policy and procedures document for determining the capacity of the Air Traffic Services system, including the number of operational staff required to ensure the provision of an adequate Air Traffic Services system.

14.1.39.2. An ATS provider shall, at all times, maintain an appropriate organisation with a sound and effective management structure to enable it provide, in accordance with the standards set out in the Regulations, the air traffic services covered by its certificate.

14.1.39.3. An ATS provider shall have, at all times, enough suitably qualified and trained personnel to enable it provide, in accordance with the standards set out in the Regulations, the air traffic services covered by its certificate.

14.1.39.4. The ATS provider shall ensure that its personnel are of sufficient numbers and experience and have been given appropriate authority to be able to discharge their allocated responsibilities.

14.1.39.5. The ATS provider shall advise the minimum qualifications required for air traffic services personnel operating positions.

14.1.39.6. An ATS provider shall arrange the work flow schedule of air traffic controllers to provide duty rest periods. A copy of the ATS providers fatigue management procedure is to be included in the Manual of Operations.

14.1.39.7. An air traffic controller shall not exercise the privileges of his license if he knows or suspects that he is suffering from or having regards to the circumstances of the period of duty to be undertaken is likely to suffer from such fatigue as may endanger the safety of any aircraft to which an air traffic control service is provided.

14.1.39.8. A person shall not when exercising the privileges of an air traffic controller's licence be under the influence of alcohol or a drug to the extent as to impair his capacity to exercise such privileges.

14.1.39.9. At the unit level the ATS provider shall engage, employ or contract :

(a) a senior person to whom authority has been granted to ensure that all activities undertaken by the unit are carried out in accordance with the applicable requirements prescribed in this section, and who shall in addition be vested with the following powers and duties in respect of the compliance with such requirements ;

B 2206

(i) unrestricted access to work performed or activities undertaken by all other persons as employees of, and other persons rendering service within the unit ;

(ii) full rights of consultation with any such person(s) in respect of such compliance by him or her ;

(iii) powers to order cessation of any activity where such compliance is not effected ;

(iv) a duty to establish liaison mechanisms with the Authority with a view to ascertain correct manners of compliance with the said requirements, and interpretations of such requirements by the Authority, and to facilitate liaison between the Authority and the unit concerned ; and

(v) powers to report directly to the management of his or her organisation, on his or her investigations and consultations generally, and in cases contemplated in sub-paragraph (iii), and with regard to the results of the liaison contemplated in sub-paragraph (iv) ;

(b) a person who is responsible for safety management system and quality control, and who shall have direct access to the person referred to herein on matters affecting aviation safety ; and

(c) enough licensed personnel to plan, provide and supervise the services listed in its approval as a service provider, in a safe and efficient manner.

14.1.40. Training and Checking of ATS Personnel.

The ATS provider shall establish a procedure for initially assessing, and a procedure for maintaining the competence of the personnel required to operate and maintain the unit concerned. This shall include relevant assessment forms.

14.1.41. Granting of Ratings and Endorsements.

Refer to Part 2 of the Nig. CARs

14.1.42. Periods of Validity of Ratings and Endorsements.

Refer to Part 2 of the Nig. CARs

14.1.43. Proficiency.

14.1.43.1. As part of the quality system, the holder of an air traffic service unit certificate shall assess the air traffic service personnel in their employment.

14.1.43.2. A formal proficiency assessment shall be carried out before a validation certificate or a rating validation can be issued to assess whether the applicant has achieved the required level of competence.

14.1.43.3. At each facility the ATS provider shall nominate a person to establish and maintain unit proficiency standards; specific senior officers are to be appointed and tasked by the person responsible for the service as proficiency assessment officers for each discipline; at units where operational staff are multi-disciplined, the person responsible for the service shall appoint and task at least one proficiency assessment officer. Proficiency assessment officers may be appointed and tasked for each discipline although it is a multi-discipline environment.

14.1.43.4. At approach and/or aerodrome units, the Air Traffic Service provider shall appoint and task the officer or air traffic controller responsible for satellite units as the proficiency assessment officer.

14.1.43.5. A person assessed as unsatisfactory shall not be permitted to continue in the assessed discipline without supervision. If after a reasonable period a person is unable to pass the proficiency check, all details pertaining to the unsatisfactory assessment shall be assembled and sent to the Authority.

14.1.43.6. Proficiency assessment officers shall prepare proficiency check rosters so that all operational staff are screened on a regular basis. Personnel shall be given advanced notice of a real time annual proficiency check so that adequate preparation, mentally and functionally, can be made.

14.1.43.7. In addition, the Authority shall carry out a formal assessment at least every 12 months to determine whether all operational personnel are maintaining the required level of competence in the positions for which a valid rating is held. Routine assessments should be conducted on an on-going basis during duty assignment.

14.1.43.8. Personnel shall be assessed in key elements of the performance areas detailed on an assessment form.

14.1.43.9. An assessment shall be made of both the quality of work and the level of knowledge of the elements assessed.

14.1.43.10. Manual of Operations shall also include the procedures for :
(a) air traffic services personnel to undertake remedial training ; and

B 2208

(b) updating air traffic services personnel skills when introducing new equipment into service and updated communications.

14.1.43.11. Proficiency and training records shall be maintained for all air traffic services personnel.

14.1.44. ATS provider's obligation to provide currency and recency training and assessment.

14.1.44.1. An ATS provider shall set up and maintain, in accordance with the Manual of Standards, programmes for :

(a) continuing assessment of its employees' competency for the purposes of ensuring that they continue to satisfy the currency requirements in relation to ratings and endorsements ; and

(b) familiarisation, retraining and assessment of any of its employees who at any time do not satisfy the currency or recency requirement in relation to an endorsement.

14.1.44.2. The provider shall include details of the programme, including necessary training and tests of competency, in its operations manual.

Conduct of
Practical
Training. .

14.1.45. An ATS provider shall ensure that practical training carried out on their behalf, for the award of an ATC licence, rating, endorsement or ATC qualification, is carried out in accordance with :

(a) the standards and requirements set out in the Manual of Standards ; and

(b) the provider's operations manual.

Safety
Management
System.

14.1.46. An ATS provider shall implement a safety management system acceptable to the Authority as prescribed in Nig.CARs Part 20;

14.1.47 CONTINGENCY PLAN.

14.1.47.1. An ATS provider shall develop and maintain Contingency Plans for implementation in the event of disruption, or potential disruption, of air traffic services and related supporting services in the airspace for which it is responsible. The disruption may be caused intentionally (sabotage) or unintentionally (equipment failure). Other causes may include civil unrests, industrial disputes, natural disasters, public health emergencies, military conflicts or acts of unlawful interference with civil aviation.

14.1.47.2. In developing such contingency plans, the ATS provider shall liaise closely with the air traffic services authorities responsible for the provision of services in adjacent or contiguous airspaces and other airspace users concerned.

14.1.47.3. The plan shall include :

(a) the actions to be taken by the members of the provider's personnel responsible for providing the service including the notification of suspected communicable diseases, or other public health risk, on board an aircraft in accordance with IS 14.1.47.3

(b) possible alternative arrangements for providing the service ; and

(c) the arrangements for resuming normal operations for the service.

14.1.47.4. These plans shall be submitted as part of the Manual of Operations.

14.1.48. SECURITY PROGRAMME.

The applicant shall provide a plan that details what measures, both physical and procedural, that they have in place to protect the facility and the services provided from that facility. This should include a security assessment of the facilities used by the applicant.

14.1.49. FACILITIES, EQUIPMENT, MAINTENANCE AND CALIBRATION.

14.1.49.1. An ATS provider shall, at all times, make available for the use by its personnel, the equipment and facilities necessary for providing air traffic services covered by its certificate.

14.1.49.2. The ATS provider shall include in the Operations Manual a list of facilities from which ATS will be provided as contained in IS 14.1.49.2.

14.1.49.3. The equipment shall meet with the requirements and calibration standards specified in these Regulations.

14.1.49.4. All persons involved with the provision of maintenance shall be fully conversant with standards and practices, instructions, directives and relevant information as contained in these regulations.

14.1.49.5. The ATS provider shall describe the processes for the installation, commissioning and transition into service phases of new facilities, equipment and services, and provide evidence, for acceptance of the operational performance and the safety of the facility, equipment, procedure or service.

B 2210

14.1.50. Control Tower.

If the provider uses a control tower in providing an air traffic service, the provider shall ensure the control tower is designed, sited, constructed and maintained in accordance with the standards set out for its construction as detailed in IS 14.1.50 (1-3).

14.1.51. FAULT AND DEFECT REPORTING.

14.1.51.1. The applicant shall develop and maintain a system for tracking and rectifying faults within the ATS system.

14.1.51.2. Procedures for the reporting and the resolution of faults and defects shall be documented in the Manual of Operations.

14.1.51.3. The ATS provider shall maintain a record of the number of reported equipment faults on a monthly basis.

14.1.52. MAINTENANCE OF DOCUMENTS.

14.1.52.1. The applicant for a service provider certificate shall provide the operational documentation listed in IS 14.1.52.1.in a location at an air traffic service unit.

14.1.52.2. The ATS provider shall ensure that :

- (a) the documentation is reviewed and authorised by appropriate personnel before issue ;
- (b) current issues of relevant documentation are available to personnel ;
- (c) obsolete documentation is removed from all points of issue or use ;
- (d) changes to documentation are reviewed and approved by appropriate personnel ; and
- (e) the current version of each document can be identified to preclude the use of obsolete editions.

14.1.52.3. The ATS provider shall demonstrate that there is a system in place to record and retain operational data.

Maintenance
of Records.

14.1.53. Records shall be maintained on the following :

- (a) regular reports and returns to the Authority as specified in the Manual of Standards ;
- (b) local incidents with remedial actions ;
- (c) personnel files including supervisory reports ;
- (d) training files ;
- (e) licence and medical validity details ;

(f) minutes of staff, aerodrome maintenance, bird control, emergency planning and other committee meetings ;

(g) rosters and roster keys ; and

(h) leave records.

14.1.54. STATISTICS

14.1.54.1. The ATS provider shall submit to the Authority aircraft and passenger movement data on a monthly basis. This information is to be submitted at the end of each calendar month.

14.1.54.2. The ATS provider shall provide the Authority a summary of incident and accident data on a monthly basis. This information is to be submitted at the end of each calendar month.

14.1.55. AERONAUTICAL SEARCH AND RESCUE RESPONSIBILITIES

Aeronautical search and rescue is to be provided in accordance with the ATS providers Aeronautical search and rescue Manual as approved by the Authority.

14.1.56. LOCAL AIR TRAFFIC CONTROL INSTRUCTIONS (LATCI) MANUAL

14.1.56.1. The holder of an air traffic services provider certificate shall provide each air traffic services unit listed in its Manual of Operations , a local air traffic control manual which :

(a) sets out the procedures for the operation of the air traffic services unit concerned ; and

(b) contains the information as prescribed in the Requirements of these Regulations. For contents of LATCI see IS 14.1.56.1.

14.1.56.2. The local air traffic control instructions manual shall not be seen in isolation but rather as the document necessary to provide the interface between peculiarities of a particular unit and the various source documents, and does not relieve air traffic service personnel from the responsibility of being familiar with and the application of procedures laid down in the following documents :

(a) Aeronautical Information Publication, AIP supplements, AIC and NOTAMs ;

(b) Civil Aviation Act 2006 ;

(c) Nigeria Civil Aviation Regulations ;

(d) Manual of Standards ; and

(e) Relevant ATM documents.

14.1.57. EXTERNAL DATA SOURCES

14.1.57.1. An ATS provider shall consider the availability, reliability and integrity of external data sources required to provide Air Traffic Service including the means of receipt and display of the following information :

- (a) AIS ;
- (b) AFTN messages ;
- (c) NOTAMs ;
- (d) Flight notification ;
- (e) Meteorological information ;
- (f) Meteorological warning service ;
- (g) Voice coordination with adjacent ATS providers ;
- (h) Information on aerodrome conditions and the operational status of facilities and navigation aids ;
- (i) Aerodrome works and administration coordination ;
- (j) ARFFS coordination ;
- (k) Local and remote radar ;
- (l) Information on unmanned balloons ;
- (m) Information concerning volcanic activity ; and
- (n) Information concerning radioactive material and toxic chemical clouds.

14.1.58. OUTPUT DATA

14.1.58.1. The ATS provider shall provide a description of the arrangements made or proposed to be made by the applicant to ensure that it can, and will continue to be able to provide the information in relation to its air traffic services to other organizations whose functions reasonably require that information.

14.1.58.2. Data recipients shall include :

- (a) AIS ;
- (b) Adjacent ATS providers ;
- (c) Aerodrome administration ;
- (d) ARFFS ;
- (e) Military ;
- (f) The Aeronautical Telecommunications provider ; and
- (g) Other Government agencies.

14.1.59.—(1) An ATS provider may grant an ATC licence holder an ancillary qualification certifying that the holder is competent to perform a particular ancillary function in accordance with the provisions of MOS 13.11.6.

(2) An ancillary qualification holder who is to perform his/her authorized functions that will lead to the grant/renewal of an ATC licence/rating shall have met the requirements of Part 2.7.3.2(f)(3) of these Regulations.

14.1.60. AMENDMENTS TO LATCI.

14.1.60.1. Amendments to the LATCI manual shall be done as prescribed in IS 14.1.56 and recorded in the document and brought to the attention of all concerned.

14.2.1. PROCEDURE DESIGN CERTIFICATE

A procedure design certificate is a certificate that :

- (a) is granted by the Authority to a person under this Part ; and
- (b) certifies that the person is authorised to carry on design work on a terminal instrument flight procedure of a type covered by the certificate subject to any conditions set out in the certificate.

14.2.1.1. This subpart of the regulations shall be applicable Non-precision, precision approaches and all PBN procedures.

14.2.2. REQUIREMENT FOR PROCEDURES DESIGN CERTIFICATE.

14.2.2.1. No person or organisation, shall design procedures for air navigation services or publish such procedures for air navigation services in Nigerian airspace and aerodromes unless such person or organization belongs to any of the under mentioned categories and holds a certificate issued by the Authority in accordance with this section :

- (a) the person or organisation is established as a procedure designer ; or
- (b) the person or organisation has a co-operation arrangement with a designated procedure designer for air navigation services ; or
- (c) there is a commercial agreement with a designated procedure designer for air navigation services.

14.2.2.2. An application for procedures design certificate shall be made in the form specified in IS.14.2.2.2.

14.2.3. Privileges of a Procedures Design Certificate Holder.

A certificate for procedures design for air navigation issued under these regulations authorises the person or organisation to carry out any of the following activities subject to any conditions set out in the certificate to the person or organisation :

B 2214

(a) review or amend a instrument flight procedure that is of a type covered by the authorisation and is for use by any aircraft operating under the IFR at, or in the vicinity of, an aerodrome in Nigeria ;

(b) carry out design work on a instrument flight procedure that is of a type covered by the authorisation and is for use by any aircraft operating under the IFR at, or in the vicinity of, an off-shore installation located no closer than 30 nm from the nearest land.

14.2.4. The holder of a procedures design certificate shall :

(a) provide the services listed in its Manual of Operations, in accordance with the procedures as prescribed in these Regulations ;

(b) Submit Manual of Operations which shall include the following information :

(i) personnel requirements and the responsibilities of personnel as specified in IS. 14.2.4.1.

(ii) training and checking of staff and how that information is tracked ;

(iii) quality assurance and safety management system ;

(iv) contingency plans developed for part or total system failure for which the organisation provides a service ;

(v) security plan ;

(vi) facilities and equipment and how those facilities are maintained ;

(vii) fault and defect reporting ;

(viii) maintenance of documents and records ;

(ix) conduct system verification prior to implementation ;

(x) ensure continuous monitoring and periodic assessment of any new system related to ATM , and

(xi) any other information requested by the Authority.

(c) comply with all procedures detailed in its Manual of Operations, the Manual of Standards as prescribed by the Authority, in the provision of procedures design for air navigation services ;

(d) make each applicable part of the Manual of Operations available to the personnel who require those parts to carry out their duties ;

(e) continue to comply with the appropriate requirements prescribed in these Regulations ;

(f) keep the records of all regular internal inspections for a period of one years from the date of each inspection ;

14.2.5. The holder of a procedures design certificate shall display the certificate in a prominent place, generally accessible to the public at the holder's principal place of business and, if a copy of the original certificate is displayed, it shall produce the original to the Authority's officials, if so requested.

14.2.6. SAFETY INSPECTIONS AND AUDIT.

14.2.6.1. An applicant for the issuance of procedures design certificates shall permit an inspector to carry out such safety inspections and audits as may be necessary to verify the validity of any application made in accordance with these Regulations.

14.2.6.2. The holder of procedures design certificate holder shall permit a procedures design inspector to carry out such safety inspections and audits as may be necessary to determine compliance with the appropriate requirements prescribed in this Part.

14.2.7. APPLICATIONS FOR CERTIFICATE, AMENDMENT OR RENEWAL.

14.2.7.1. An applicant is eligible to become a procedures designer if the applicant is able to comply with the requirements of these Regulations as outlined in IS 14.2.7.1.

14.2.7.2. An application for the issuance of procedures design Certificate, or an amendment thereof shall be made in the manner prescribed by the Authority and shall include :

- (a) a copy of the applicant's Manual of Operations ;
- (b) a written statement setting out design procedures that the applicant proposes to provide ;
- (c) enough information to identify, for each procedure design :
 - (i) the location for which the service is proposed to be provided ;
 - (ii) if the service is to be provided within a particular airspace-the airspace ;
 - (iii) if the service is to be provided for an aerodrome-the aerodrome ;
- (e) a written statement describing the arrangements the applicant has made to comply with the requirements of these Regulations ;
- (f) the appropriate fee prescribed by the Authority.

14.2.7.3. In the case of certificate renewal, the holder of a certificate shall ensure that the process for renewal is commenced at least 60 days prior to the date on which such approval expires ;

14.2.7.4. If a procedures design certificate is subject to conditions, the holder shall comply with the conditions so specified.

14.2.8. ISSUANCE OF PROCEDURES DESIGN CERTIFICATE

14.2.8.1. The Authority shall issue a procedure design certificate for air navigation service provider, if the applicant complies with the requirements prescribed in these Regulations.

14.2.8.2. The Authority shall issue the certificate in the appropriate form.

14.2.8.3. The certificate shall authorise the provision of procedure design in all the phases of flights

14.2.8.4. A certificate issued under this Part shall include the following information :

- (a) the provider's name and address of its principal place of business ;
- (b) a list of the procedure design services covered by the provider's approval ; and
- (c) for each procedure design service provider the type of service that is proposed to be provided.

14.2.9. SCOPE AND VARIATION OF CERTIFICATE

14.2.9.1. The holder of a certificate shall be entitled to provide any service or combination of services listed in its Manual of Operations ;

14.2.9.2. If a procedure design certificate holder wants to vary its certificate, it shall apply to the Authority under this Regulation for that purpose :

- (a) the application shall contain, or have with it, a copy of the proposed variation ;
- (b) if the Authority approves the variation, the variation shall take effect from the day proposed by the applicant ;
- (c) where no date is proposed by the applicant, the effective date of the variation shall be the date the certificate notice is given to the provider.

14.2.10. PERIOD OF VALIDITY OF L CERTIFICATE.

14.2.10.1. A certificate shall be valid for a period determined by the Authority, which period shall not exceed five years from the date of issuance or renewal thereof.

14.2.10.2. The certificate shall remain valid unless it is expired, suspended, or cancelled by the Authority.

14.2.10.3. The holder of a certificate which expires, shall forthwith surrender the certificate to the Authority ;

14.2.10.4. The holder of a certificate, which is suspended, shall forthwith produce the certificate to the Authority for appropriate endorsement.

14.2.10.5. The holder of a certificate, which is cancelled, shall, within 7 days from the date on which the certificate is cancelled, surrender such certificate to the Authority.

14.2.11. TRANSFERABILITY OF CERTIFICATE.

14.2.11.1. A Procedure Design certificate shall not be transferable.

14.2.11.2. A change in the ownership of the certificate holder shall be deemed to be a change of significance that shall be notified to the Authority.

14.2.12. A Procedure Design Certificate may be suspended in the event of violation of any provision of these Regulations : Suspension of Certificate.

14.2.13. The Authority may, by written notice given to a Procedure Design Certificate holder, suspend, cancel or vary the certificate if there are reasonable grounds for believing that the certificate holder : Suspension, Cancellation or Variation of

(a) has breached a condition of the certificate ; or

(b) has contravened a provision of this Part ; or

(c) does not meet, or continue to meet, a requirement of this Part for getting or holding the certificate ; or

(d) has otherwise been guilty of conduct that renders the Procedure Design Certificate holder's continued holding of the certificate likely to have an adverse effect on the safety of air navigation.

Procedures design Certificate by the Authority.

14.2.14.2. Before suspending, cancelling or varying a procedures design certificate, the Authority shall :

(a) give written notice to the certificate holder of the facts or circumstances that, in the opinion of the Authority, amount to grounds for the suspension, cancellation or variation of the certificate ; and

(b) invite the certificate holder to show cause in writing, within 30 days after the date of the notice, why the certificate should not be suspended, cancelled or varied ; and

(c) take into account any written representations made, within the time allowed under paragraph 14.2.14.2 (b), by or on behalf of the procedure design for air navigation service provider explaining why the certificate should not be cancelled.

14.2.15. RIGHT OF APPEAL OF HOLDER OF CERTIFICATE

14.2.15.1. The holder of a certificate who feels aggrieved by the suspension of the certificate may appeal against such suspension to the Authority, within 7 days after such holder becomes aware of such suspension.

14.2.15.2. Procedure for the appeal shall be as prescribed in Part 1.10

14.2.16. REGISTER OF CERTIFICATES

14.2.16.1. The Authority shall maintain a register of all Procedure design certificates issued under this Part.

14.2.16.2. The register shall contain information recorded on the Procedures design certificate and any other information required by the Authority.

14.2.16.3. A persons who intend to access the register of aircraft for the purpose of obtaining information shall apply in writing to the Authority and shall pay the appropriate search fees as may be prescribed by the Authority

Substitution
of
Procedures
Design
Certificate.
Holder.

14.2.17. The Authority may, when it considers it necessary in the interest of aviation safety, appoint the holder of a Procedures design certificate as a substitute to design procedures in respect of a Certificate which has been suspended by the Authority under this part, for the duration of such suspension.

14.2.18. VERIFICATION OF FLIGHT PROCEDURES

14.2.18.1. A Procedures Design Certificate Holder shall establish procedures for verifying flight procedures that it is authorised to design under the designer's procedure design certificate or on which the designer is authorised to carry on design work.

14.2.18.2. The verification procedures shall :

(a) provide for 2 qualified designers to check independently the design of each flight procedure designed, or on which design work is carried on, under the Procedures Design Certificate.

(b) provide for one of those checks to be made by a qualified designer who did not carry on the design work concerned.

14.2.18.3. The process of verifying a flight procedure shall include checking the procedure (all data, computations and drawings) in accordance with IS14.2.18.3.

14.2.19. A Procedures Design Certificate Holder shall ensure that each flight procedure designed under the designer's certificate is validated by the Authority in accordance with IS14.2.19.- to be provided by DAAS

Validation of Flight Procedures.

14.2.20. Publication of Flight Procedures.

14.2.20.1. A Procedures Design Certificate Holder shall ensure that each flight procedure designed under the designer's certificate is given to the AIS for publication in the AIP together with a certification by the Certificate Holder to the effect that the procedure is designed and validated in accordance with IS14.2.19.- to be provided by DAAS

14.2.20.2. The Procedures Design Certificate holder need not give a flight procedure to the AIS if the procedure is for use only by an aircraft in a localized helicopter operation.

14.2.20.3. A Procedures Design Certificate Holder shall ensure that all procedures designed under its procedure design certificate that are not given to the AIS for publication in the AIP are given to the Authority.

14.2.21. A Procedures Design Certificate shall ensure that a flight procedure designed under the designer's certificate does not require the use of a ground-based radio-navigation aid other than one that is operated and maintained by a person certificated to do so under these Regulations.

Radio Navigation Aids.

14.2.22. MAINTENANCE OF INSTRUMENT FLIGHT PROCEDURES

14.2.22.1. A Procedures Design Certificate holder shall be responsible for maintaining Instrument Flight Procedures in accordance with the standards contain in IS 14.2.22.1 .- to be provided by DAAS.

14.2.22.2. The Procedures Design Certificate Holder shall cease to be responsible for the maintenance of the procedures if :

- (a) the Procedures Design Certificate Holder's responsibility for the maintenance of the procedure is transferred to another Procedures Design Certificate Holder on the day when the responsibility is transferred ; or
- (b) the Procedures Design Certificate Holder has notified the Authority that the designer has ceased to design the type of flight procedures concerned and the Authority will withdraw the flight procedure from use ; or
- (c) the Procedures Design Certificate is cancelled or varied to exclude that type of procedures and there is no responsible Design certificate holder for the flight procedure, Authority will withdraw the flight procedure from use

14.2.23. Application of Human Factor principles.

B 2220

14.2.23.1. The Certificate holder shall demonstrate that human factor principles are applied when assessing the appropriateness of equipment, systems, software, facilities, procedures, tasks, environment, training, staffing, and personnel management.

14.2.23.2. The Certificate holder shall ensure the application of human factor principles in the performance of his duties under these Regulations.

14.2.24. Training and Checking of Procedures Design Certificate Holder's Personnel.

14.2.24.1. A Procedures Design Certificate Holder shall provide training and checking program that is of an adequate standard to ensure that the employees of the designer maintain their competence and are provided with ongoing training appropriate to their duties.

14.2.24.2. Training and checking records shall be maintained for all personnel.

14.2.25. Reserved

14.2.26. Facilities, Equipment, Maintenance and Calibration.

14.2.26.1. A Procedures Design Certificate Holder shall provide and maintain adequate facilities for carrying on design work on flight procedures under the designer's procedure design certificate, including :

(a) providing premises and equipment appropriate for the Procedures Design Certificate Holder's employees to carry on the design work ;

(b) ensuring that those personnel have access to all necessary data for designing the procedures including :

(i) accurate and current databases or charts detailing terrain and obstacle information ; and

(ii) accurate and current navigation aid co-ordinate data ;

(iii) accurate and current aerodrome reference point and threshold data, and

(iv) acceptable software and topographical map of the area with an appropriate scale.

14.2.26.2. A Procedures Design Certificate Holder shall, if an aeronautical database and aeronautical data are required for designing an instrument flight procedure under the designer's procedure design certificate, have procedures to ensure the integrity of the database and the data.

14.2.27. Fault and Defect detection.

14.2.27.1 The Certificate holder shall maintain a system for tracking and rectifying faults within the Certificate Holder's system.

14.2.27.2. Procedures for the resolution of faults and defects shall be documented in its Manual of Operations.

14.2.28. Maintenance of Documents and Records.

14.2.28.1. A Procedures Design Certificate Holder shall maintain reference materials of the kinds specified in IS14.2.28.1-IS to be developed by DAAS.

14.2.28.2. A Procedures Design Certificate Holder shall keep the reference materials up-to-date and in a readily accessible form.

14.2.28.3. Each personnel of the Procedures Design Certificate Holder who carries out design work on a flight procedures under the holder's design certificate shall have ready access to the reference materials.

14.2.28.4. A Procedures Design Certificate Holder shall keep documents and records of the kinds specified in IS14.2.28.1-IS to be developed by DAAS.

14.2.28.5. The Certificate Holder shall demonstrate that there is a system in place to record and retain operational data.

14.2.28.6. The designer shall, at the Authority's request, make the documents and records, or copies of them or extracts from them, available for inspection by the Authority.

14.2.28.7. A Procedures Design Certificate Holder shall establish, and put into effect, a system for controlling documents and records relating to the instrument flight procedures on which the designer carries on design work including the policies and procedures for making, amending, preserving and disposing of those documents and records.

14.2.28.8. The system shall be in accordance with the standards set out in the Manual of Standards.-DAAS to provide MOS reference.

14.2.28.9. The Procedures Design Certificate Holder shall ensure that :

- (a) the documentation is reviewed and authorised by appropriate personnel before issue ;
- (b) current issues of relevant documentation are available to personnel ;
- (c) obsolete documentation is removed from all points of issue or use ;
- (d) changes to documentation are reviewed and approved by appropriate personnel ; and
- (e) current version of each document can be identified to preclude the use of obsolete documents.

14.3. AERONAUTICAL SEARCH AND RESCUE

14.3.1. ORGANISATION

14.3.1.1. Nigerian Airspace Management Agency (NAMA) is the ANSP responsible for the coordination of Aeronautical search and rescue Services within the Nigerian Airspace.

14.3.1.2 NAMA shall, individually or in co-operation with other States, arrange for the establishment and prompt provision of aeronautical search and rescue services within Nigerian territory to ensure that assistance is rendered to persons in distress. Such services shall be provided on a 24-hour basis.

14.3.1.3. Portions of the high seas or areas of for which aeronautical search and rescue services will be established shall also be covered fully. NAMA, shall solely or in cooperation with other States, arrange for the services to be established and provided in accordance with the provisions of these Regulations.

14.3.1.4. Basic elements of aeronautical search and rescue services shall include a legal framework, a responsible authority, organized available resources, communication facilities and a workforce skilled in coordination and operational functions.

14.3.1.5. NAMA's Aeronautical search and rescue services shall establish processes to improve service provision, including the aspects of planning, domestic and international cooperative arrangements and training.

14.3.1.6. In providing assistance to aircraft in distress and to survivors of aircraft accidents, NAMA shall do so regardless of the nationality or status of such persons or the circumstances in which such persons are found.

14.3.1.7. NAMA, shall use aeronautical search and rescue units and other available facilities to assist any aircraft or its occupants that are or appear to be in a state of emergency.

14.3.1.8. Where separate aeronautical and maritime rescue coordination centres serve the same area NAMA shall ensure the closest practicable coordination between the centres.

14.3.1.9. NAMA shall establish joint rescue coordination centres to coordinate aeronautical and maritime aeronautical search and rescue operations, where practical.

14.3.2. AERONAUTICAL SEARCH AND RESCUE REGIONS

14.3.2.1. NAMA shall delineate the aeronautical search and rescue regions within which they will provide aeronautical search and rescue services. Such regions shall not overlap and neighbouring regions shall be contiguous.

14.3.2.2. Aeronautical search and rescue regions shall, in so far as practicable, be coincident with corresponding flight information regions and, with respect to those areas over the high seas, maritime aeronautical search and rescue regions.

14.3.2.3. Where all or part of the airspace of Nigeria is included within an aeronautical search and rescue region associated with a rescue co-ordination centre in another Contracting State, NAMA shall establish a rescue subcentre subordinate to the rescue co-ordination centre wherever this would improve the efficiency of aeronautical search and rescue services within its territory.

14.3.2.4. NAMA shall ensure that personnel engaged in SAR operations is sufficient in number and adequately trained in addition to ensuring participation in annual mock SAR exercises.

(a) NAMA shall adequately define all the functions and responsibilities of SAR personnel in addition to properly defined job descriptions ;

(b) Training records of SAR personnel shall be properly maintained ;

(c) NAMA shall ensure that rescue co-ordination centre personnel are proficient in the use of English Language as contained in Nigeria CARs, Part 2.

14.3.2.5. The Authority shall monitor the exercise and assess the level of preparedness for aeronautical search and rescue operations.

14.3.2.6. NAMA shall ensure that qualified personnel are deployed to co-ordinate aeronautical search and rescue operations at the scene of an accident.

14.3.2.7. Aeronautical search and rescue action shall be undertaken in accordance with the National Disaster Response Plan issued by the National Emergency Management Agency and NAMA's Aeronautical search and rescue Manual, as approved by the Authority.

14.3.3. Rescue Co-ordination Centers(RCC) and Sub-centers.

14.3.3.1. Each rescue co-ordination centre and, as appropriate, rescue sub-center, shall be staffed 24 hours a day by trained personnel proficient in the use of the language used for radiotelephony.

14.3.3.2. RCC personnel involved in the conduct of radiotelephony communications shall be proficient in the use of the English language.

B 2224

14.3.3.2. Each Control Tower shall be equipped with a reliable alerting device for alerting the fire and safety services and other relevant agencies.

14.3.3.3. NAMA shall issue guidelines for the establishment of Rescue Co-ordination Centres and Rescue sub-centres including Personnel and Equipment requirements and also guidelines for Aerodrome emergencies of Air Traffic Services at each Aerodrome.

14.3.3.4. Rescue Co-ordination Centres and sub centers shall be provided with facilities and equipment for locating scenes of the incident/accident promptly.

14.3.4. Aeronautical search and rescue communications.

14.3.4.1. Each rescue co-ordination centre shall have means of rapid and reliable two way communication with :

- (a) associated air traffic services units ;
- (b) associated rescue subcentres ;
- (c) appropriate direction-finding and position-fixing stations ;
- (d) where appropriate, coastal radio stations capable of alerting and communicating with surface vessels in the region ;
- (e) the headquarters of aeronautical search and rescue units in the region ;
- (f) all maritime rescue co-ordination centres in the region and aeronautical, maritime or joint rescue coordination centres in adjacent regions ;
- (g) a designated meteorological office or meteorological watch office ;
- (h) aeronautical search and rescue units ;
- (i) alerting posts ; and
- (j) the Cospas-Sarsat Mission Control Centre servicing the aeronautical search and rescue region.

14.3.4.2. Each rescue subcentre shall have means of rapid and reliable two-way communication with :

- (a) adjacent rescue subcentres ;
- (b) a meteorological office or meteorological watch office ;
- (c) aeronautical search and rescue units ; and
- (d) alerting posts.

14.3.4.3. NAMA shall provide, when necessary, assistance to other Rescue Co-ordination Centres, including assistance in the form of aircraft, vessels, persons or equipment.

14.3.5. AERONAUTICAL SEARCH AND RESCUE UNITS

14.3.5.1. NAMA shall designate as aeronautical search and rescue units elements of public or private services suitably located and equipped for aeronautical search and rescue operations.

14.3.5.2. NAMA shall designate as parts of the aeronautical search and rescue plan of operation, elements of public or private services that do not qualify as aeronautical search and rescue units but are nevertheless able to participate in aeronautical search and rescue operations.

14.3.6. AERONAUTICAL SEARCH AND RESCUE EQUIPMENT

14.3.6.1. Aeronautical search and rescue units shall be provided with equipment for locating promptly, and for providing adequate assistance at, the scene of an accident.

14.3.6.2. Each aeronautical search and rescue unit shall have means of rapid and reliable two-way communication with other aeronautical search and rescue facilities engaged in the same operation.

14.3.6.3. Each aeronautical search and rescue aircraft shall be equipped to be able to communicate on the aeronautical distress and on-scene frequencies and on such other frequencies as may be prescribed.

14.3.6.4. Each aeronautical search and rescue aircraft shall be equipped with a device for homing on distress frequencies.

14.3.6.5. Each aeronautical search and rescue aircraft, when used for aeronautical search and rescue over maritime areas, shall be equipped to be able to communicate with vessels.

14.3.6.6. Each aeronautical search and rescue aircraft, when used for aeronautical search and rescue over maritime areas shall carry a copy of the International Code of Signals to enable it to overcome language difficulties that may be experienced in communicating with ships.

14.3.6.7. Unless it is known that there is no need to provide supplies to survivors by air, at least one of the aircraft participating in an aeronautical search and rescue operation shall carry droppable survival equipment.

14.3.6.8. NAMA shall locate, at appropriate aerodromes, survival equipment suitably packed for dropping by aircraft.

14.3.7. COOPERATION BETWEEN STATES

14.3.7.1. NAMA shall coordinate its aeronautical search and rescue organization with those of neighbouring States.

14.3.7.2. NAMA shall, whenever necessary, co-ordinate its aeronautical search and rescue operations with those of neighbouring States especially when these operations are proximate to adjacent aeronautical search and rescue regions.

14.3.7.3. NAMA shall, in so far as practicable, develop common aeronautical search and rescue plans and procedures to facilitate co-ordination of aeronautical search and rescue operations with those of neighbouring States.

14.3.7.4. Subject to such conditions as may be prescribed by its Nigeria, NAMA shall permit immediate entry into its territory of aeronautical search and rescue units of other States for the purpose of searching for the site of aircraft accidents and rescuing survivors of such accidents.

14.3.7.5. Any foreign or neighbouring Air Traffic Services Provider who wishes its aeronautical search and rescue units to enter the territory of Nigeria for aeronautical search and rescue purposes shall transmit a request, through NAMA to the Authority, giving full details of the projected mission and the need for it.

14.3.7.6. The Authority shall :

- (a) immediately acknowledge the receipt of such a request ; and
- (b) as soon as possible, indicate the conditions, if any, under which the projected mission may be undertaken ;
- (c) liaise with NAMA to take immediate action.

14.3.7.7. NAMA shall enter into agreements with neighbouring States to strengthen aeronautical search and rescue co-operation and co-ordination, setting forth the conditions for entry of each other's aeronautical search and rescue units into their respective territories. These agreements shall also provide for expediting entry of such units with the least possible formalities.

14.3.7.8. NAMA shall authorize its rescue co-ordination centres to :

- (a) request from other rescue coordination centres such assistance, including aircraft, vessels, persons or equipment, as may be needed ;
- (b) grant any necessary permission for the entry of such aircraft, vessels, persons or equipment into its territory ; and
- (c) make the necessary arrangements with the appropriate customs, immigration or other authorities with a view to expediting such entry.

14.3.7.9. NAMA shall authorize its rescue co-ordination centres to provide, when requested, assistance to other rescue co-ordination centres, including assistance in the form of aircraft, vessels, persons or equipment.

14.3.7.10. NAMA shall make arrangements for joint training exercises involving its aeronautical search and rescue units, those of other States and operators, in order to promote aeronautical search and rescue efficiency.

14.3.7.11 NAMA shall make arrangements for periodic liaison visits by personnel of their rescue co-ordination centres and subcentres to the centres of neighbouring States.

14.3.8. COOPERATION WITH OTHER SERVICES

14.3.8.1. NAMA shall arrange for all aircraft, vessels and local services and facilities which do not form part of the aeronautical search and rescue organization to cooperate fully with the latter in aeronautical search and rescue and to extend any possible assistance to the survivors of aircraft accidents.

14.3.8.2. NAMA shall ensure the closest practicable co-ordination between its aeronautical search and rescue unit and maritime authorities to provide for the most effective and efficient aeronautical search and rescue services.

14.3.8.3. NAMA shall ensure that its aeronautical search and rescue unit co-operate with the agency responsible for aircraft accident investigation and with those responsible for the care of those who suffered from the accident.

14.3.8.4. NAMA, in order to facilitate accident investigation, shall ensure that rescue units, when practicable, be accompanied by persons qualified in the conduct of aircraft accident investigations.

14.3.8.5. NAMA shall designate a aeronautical search and rescue point of contact for the receipt of Cospas-Sarsat distress data.

14.3.8.6. NAMA shall :

(a) maintain and ensure continuous liaison with NEMA and other agencies relevant for Aeronautical search and rescue operations ;

(b) maintain a database and/or schedule of supporting organizations, agencies and companies, together with available equipment and personnel for deployment to aeronautical search and rescue operations ;

(c) ensure the closest practicable coordination and co-operation with the Maritime Coordination Centre ;

(d) designate the RCC responsible for each SRR to prepare and review a comprehensive plan of operations for the conduct of aeronautical search and rescue operations.

14.3.9. DISSEMINATION OF INFORMATION

14.3.9.1. NAMA shall publish and disseminate all information necessary for the entry of aeronautical search and rescue units of other States into its territory or, alternatively, include this information in aeronautical search and rescue service arrangements.

14.3.9.2. When such information could benefit the provision of aeronautical search and rescue services, NAMA shall make available, through the rescue coordination centres or other agencies, information regarding their aeronautical search and rescue plans of operation.

14.3.9.3. NAMA shall, to the extent desirable and practicable, disseminate information to the general public and emergency response authorities regarding actions to be taken when there is reason to believe that an aircraft's emergency situation may become cause for public concern or require a general emergency response.

14.3.10. PREPARATORY INFORMATION

14.3.10.1. Each rescue co-ordination centre shall have readily available at all times up-to-date information concerning the following in respect of its aeronautical search and rescue region :

- (a) aeronautical search and rescue units, rescue subcentres and alerting posts ;
- (b) air traffic services units ;
- (c) means of communication that may be used in aeronautical search and rescue operations ;
- (d) addresses and telephone numbers of all operators, or their designated representatives, engaged in operations in the region ; and
- (e) any other public and private resources including medical and transportation facilities that are likely to be useful in aeronautical search and rescue.

14.3.10.2. Each rescue coordination centre of NAMA shall have readily available all other information of interest to aeronautical search and rescue, including information regarding :

- (a) the locations, call signs, hours of watch, and frequencies of all radio stations likely to be employed in support of aeronautical search and rescue operations ;
- (b) the locations and hours of watch of services keeping radio watch, and the frequencies guarded ;

(c) locations where supplies of droppable emergency and survival equipment are stored ; and

(d) objects which it is known might be mistaken for unlocated or unreported wreckage, particularly if viewed from the air.

14.3.10.3. Each rescue co-ordination centre of NAMA whose aeronautical search and rescue region includes maritime areas shall have ready access to information regarding the position, course and speed of ships within such areas that may be able to provide assistance to aircraft in distress and information on how to contact them.

14.3.10.4. NAMA shall, individually or in co-operation with other States, either establish ship reporting systems in co-operation with maritime authorities or arrange communication links with Amver or regional ship reporting systems to facilitate aeronautical search and rescue operations at sea.

14.3.11. PLANS OF OPERATION

14.3.11.1. Each rescue co-ordination centre shall prepare detailed plans of operation for the conduct of aeronautical search and rescue operations within its aeronautical search and rescue region.

14.3.11.2. Aeronautical search and rescue plans of operations shall be developed jointly with representatives of the operators and other public or private services that may assist in providing aeronautical search and rescue services or benefit from them, taking into account that the number of survivors could be large.

14.3.11.3. The plans of operation shall specify arrangements for the servicing and refuelling, to the extent possible, of aircraft, vessels and vehicles employed in aeronautical search and rescue operations, including those made available by other States.

14.3.11.4. The aeronautical search and rescue plans of operation shall contain details regarding actions to be taken by those persons engaged in aeronautical search and rescue, including :

(a) the manner in which aeronautical search and rescue operations are to be conducted in the aeronautical search and rescue region ;

(b) the use of available communication systems and facilities ;

(c) the actions to be taken jointly with other rescue coordination centres ;

(d) the methods of alerting en-route aircraft and ships at sea ;

(e) the duties and prerogatives of persons assigned to aeronautical search and rescue ;

(f) the possible redeployment of equipment that may be necessitated by meteorological or other conditions ;

B 2230

14.3.11.5. Aeronautical search and rescue plans of operation shall be integrated with airport emergency plans to provide for rescue services in the vicinity of aerodromes including, for coastal aerodromes, areas of water.

14.3.12. Aeronautical search and rescue units.

14.3.12.1. Each aeronautical search and rescue unit shall :

(a) be cognizant of all parts of the plans of operation prescribed in 14.3.11 that are necessary for the effective conduct of its duties ; and

(b) keep the rescue coordination centre informed of its preparedness.

14.3.12.2. NAMA shall :

(a) maintain in readiness the required number of aeronautical search and rescue facilities ; and

(b) maintain adequate supplies of rations, medical stores, signalling devices and other survival and rescue equipment.

Training and exercises.

14.3.13. To achieve and maintain maximum efficiency in aeronautical search and rescue, NAMA shall provide for regular training of their aeronautical search and rescue personnel and arrange appropriate aeronautical search and rescue exercises.

Wreckage.

14.3.14. NAMA shall ensure that wreckage resulting from aircraft accidents within its territory or, in the case of accidents on the high seas or in areas of undetermined sovereignty, within the aeronautical search and rescue regions for which it is responsible, is removed, obliterated or charted following completion of the accident investigation, if its presence might constitute a hazard or confuse subsequent aeronautical search and rescue operations.

14.3.15. INFORMATION CONCERNING EMERGENCIES

14.3.15.1 Any person or element of the aeronautical search and rescue organization having reason to believe that an aircraft is in an emergency shall give immediately all available information to the rescue co-ordination centre concerned.

14.3.15.2. Rescue co-ordination centres shall, immediately upon receipt of information concerning aircraft in emergency, evaluate such information and assess the extent of the operation required.

14.3.15.3. When information concerning aircraft in emergency is received from other sources than air traffic services units, the rescue coordination centre shall determine to which emergency phase the situation corresponds and shall apply the procedures applicable to that phase.

14.3.16. Procedures for rescue coordination centres during emergency phases. Uncertainty phase.

14.3.16.1. Upon the occurrence of an uncertainty phase, the rescue co-ordination centre shall cooperate to the utmost with air traffic services units and other appropriate agencies and services in order that incoming reports may be speedily evaluated. Alert phase.

14.3.16.2. Upon the occurrence of an alert phase the rescue co-ordination centre shall immediately alert aeronautical search and rescue units and initiate any necessary action. Distress phase.

14.3.16.3. Upon the occurrence of a distress phase, the rescue co-ordination centre shall :

(a) immediately initiate action by aeronautical search and rescue units in accordance with the appropriate plan of operation ;

(b) ascertain the position of the aircraft, estimate the degree of uncertainty of this position, and, on the basis of this information and the circumstances, determine the extent of the area to be searched ;

(c) notify the operator, where possible, and keep the operator informed of developments ;

(d) notify other rescue coordination centres, the help of which seems likely to be required, or which may be concerned in the operation ;

(e) notify the associated air traffic services unit, when the information on the emergency has been received from another source ;

(f) request at an early stage such aircraft, vessels, coastal stations and other services not specifically included in the appropriate plan of operation and able to assist to :

(1) maintain a listening watch for transmissions from the aircraft in distress, survival radio equipment or an ELT ;

(2) assist the aircraft in distress as far as practicable ; and

(3) inform the rescue co-ordination centre of any developments ;

(g) from the information available, draw up a detailed plan of action for the conduct of the search and/or rescue operation required and communicate such plan for the guidance of the authorities immediately directing the conduct of such an operation ;

(h) amend as necessary, in the light of evolving circumstances, the detailed plan of action ;

(i) notify the appropriate accident investigation authorities ; and

(j) notify the State of Registry of the aircraft.

B 2232

Initiation of aeronautical search and rescue action in respect of an aircraft whose position is unknown.

14.3.16.4. The order in which these actions are described shall be followed unless circumstances dictate otherwise.

14.3.16.5. In the event that an emergency phase is declared in respect of an aircraft whose position is unknown and may be in one of two or more aeronautical search and rescue regions, the following shall apply :

(a) When a rescue coordination centre is notified of the existence of an emergency phase and is unaware of other centres taking appropriate action, it shall assume responsibility for initiating suitable action in accordance with 14.3.16 and confer with neighbouring rescue coordination centres with the objective of designating one rescue coordination centre to assume responsibility forthwith ;

(b) Unless otherwise decided by common agreement of the rescue coordination centres concerned, the rescue coordination centre to coordinate search and rescue action shall be the centre responsible for :

(1) the region in which the aircraft last reported its position ; or

(2) the region to which the aircraft was proceeding when its last reported position was on the line separating two aeronautical search and rescue regions ; or

(3) the region to which the aircraft was destined when it was not equipped with suitable two-way radio communication or not under obligation to maintain radio communication ; or

(4) the region in which the distress site is located as identified by the Cospas-Sarsat system.

(c) After declaration of the distress phase, the rescue coordination centre with overall coordination responsibility shall inform all rescue coordination centres that may become involved in the operation of all the circumstances of the emergency and subsequent developments.

Likewise, all rescue coordination centres becoming aware of any information pertaining to the emergency shall inform the rescue coordination centre that has overall responsibility.

14.3.16.5. Passing of information to aircraft in respect of which an emergency phase has been declared.

Whenever applicable, the rescue coordination centre responsible for aeronautical search and rescue action shall forward to the air traffic services unit serving the flight information region in which the aircraft is operating, information of the aeronautical search and rescue action initiated, in order that such information can be passed to the aircraft.

14.3.17. Where the conduct of operations over the entire aeronautical search and rescue region is the responsibility of more than one Contracting State, each involved State shall take action in accordance with the relevant plan of operations when so requested by the rescue coordination centre of the region.

Procedures where responsibility for operations extends to two or more Contracting States

14.3.18. The authorities immediately directing the conduct of operations or any part thereof shall :

Procedures for SAR authorities in the field

(a) give instructions to the units under their direction and inform the rescue coordination centre of such instructions ; and

(b) keep the rescue co-ordination centre informed of developments.

14.3.19. Procedures for rescue co-ordination centres-termination and suspension of operations.

14.3.19.1. Aeronautical search and rescue operations shall continue, when practicable, until all survivors are delivered to a place of safety or until all reasonable hope of rescuing survivors has passed.

14.3.19.2. The responsible rescue co-ordination centre shall normally be responsible for determining when to discontinue aeronautical search and rescue operations.

14.3.19.3. When an aeronautical search and rescue operation has been successful or when a rescue co-ordination centre considers, or is informed, that an emergency no longer exists, the emergency phase shall be cancelled, the aeronautical search and rescue operation shall be terminated and any authority, facility or service that has been activated or notified shall be promptly informed.

14.3.19.4. If an aeronautical search and rescue operation becomes impracticable and the rescue coordination centre concludes that there might still be survivors, the centre shall temporarily suspend on-scene activities pending further developments and shall promptly inform any authority, facility or service which has been activated or notified. Relevant information subsequently received shall be evaluated and aeronautical search and rescue operations resumed when justified and practicable.

14.3.20. PROCEDURES AT THE SCENE OF AN ACCIDENT.

14.3.20.1. When multiple facilities are engaged in aeronautical search and rescue operations on-scene, the rescue coordination centre or rescue subcentre shall designate one or more units on-scene to coordinate all actions to help ensure the safety and effectiveness of air and surface operations, taking into account facility capabilities and operational requirements.

14.3.20.2. When a pilot-in-command observes that either another aircraft or a surface craft is in distress, the pilot shall, if possible and unless considered unreasonable or unnecessary :

(a) keep the craft in distress in sight until compelled to leave the scene or advised by the rescue co-ordination centre that it is no longer necessary ;

(b) determine the position of the craft in distress ;

(c) as appropriate, report to the rescue co-ordination centre or air traffic services unit as much of the following information as possible ;

(d) act as instructed by the rescue co-ordination centre or the air traffic services unit.

14.3.20.3. If the first aircraft to reach the scene of an accident is not a aeronautical search and rescue aircraft, it shall take charge of on-scene activities of all other aircraft subsequently arriving until the first aeronautical search and rescue aircraft reaches the scene of the accident. If, in the meantime, such aircraft is unable to establish communication with the appropriate rescue coordination centre or air traffic services unit, it shall, by mutual agreement, hand over to an aircraft capable of establishing and maintaining such communications until the arrival of the first aeronautical search and rescue aircraft.

14.3.20.4. When it is necessary for an aircraft to convey information to survivors or surface rescue units, and two-way communication is not available, it shall, if practicable, drop communication equipment that would enable direct contact to be established, or convey the information by dropping a hard copy message.

14.3.20.5. When a ground signal has been displayed, the aircraft shall indicate whether the signal has been understood or not by the means described in 14.3.20.4 or, if this is not practicable, by making the appropriate visual signal.

14.3.20.6. When it is necessary for an aircraft to direct a surface craft to the place where an aircraft or surface craft is in distress, the aircraft shall do so by transmitting precise instructions by any means at its disposal. If no radio communication can be established, the aircraft shall make the appropriate visual signal.

14.3.21. Whenever a distress transmission is intercepted by a pilot-in-command of an aircraft, the pilot shall, if feasible :

- (a) acknowledge the distress transmission ;
- (b) record the position of the craft in distress if given ;
- (c) take a bearing on the transmission ;
- (d) inform the appropriate rescue coordination centre or air traffic services unit of the distress transmission, giving all available information ; and
- (e) at the pilot's discretion, while awaiting instructions, proceed to the position given in the transmission.

14.3.22. Aeronautical search and rescue signals.

14.3.22.1. The air-to-surface and surface-to-air visual signals in the IS 14.3.22.1(-to be developed by DAAS) shall, when used, have the meaning indicated therein. They shall be used only for the purpose indicated and no other signals likely to be confused with them shall be used.

14.3.22.2. Upon observing any of the signals in the IS 14.3.22.1(- to be developed by DAAS), aircraft shall take such action as may be required by the interpretation of the signal given in that IS 14.3.22.1(- to be developed by DAAS).

14.3.23. MAINTENANCE OF RECORDS

14.3.23.1. Each rescue coordination centre shall keep a record of the operational efficiency of the aeronautical search and rescue organization in its region.

14.3.23.2. Each rescue coordination centre shall prepare appraisals of actual aeronautical search and rescue operations in its region. These appraisals shall comprise any pertinent remarks on the procedures used and on the emergency and survival equipment, and any suggestions for improvement of those procedures and equipment. Those appraisals which are likely to be of interest to other States shall be submitted to the Authority for information and dissemination as appropriate.

B 2236

14.4. AERONAUTICAL INFORMATION SERVICES

Applicability. **14.4.1.** This subpart is applicable to the provision of Aeronautical Information Service(AIS).

Provision of Aeronautical Information Services. **14.4.2.** No Aeronautical Information Services Provider shall provide aeronautical information services at aerodromes in Nigeria except under the authority of, and in accordance with the provisions contained in its Aeronautical Information Service Provider certificate issued by the Authority. (IS 14.4.2).

14.4.3. Responsibilities of Holder of AIS Service provider Certificate.

14.4.3.1. An Aeronautical Information Services Provider issued with certificate under these Regulations shall :

(a) be responsible for the provision of aeronautical information services to ensure that the information necessary for the safety, regularity or efficiency of air navigation is available in the form suitable for the operational requirements of :

(i) flight operations personnel including flight crew and the personnel responsible for the provision of pre-flight information ; and

(ii) associated air traffic services unit ;

(b) collect, collate, edit and disseminate aeronautical information concerning the entire territory of Nigeria ; and

(c) publish the aeronautical information as an integrated Aeronautical Information Package.

(d) publish aeronautical geographical co-ordinates (indicating latitude and longitude) expressed in WGS-84 geodetic reference datum.

14.4.3.2. The conditions, requirements, rules, procedures and standards for the provision and publication of the aeronautical information in NOTAM, AIRAC and AIC as the case may be, shall be in conformity with the AIS Manual of Standards Chapters 5, 6 and 7 respectively.

14.4.3.3. An Aeronautical Information Publication shall contain, in three parts; (Part 1-General (GEN), Part 2-En-route (ENR), Part 3-Aerodromes (AD) sections and subsections uniformly referenced to allow for standardized electronic data storage and retrieval.

14.4.3.4. The Specifications for AIP Amendments and Supplements shall be in accordance with the provisions in the Aeronautical Information Services Manual of Standards chapter 4.

14.4.3.5. The approved Aeronautical Information Services Provider shall ensure that all entries to the AIP are approved by the Authority.

14.4.3.6. The approved Aeronautical Information Services Provider shall ensure that :

(a) Copies of all AIC, NOTAM, List of Valid NOTAM, AIP, AIP Supplement and AIP Amendments to be published shall be approved by the Authority before publication.

(b) all AIP amendments are made available to AIP subscribers.

14.4.4. TELECOMMUNICATION REQUIREMENTS.

14.4.4.1. The approved Aeronautical Information Services Provider shall ensure that International NOTAM offices (NOF) shall be connected to the Aeronautical Fixed Service (AFS) and shall be provided with printed communications.

14.4.4.2. The approved Aeronautical Information Services Provider shall ensure that each international NOTAM office shall be connected, through the Aeronautical Fixed Service (AFS), to the following points within the Nigerian Airspace :

14.4.4.2.1. Area control centres and flight information centres ;

14.4.4.2.2 Aerodromes/Heliports at which an information service is provided with preflight briefing and post-flight information.

14.4.4.3. The approved Aeronautical Information Services Provider may apply the use of internet for non-time critical types of aeronautical information.

14.4.5. Quality Management System.

14.4.5.1. The Aeronautical Information Services Provider shall establish a quality management system to provide among others for the procedures, processes, and resources necessary for implementing quality management of aeronautical information and data.

14.4.5.2. The quality management system shall be documented in the approved Aeronautical Information Services Provider's Manual of Operations.

14.4.5.3. If the holder of an Aeronautical Information Services Provider certificate makes any change in the quality management system referred to in this section, which is significant to the showing of compliance with the appropriate requirements, the holder shall notify the Authority.

14.4.5.4. The AIS provider certificate holder shall establish verification and validation procedures which ensure that upon receipt of aeronautical data and aeronautical information, quality requirements (accuracy, resolution, integrity and traceability) are met.

14.4.5.5. The AIS provider certificate holder shall introduce automation in AIS systems with the objective of improving the timeliness, quality, efficiency and cost effectiveness of aeronautical information services.

14.4.5.6. The approved Aeronautical Information Services Provider shall provide, in a timely manner, the personnel, facility and financial resources needed to :

- (a) implement and improve the processes of the Quality\management System ; and
- (b) address customer satisfaction on all AIS/MAP related services

14.4.6. AIS Service Provider's Manual of Operations.

14.4.6.1. The holder of an Aeronautical Information Services Provider certificate shall :

(a) provide the services listed in its Manual of Operations, in accordance with the procedures as prescribed in IS 14.4.6.1(a) ;

(b) The Aeronautical Information Services Provider Manual of Operations shall include the following information :

(i) personnel requirements and the responsibilities of personnel IS 14.4.6.1(b)(i) ;

(ii) training and checking of personnel engaged in Aeronautical Information Services activities in accordance with IS 14.4.6.1(b)(ii) ;

(iii) contingency plans developed for part or total system failure for which the organisation provides a service IS 14.4.6.1(b)(iii) ;

(iv) a security plan that details what measures both, physical and procedural, they have in place to protect their facilities and services.

(v) facilities and equipment and how those facilities are maintained. IS 14.4.6.1(b) (v) ;

(vi) fault and defect reporting. IS 14.4.6.1(b)(vi) ;

(vii) maintenance of documents and records. IS14.4.6.1 (b)(vii) ; and

(viii) any other information requested by the Authority.

(c) hold at least one complete and current copy of its Manual of Operations at each Aerodrome Unit specified in its Manual of Operations ;

(d) comply with all procedures detailed in its Manual of Operations ;

(e) Comply with the Manual of Standards ;

(f) continue to comply with the appropriate requirements prescribed in these Regulations ;

(g) replace or upgrade any obsolete installation ;

(h) keep the Authority informed of its plans for the development and modernisation of its facilities.

14.4.7. Display of Aeronautical Information Services Certificate.

14.4.7.1. The holder of an Aeronautical Information Services Provider certificate shall display the approved certificate in a prominent place visible to the public at such holder's principal place of business and, if a copy of the duplicate certificate is displayed, it shall produce the original to the Authority's officials, if so requested.

14.4.8. Safety Audit and Inspections.

14.4.8.1. An applicant for an Aeronautical Information Services Provider certificate shall permit the Authority's Inspector to carry out such safety inspections and audits as may be necessary to verify the validity of any application made in accordance with these Regulations.

14.4.8.2. The holder of an Aeronautical Information Services Provider certificate shall permit the Authority's Inspector to carry out such safety inspections and audits as may be necessary to determine compliance with the appropriate requirements prescribed in this Part.

14.4.9. Application of Human Factors principles.

14.4.9.1. The AIS service provider shall take into consideration Human Factors principles in the organisation of the aeronautical information services as well as the design, contents, processing and distribution of aeronautical data and information.

14.4.9.2 Due consideration shall be given to the integrity of information where human interaction is required and mitigating steps taken where risks are identified.

14.4.10. The Aeronautical Information Services Provider shall provide such assistance as requested from the authority responsible for conducting SAR activities.

Search and
Rescue
Responsibilities and Co-
ordinations

14.4.11. The Aeronautical Information Services Provider shall develop local operating procedures for the collection and dissemination of relevant data in AIS Aerodrome units in accordance with IS14.4.11.

Local
Operating
Procedures.

14.4.12. Application for Approval, Amendment or Renewal.

14.4.12.1. An applicant is eligible to become an AIS provider if he is able to comply with the requirements of these Regulations.

14.4.12.2. An application for the issuance of an Aeronautical Information Services Provider certificate or an amendment thereof shall be made in the manner prescribed by the Authority and shall include :

- (a) a copy of the applicant's Manual of Operations ;
- (b) a written statement setting out aeronautical information services that the applicant proposes to provide ;
- (c) enough information to identify, for each aeronautical information service the type and the location from which the service is proposed to be provided.
- (d) a written statement setting out the hours during which each aeronautical information service is proposed to be available ;
- (e) a written statement describing the arrangements the applicant has made to comply with the requirements of these Regulations ;
- (f) the appropriate fee prescribed by the Authority.

14.4.12.3. In the case of certificate renewal, the holder of the certificate shall ensure that the process for renewal is commenced at least 60 days prior to the date on which such certificate expires.

14.4.12.4. If an Aeronautical Information Service Provider certificate is subject to conditions, the provider shall comply with the conditions so specified.

14.4.13. Issuance of Aeronautical Information Services Provider Certificate.

14.4.13.1. The Authority shall issue an Aeronautical Information Service Provider a Certificate to provide aeronautical information service, if the applicant complies with the requirements prescribed in these Regulations.

14.4.13.2. A Certificate issued under this Part shall include the following information :

- (a) the provider's name and address of its principal place of business ;
- (b) a list of the aeronautical information services covered by the aeronautical information service provider certificate ; and
- (c) for each aeronautical information service the location from which the service will be provided ;

14.4.14. Scope and Variation of AIS provider Certificates.

14.4.14.1. The holder of AIS provider certificate shall be entitled to provide any service or combination of services listed in its manual of operations ;

14.4.14.2. If an Aeronautical Information Service Provider wants to vary its Certificate, it shall apply to the Authority under this Regulation for that purpose :

(a) the application shall contain, or have with it, a copy of the proposed variation ;

(b) if the Authority approves the variation, the variation shall take effect from the day proposed by the applicant ;

(c) Where no date is proposed by the applicant, the effective date of the variation shall be the date the certificate is conveyed to the service provider.

14.4.15. Period of Validity of Certificate.

14.4.15.1. An AIS provider Certificate shall be valid for a period determined by the Authority, which shall not exceed five years from the date of issuance or renewal thereof.

14.4.15.2. The Certificate shall remain in force until it expires, is suspended, or cancelled by the Authority.

14.4.15.3. The holder of AIS Certificate, which is cancelled, shall, within 7 days from the date on which the certificate is cancelled, shall surrender such Certificate to the Authority.

14.4.16. Transferability of Certificate.

14.4.16.1. An AIS provider Certificate shall not be transferable.

14.4.16.2. A change in ownership of the holder of AIS provider Certificate shall be deemed to be a change of significance that shall be notified to the Authority.

14.4.17. An Aeronautical Information Service Provider Certificate may be suspended in the event of violation of any provision of these Regulations.

Suspension
of
Certificate.

14.4.18. Suspension, Cancellation or Variation of an Aeronautical Information Service Provider Certificate by the Authority.

14.4.18.1. The Authority may, arising from the recommendation of its Inspector, by written notice given to an Aeronautical Information Service Provider, suspend, cancel or vary the Aeronautical Information Services Provider Certificate if there are reasonable grounds for believing that the certificate holder :

- (a) has breached a condition of the certificate ; or
- (b) has contravened a provision of this Part ; or
- (c) does not meet, or continue to meet, a requirement of this Part for getting or holding the certificate ; or
- (d) has otherwise been guilty of conduct that renders the Aeronautical Information Services Provider continued holding of the certificate likely to have an adverse effect on the safety of Air Navigation.

14.4.18.2. Before suspending, cancelling or varying an Aeronautical Information Service Provider Certificate, the Authority shall :

- (a) give written notice to the certificate holder of the facts or circumstances that, in the opinion of the Authority, amount to grounds for the suspension, cancellation or variation of the certificate ;
- (b) invite the certificate holder to show cause in writing, within 7 days after the date of the notice, why the certificate should not be suspended, cancelled or varied ; and
- (c) take into account any written representations made, within the time allowed under paragraph (b), by or on behalf of the Aeronautical Information Service Provider explaining why the certificate should not be cancelled.

14.4.19. Right of Appeal of Holder of AIS provider Certificate.

14.4.19.1. The holder of a certificate who feels aggrieved by the suspension of the certificate may appeal against such suspension to the Authority, within 7 days after such holder becomes aware of such suspension.

14.4.19.2. Procedure for the appeal shall be as prescribed in Part 1.10

14.4.20. Register of Certificates.

14.4.20.1. The Authority shall maintain a register of all Aeronautical Information Service Provider Certificates issued under this Part.

14.4.20.2. The register shall contain information recorded on the Aeronautical Information Service Provider Certificate and any other information required by the Authority.

14.4.20.3. Persons who intend to access the register of aircraft for the purpose of obtaining information shall apply in writing to the Authority and shall pay the appropriate search fees as may be prescribed by the Authority.

14.4.21. The Authority may, when it considers it necessary in the interest of aviation safety, appoint the holder of an Aeronautical Information Service Certificate as a substitute Aeronautical Information Services Provider to provide an aeronautical information service in respect of an AIS provider's Certificate which has been suspended by the Authority under this Part, for the duration of such suspension.

Substitution
of
Aeronautical
Information
Services
Provider.

14.4.22. Pre-Flight and Post- Flight Information.

14.4.22.1. The service provider shall ensure that at all aerodromes, an AIS briefing office is made available to pilots to facilitate pre-flight information required for a flight. Information shall be presented in such a manner to facilitate self-briefing in order to save the crews' time.

14.4.22.2. Factors to be considered in reference to 14.4.22.1 shall include :

- (a) the physical layout of the briefing room ;
- (b) the format of the Pre-flight Information Bulletin (PIB) ;
- (c) an adequate wall display ;
- (d) easy access to basic information ;
- (e) requirements stated in Part 8.6 of these Regulations and AIS Manual of Standards, Chapter 8 (8.1 and 8.2).

14.4.23. Electronic Terrain and Obstacle Data (E- TOD).

14.4.23.1. The certificate holder shall ensure ensure that sets of electronic terrain and obstacle data used in combination with aeronautical data, as appropriate, shall satisfy user requirements necessary to support the air navigation applications as contained in AIS Manual of Standards Chapter 10.

14.4.24. The certificate holder shall ensure that :

- (a) ISO 19100 series of standards for geographic information are used as a reference framework ;
- (b) Aerodrome mapping are described following the ISO 19131 data product specification standards.
- (c) The content and structure of aerodrome mapping data sets shall be defined in terms of an application schema and a feature catalogue ;
- (d) Aerodrome mapping data sets shall contain aerodrome mapping data consisting of aerodrome features ;
- (e) Aerodrome mapping metadata shall comply with ISO 19115.

Aerodrome
Mapping
Data
(AMD).

B 2244

14.5. AERONAUTICAL CHARTS

Applicability.

14.5.1. This sub-part is applicable to the provision of Aeronautical Charts.

14.5.2. Provision of Aeronautical Charts.

14.5.2.1. No person shall provide Aeronautical Charts in Nigeria except with the Approval of the Authority and in accordance with IS 14.5.2.1

14.5.2.2. The Aeronautical Charts Provider shall ensure that all Aeronautical charts, updates and entries used in Nigeria are approved by the Authority.

14.5.3. Application for Approval, Amendment or Renewal.

14.5.3.1. An applicant is eligible to become an Aeronautical Charts provider if he is able to comply with the requirements of these Regulations.

14.5.3.2. An application for the issuance of an Aeronautical Charts Provider certificate or an amendment thereof shall be made in the manner prescribed by the Authority and shall include :

(a) a copy of the applicant's Manual of Operations as described in IS 14.5.3.2 ;

(b) a written statement setting out the aeronautical charts that the applicant proposes to provide ;

(c) enough information to identify, for each aeronautical chart the type and the location from which it is proposed to be provided ;

(d) a written statement describing the arrangements the applicant has made to comply with the requirements of this Regulation ;

(e) the appropriate fee prescribed by the Authority.

14.5.3.3. In the case of renewal of Certificate, the holder of Certificate shall ensure that the process for renewal is commenced at least 60 days prior to the expiration of the Certificate.

14.5.3.4. The Personnel requirements and the responsibilities of personnel shall be as provided in IS 14.5.3.4.

14.5.3.5. Training of staff shall be in the manner that staff engaged in Aeronautical Charts activities are adequately trained in accordance with IS 14.5.3.5.

14.5.4. Quality System.

14.5.4.1. The Certificate holder shall establish, implement, maintain, and adhere to a quality system that is appropriate to the size, nature, and complexity of all activities authorized to be conducted under the certificate.

14.5.4.2. The quality system shall be documented in the service providers' Manual of Operations.

14.5.4.3. If the holder of an Aeronautical Charts Provider certificate makes any significant change in the quality system referred to in this section, the holder shall notify the Authority.

14.5.5. Contingency plan.

14.5.5.1. The Applicant for the grant of Aeronautical Charts Provider certificate shall establish a contingency plan providing for the safe, orderly and continuous flow of information in the event of disruption and/or interruption.

14.5.5.2. An Aeronautical Charts Provider shall develop and maintain Contingency Plans for implementation in the event of disruption, or potential disruption, of Aeronautical Charts and related supporting services for which it is responsible. The disruption may be caused intentionally (sabotage) or unintentionally (equipment failure).

14.5.5.3. In developing such contingency plans, the Aeronautical Charts Provider shall work closely with the Aeronautical Charts authorities responsible for the provision of services in adjacent or contiguous airspaces and other airspace users concerned.

14.5.5.4 The contingency plan shall include :

- (a) the actions to be taken by the Aeronautical Chart provider ;
 - (b) possible alternative arrangements for providing the service ;
 - (c) the arrangements for resuming normal operations for the service ;
- and
- (d) these plans shall be submitted as part of the Manual of Operations.

14.5.6. The applicant shall provide a plan that details what measures, both physical and procedural ; they have in place the protection of their facilities and services. This should include a security assessment of the facilities used by the applicant.

Security
Programme.

14.5.7. Issuance of Aeronautical Charts Provider Approval Certificate.

14.5.7.1. The Authority shall issue an Aeronautical Charts Provider Certificate to produce Aeronautical Charts, upon compliance with the requirements prescribed in these Regulations.

14.5.7.2. The Aeronautical Chart Provider Certificate authorises the provision of :

- (a) Aeronautical Charts from a single Aeronautical Chart Unit ; or

(b) a combination of Aeronautical Charts from a network of approved Aeronautical Charts Providers.

14.5.7.3. Aeronautical Chart Service Provider Certificate issued under this Part shall include the following information :

- (a) the provider's name and address of its principal place of business ;
- (b) a list of the Aeronautical Charts covered by the provider's Certificate ; and
- (c) for each Aeronautical Chart the location for which the service is provided ;

14.5.8. Scope and Variation of Certificates.

14.5.8.1. The holder of Aeronautical Chart Provider Certificate shall be entitled to provide any service or combination of services listed in its Manual of Operations ;

14.5.8.2. An application for variation of certificate shall be made to the Authority and shall contain a copy of the proposed variation ;

14.5.8.3. The variation, if approved by the Authority, shall take effect from the date proposed by the applicant ;

14.5.8.4. Where no date is proposed by the applicant, the effective date of the variation shall be the date the certificate is conveyed by the Authority.

14.5.9. Period of Validity of Aeronautical Chart Provider Certificate.

14.5.9.1. An Aeronautical Chart Provider Certificate shall be valid for a period determined by the Authority, which shall not exceed five years from the date of issuance or renewal thereof.

14.5.9.2. The Certificate shall remain in force until it expires, is suspended, or cancelled by the Authority.

14.5.9.3. The holder of AIS Certificate, which is cancelled, shall, within 7 days from the date on which the certificate is cancelled, shall surrender such Certificate to the Authority.

14.5.10. Transferability of Aeronautical Chart Provider Certificate.

14.5.10.1. An Aeronautical Chart Provider Certificate shall not be transferable.

14.5.10.2. A change in ownership of the holder of Aeronautical Chart Provider Certificate shall be deemed to be a change of significance that shall be notified to the Authority.

14.5.11. Responsibilities of an Aeronautical Charts Provider.

14.5.11.1. An Aeronautical Charts Provider issued with a Certificate under these Regulations shall :

(a) be responsible for the provision of Aeronautical Charts to ensure that the information necessary for the safety, regularity and efficiency of air navigation is available in the form suitable for the operational requirements of :

(i) flight operations personnel including flight crew and the personnel responsible for the provision of pre-flight information ; and

(ii) its associated Air Traffic Service Unit ;

(b) collect, collate, edit and disseminate aeronautical charts information concerning the entire territory of Nigeria ;

(c) take all reasonable steps to ensure that the information it provides and the aeronautical charts made available are adequate, accurate and that they are maintained up to date by an adequate revision service ;

(d) produce the chart or sheet itself for any chart or single sheet of chart series entirely contained within the territory of Nigeria.

14.5.11.2. The Aeronautical Chart Provider shall :

(a) provide the services listed in its Manual of Operations ;

(b) hold at least one complete and current copy of its Manual of Operations at each aeronautical Chart unit specified in its Manual of Operations ;

(c) Comply with the provisions of the Aeronautical Charts Manual of Standards ;

(d) comply with all procedures detailed in its Manual of Operations ;

(e) make each applicable part of the Manual of Operations available to the personnel who require those parts to carry out their duties;

(f) continue to comply with the appropriate requirements prescribed in this Regulation ;

(g) keep the records of all regular internal inspections for a period of five years from the date of each inspection ;

(h) replace or upgrade any obsolete installation ;

(i) keep the Authority informed of its plans for the development and modernisation of its facilities.

(j) ensure that the Data and the corresponding Metadata of any aeronautical data to be used for chart production be forwarded to the Authority for assessment.

B 2248

Display of Certificate.

14.5.12. The holder of an Aeronautical Charts Provider Certificate shall display the Certificate in a prominent place, generally accessible to the public at such holder's principal place of business. If a photocopy of the original Aeronautical Charts Provider Certificate is displayed, it shall produce the original to the Authority's officials, if so requested.

14.5.13. Safety Audit and Inspections.

14.5.13.1. Aeronautical Charts Provider Certificate holder shall permit the Authority's Inspector to carry out such safety inspections and audits as may be necessary to verify the validity of any application made in accordance with these Regulations.

14.5.13.2. The holder of an aeronautical Charts Provider Certificate shall permit the Authority's Inspector to carry out such safety inspections and audits as may be necessary to determine compliance with the appropriate requirements of these Regulations.

14.5.14. Application of Human Factors Principles.

14.5.14.1. The Aeronautical Charts provider shall take into consideration Human Factors principles in the organisation of the aeronautical charts services.

14.5.14.2. Due consideration shall be given to the integrity of information where human interaction is required and mitigating steps taken where risks are identified.

Facilities, Equipment and Maintenance of Aeronautical charts.

14.5.15. An Aeronautical Charts Provider shall provide Facilities, Equipment and Maintenance of charts in conformity with the provisions of International Standard Organization (ISO 9000) and as detailed in IS 14.5.15.

Search and Rescue Responsibilities and Co-ordination.

14.5.16. The Aeronautical Charts Provider shall provide all necessary charts that could be used by the agencies responsible for conducting SAR operations or activities.

Local Procedures.

14.5.17. The Aeronautical Charts Provider shall develop local operating procedures for the collection and dissemination of relevant data.

14.5.18. CO-ORDINATION

14.5.18.1. The Aeronautical Charts provider shall establish systems and procedures to ensure, where applicable, co-ordination with the agencies and other service providers listed below :

- (1) Air Traffic Service Provider ;
- (2) The Aeronautical Meteorological Service Provider ;
- (3) The Nigerian Military ;
- (4) Aircraft Operators ;
- (5) Search and Rescue units ;
- (6) Office of the Surveyor-General of the Federation ;
- (7) Aerodrome AIS Units : and

(8) Other Government Agencies that may have safety related functions with aviation.

14.5.18.2. The applicant shall provide systems and procedures to facilitate communications between the units having an operational requirements with each other.

14.5.19. Provision of required information/data for aeronautical charts.

14.5.19.1. An Aeronautical Charts Provider shall establish procedures to collect and collate the information required for the activities listed in its Manual of Operations.

14.5.19.2. The procedures shall ensure that :

- (a) Applicable information is obtained from organisations that provide services in support of the Nigerian air navigation system ;
- (b) Arrangements for the timely provision of information are made with the information originators prescribed in 14.5.19.1.

14.5.19.3. Information received from the information originators prescribed in 14.5.19.2(a) is certified as accurate by a person identified by the originator to be responsible for the accuracy of that information.

14.5.20. Aeronautical Charts Provider Certificate may be suspended in the event of violation of any provision of these Regulations.

Suspension
of
Certificate.

14.5.21. Suspension, Cancellation, or Variation of an Aeronautical Charts Provider Certificate by the Authority.

B 2250

14.5.21.1. The Authority may, by written notice given to an Aeronautical Charts Provider, suspend, cancel or vary the Certificate if there are reasonable grounds for believing that the certificate holder :

- (a) has breached a condition of the certificate ; or
- (b) has contravened a provision of this Part ; or
- (c) does not meet, or continue to meet, a requirement of this Part for getting or holding the certificate ; or
- (d) has otherwise been guilty of conduct that renders the Aeronautical Charts provider continued holding of the certificate likely to have an adverse effect on the safety of Air Navigation.

14.5.21.2. Before suspending, cancelling or varying an Aeronautical Charts Provider Certificate, the Authority shall :

(a) give written notice to the certificate holder of the facts or circumstances that, in the opinion of the Authority, amount to grounds for the suspension, cancellation or variation of the certificate ;

(b) invite the certificate holder to show cause in writing, within 7 days after the date of the notice, why the certificate should not be suspended, cancelled or varied ; and

(c) take into account any written representations made, within the time allowed under paragraph (b), by or on behalf of the Aeronautical Charts Provider explaining why the certificate should not be cancelled.

14.5.22. Right of Appeal of Holder of Aeronautical Charts Provider Certificate.

14.5.22.1. The holder of a certificate who feels aggrieved by the suspension of the certificate may appeal against such suspension to the Authority, within 7 days after such holder becomes aware of such suspension.

14.5.22.2. Procedure for the appeal shall be as prescribed in Part 1.10

14.5.23. Register of Certificates.

14.5.23.1 The Authority shall maintain a register of all Aeronautical Charts Provider Certificates issued under this Part.

14.5.23.2. The register shall contain information recorded on the Aeronautical Charts Provider Certificate and any other information required by the Authority.

14.5.23.3. Persons who intend to access the register of aircraft for the purpose of obtaining information shall apply in writing to the Authority and shall pay the appropriate search fees as may be prescribed by the Authority.

14.5.24. The Authority may, when it considers it necessary in the interest of aviation safety, appoint the holder of an Aeronautical Charts Provider Certificate as a substitute Aeronautical Charts Provider to provide Aeronautical Charts in respect of Certificate which has been suspended by the Authority under this Part, for the duration of such suspension.

Substitution of another Aeronautical Charts Provider.

14.5.25. OPERATIONAL REQUIREMENTS AND GENERAL SPECIFICATIONS.

14.5.25.1. The Aeronautical Charts Provider Certificate holder shall ensure that charts are produced to meet the operational requirements for charts as described in IS 14.5.25.1.

14.5.25.2. The Aeronautical Charts Provider Certificate holder shall ensure that Charts produced by Nigeria shall be made available to other ICAO contracting States on request or reciprocal basis.

14.5.25.3. The Aeronautical Charts Provider Certificate holder shall collaborate with the office of Surveyor General of the Federation and, or other agencies approved by office of Surveyor General for base maps and other data that may be used for the production of aeronautical charts for civil aviation.

14.5.25.4. The Aeronautical Charts Provider Certificate holder shall ensure that units of measurement to be used for charts production conform to the standards specified in 1.9 of these Regulations.

14.5.25.5. The Aeronautical Charts Provider Certificate holder shall ensure that general specifications and other requirements for all aeronautical charts produced shall be in compliance with IS14.5.25.5 and the provisions of the Aeronautical Charts Manual of Standards (MOS).

14.6. AERONAUTICAL METEOROLOGICAL SERVICES

14.6.1. GENERAL.

14.6.1.1. This subpart is applicable to the provision of aeronautical meteorological services.

Applicability.

14.6.2. Grant of Certificate to Aeronautical Meteorological Services Provider (AMSP)

14.6.2.1. The Authority shall grant an Aeronautical Meteorological Service Provider certificate for the provision of the following services in support of air navigation :

B 2252

- (a) routine meteorological observations at fixed intervals ;
- (b) special weather observations whenever specified changes occur in respect of surface wind, visibility, runway visual range, present weather, cloud and air temperature ;
- (c) weather forecasts and other relevant information for Aerodromes, Flight Information Regions, routes and flights with which it is concerned ;
- (d) Flight crew briefing, consultation and flight documentation to flight crew members and other flight operations personnel ;
- (e) continuous survey of meteorological conditions over the Aerodromes, Flight Information Regions, routes and flights with which it is designated to prepare forecasts ;
- (f) weather watch and monitoring, including the ability to detect and forecast hazards relevant to the aviation community, in accordance with IS 14.6.2.1(f) ;
- (g) forecast and warning products to the standards required by the user community ;
- (h) record of aeronautical climatological information in the form of aerodrome climatological tables and summaries required for the planning of flight operations, investigation or operational analysis for supply, on request, to aeronautical users ;
- (i) Exchange of meteorological information with other meteorological offices ;
- (j) Tailor meteorological products and services to civil aviation operations, in accordance with these Regulations ;
- (k) Supply information received concerning the accidental release of radioactive materials into the atmosphere within the Nigerian airspace to the ATS providers, AIS Provider and other meteorological watch offices for dissemination ;
- (l) Issue SIGMET information phenomena which may affect the safety of aircraft operations, and the development of those phenomena in time and space within Nigerian airspace to the ATS providers, AIS Provider and other meteorological watch offices for dissemination in accordance with the template shown in appendix 6 and template shown in Table A6-1 of AeroMet Manual of Standards ;
- (m) Issue SIGMET messages concerning volcanic ash cloud and tropical cyclones which shall be based on advisory information provided by Volcanic Ash Advisory Centers and Tropical Cyclone Advisory Centers, respectively, designated by regional air navigation agreement ;
- (n) Implement policies on the requirements for and operational use of meteorological information on wind sensors as detailed in the IS 14.6.2.1(n) ;

(o) supply runway visual range on all runways intended for Category II and III instrument approach and landing operations ;

(p) Supply AIRMET information when taking into account the density of air traffic operating below flight level 100 ;

(q) Supply up-to-date meteorological information to relevant Aeronautical Information Services (AIS) units, as necessary for the conduct of their functions ;

(r) Ensure that when forecasts are identified as being originated by the WAFCs, no modifications shall be made to their meteorological content.

(s) keep the records of all regular internal inspections for a period of at least one year from the date of each inspection

14.6.2.2. The Authority shall designate a holder of the aeronautical meteorological services provider certificate to provide or to arrange for the provision of meteorological services for international air navigation.

14.6.2.3. The aeronautical meteorological services shall be provided by the certificate holder to meet the needs of international air navigation; in accordance with the provisions of these regulations and with due regard to regional air navigation agreements regarding meteorological services for international air navigation over waters and other areas which lie outside Nigeria territory.

14.6.2.4. The requirements of the certificate shall be as prescribed in these Regulations

14.6.2.5. The details of the Aeronautical Meteorological Services Provider shall be published in the AIP, AIP SUP, NOTAM and AIRAC as appropriate.

14.6.3. Co-Ordination Between Aeronautical Meteorological Watch Office and Associated Area Control Center.

14.6.3.1. The holder of an Aeronautical Meteorological Services Provider certificate shall maintain close co-ordination between the Meteorological Watch Office and the associated Area Control Center/Flight Information Center to ensure that meteorological information for SIGMET and others are consistent and in compliance with IS14.6.3.1.

14.6.3.2. The holder of an Aeronautical Meteorological Services Provider certificate shall ensure that the specific value of any of the elements given in a meteorological report is understood by the recipient to be the best approximation to the actual conditions at the time of observation.

B 2254

14.6.3.3. The holder of an Aeronautical Meteorological Services Provider certificate shall ensure that the specific value of any of the elements given in a forecast is understood by the recipient to be the most probable value which the element is likely to assume during the period of the forecast

14.6.3.4 The holder of an Aeronautical Meteorological Services Provider certificate shall ensure that when the time of occurrence or change of an element is given in a forecast , this time shall be understood to be the most probable time.

Protection of
Aeronautical
Meteorological
Equipment
And
Facilities.

14.6.4. The holder of an Aeronautical Meteorological Services Provider certificate shall ensure the protection of its equipment, facilities and services by providing adequate security measures, both physical and procedural.

Requirement
For
Provision of
Aeronautical
Meteorological
Services.

14.6.5. No aeronautical meteorological information service shall be provided at aerodromes or portion of airspace in Nigeria, except as specified under these Regulations,

Provision of
Aeronautical
Meteorological
Service.

14.6.6. A holder of an aeronautical meteorological service provider certificate shall be responsible for :

(a) The provision of aeronautical meteorological services to ensure that the meteorological information and data necessary for the safe, regular and efficient operation of air navigation are accurate, timely and coded correctly, ; in the form suitable for the operational requirements of :

(i) flight operations personnel including flight crews and other personnel responsible for the provision of pre-flight briefing ; and

(ii) providers of air traffic services, search and rescue unit, airport management.

(b) Establishment and implementation of a quality management system based on ISO 9000 certification and in accordance with IS14.6.6 (b).

(c) Keeping all copies of documentation supplied for flight operations, either as printed copies or in electronic files for a period of at least 90 days from the date of issue.

(d) Provision of suitable telecommunications facilities to permit aerodrome meteorological offices and, as necessary, aeronautical meteorological stations to supply the required meteorological information to air traffic services units on the aerodromes for which those offices and stations are responsible, and in particular to aerodrome control towers, approach control units and the aeronautical telecommunications stations serving the aerodrome.

(e) Provision of suitable telecommunications facilities to permit meteorological watch offices to supply the required meteorological information to air traffic services and aeronautical search and rescue services units in respect of the flight information regions, control areas and aeronautical search and rescue regions for which those offices are responsible, and in particular to flight information centres, area control centres and rescue coordination centres and the associated aeronautical telecommunications stations.

(f) Provision of suitable telecommunications facilities to permit the receipt of the required world area forecast system products.

(g) Provision of suitable telecommunications facilities to permit meteorological offices to exchange operational meteorological information with other meteorological offices.

14.6.7. Aeronautical Meteorological Service Provider's Manual of Operations.

14.6.7.1. The holder of an Aeronautical Meteorological Services Provider certificate shall :

(a) provide the services listed in its Manual of Operations, in accordance with IS 14.6.7.1(a) ;

(b) The service providers Manual of Operations shall include the following information :

(i) policy and procedures for determining the capacity of the aeronautical meteorological services to be provided, the number of personnel required and their responsibilities to ensure the provision of adequate services ;

(ii) training and checking of staff and how that information is tracked ;

(iii) quality management system ;

(iv) safety management system ;

(v) contingency plans developed for part or total system failure for which the organisation provides a service ;

(vi) security measures ;

- (vii) facilities and equipment and how those facilities are maintained ;
- (viii) fault and defect reporting ;
- (ix) maintenance of documents and records ;
- (x) procedures for reporting of facilities and equipment inadequacies to the Authority ;
- (xi) procedures for decommissioning of equipment or facilities ;
- (xii) procedures for carrying out factory acceptance and site acceptance tests for new equipment or facility ;
- (xiii) procedures for regular safety reviews of its operations and systems by its appropriately designated personnel ;
- (xiv) procedures for release of meteorological information to aeronautical search and rescue unit ; and
- (xv) any other information requested by the Authority.

(c) prepare the Local Standards Operation Procedures (LSOP) applicable to the services that are provided at each location of the aeronautical meteorological service provider.

(d) make available at least one complete and current copy of its Manual of Operations and Local Standards Operation Procedures (LSOP) at each aeronautical meteorological service station specified in its Manual of Operations ;

(e) comply with all procedures detailed in its Manual of Operations ;

(f) comply with the Manual of Standards for the provision of Aeronautical Meteorological Services and relevant safety directives issued by the Authority ;

(g) make each applicable part of the Manual of Operations available to the personnel who require those parts to carry out their duties ;

(h) continue to comply with the provisions in these Regulations.

14.6.7.2.—(a) The Aeronautical Meteorological Services Provider may deviate from the standards in time of an emergency, or other circumstances, that may make the deviation necessary in the interest of safety.

(b) The provider shall report, the deviation to the Authority immediately, stating how long the deviation is expected to last.

Equipment
Requirements.

14.6.8. The holder of an Aeronautical Meteorological Services Provider Certificate shall comply with the requirements of this part and ;

(a) replace or upgrade any obsolete installation ;

(b) provide and implement appropriate equipment calibration and maintenance programme in accordance with the manufacturers' specifications;

(c) install only meteorological instruments that are approved by the World Meteorological Organisation's as suitable for aeronautical meteorological services;

(d) provide at aerodromes with runways intended for Cat II and Cat III instrument approach and landing operations; automated equipment for measuring or assessing, as appropriate, and for monitoring and remote indicating of surface wind, visibility, runway visual range, height of cloud base, air and dew-point temperatures and atmospheric pressure to support approach and landing and take-off operations. These devices shall be integrated automatic systems for acquisition, processing, dissemination and display in real time of the meteorological parameters affecting landing and takeoff operations.

(f) ensure that where an integrated semi-automatic system is used for the dissemination/display of meteorological information, it shall be capable of accepting the manual insertion of data covering those meteorological elements which cannot be observed by automatic means.

(g) ensure that the units providing air traffic service and aeronautical information service for an aerodrome is kept informed without delay of changes in the serviceability status of the automated equipment

14.6.9. PERSONNEL REQUIREMENTS.

14.6.9.1. The holder of an Aeronautical Meteorological Services Provider certificate shall have, at all times, suitably qualified and trained personnel in sufficient number in accordance with IS 14.6.9.1.

Personnel
Requirements.

14.6.9.1.2. The holder of an Aeronautical Meteorological Services Provider Certificate shall set up and maintain, in accordance with its Manual of Operations :

(a) continuing assessment of its personnel competency for the purposes of ensuring that they continue to satisfy the competency requirements in relation to observation, forecasting and instrumentation ; and

(b) process the retraining of any of its personnel who at any time do not satisfy the competency requirement.

14.6.9.1.3. The holder of an aeronautical Meteorological Services Provider Certificate shall include details of the programme including necessary training and tests of competency in its manual of operations.

B 2258

Qualification,
and Training
And
Competency
of
Personnel.

14.6.9.2. The holder of an Aeronautical Meteorological Services Provider certificate shall comply with the requirements for qualifications, education and training of its personnel in accordance with IS 14.6.9.2 ;

Collaboration
Between
Aeronautical
Meteorological
Service
Provider and
Agency
Providing
Air Traffic
Services.

14.6.10. The holder of an Aeronautical Meteorological Services Provider certificate shall collaborate with the ATS provider and aircraft operating on international air routes for the reporting of routine aircraft observations during en-route and climb-out phases of the flight; and special and other non-routine aircraft observations during any phase of the flight as prescribed in IS14.6.10.

Display of
Aeronautical
Meteorological
Services
Provider
Approval
Certificate.

14.6.11. The holder of an Aeronautical Meteorological Services Provider certificate shall display the certificate in a prominent place, generally accessible to the public at such holder's principal place of business and, if a copy of the original certificate is displayed, it shall produce the original to the Authority's officials, if so requested.

14.6.12. SAFETY AUDIT AND INSPECTIONS

14.6.12.1. An applicant for the issuance of an Aeronautical Meteorological Services Provider certificate shall permit the Authority to carry out such safety audit and inspection as may be necessary to verify the validity of any application made in accordance with these Regulations.

14.6.12.2. The holder of an Aeronautical Meteorological Services Provider certificate shall permit the Authority to carry out such safety audit and inspection as may be necessary to determine compliance with the appropriate requirements prescribed in this Part and for post-implementation monitoring to verify that the defined level of safety continues to be met.

Safety
Management
System

14.6.13. The holder of an Aeronautical Meteorological Services Provider certificate shall implement a safety management system acceptable to the Authority as prescribed in Part 20 of these Regulations.

14.6.14. CONTINGENCY PLAN

14.6.14.1. The holder of an Aeronautical Meteorological Services provider certificate shall develop and maintain Contingency Plans for implementation in the event of disruption, or potential disruption, of aeronautical meteorological services. The disruption may be caused intentionally (sabotage) or unintentionally (equipment failure or industrial action).

14.6.14.2. The plan shall include :

- (a) the actions to be taken by the provider's personnel responsible for providing the service ; and
- (b) possible alternative arrangements for providing the service ; and
- (c) the arrangements for resuming normal operations for the service.

14.6.14.3. These plans shall be submitted as part of the Manual of Operation.

14.6.15. Installation, Maintenance and Calibration of Equipment and Facilities.

14.6.15.1. No installation of Aeronautical Meteorological equipment/ facility shall be carried-out at any aerodrome in Nigeria without the approval of the Authority.

14.6.15.2. The holder of an Aeronautical Meteorological Service Provider certificate shall at all times make available to its personnel, a properly maintained and calibrated equipment and facilities required for the aeronautical meteorological services covered by its certificate.

14.6.15.3. The aeronautical meteorological services provider's equipment and facilities shall meet the requirements for measuring and detecting the meteorological elements specified in 14.6.2.1.

14.6.15.4. The maintenance and calibration of aeronautical meteorological services equipment shall comply with the specifications in the manufacturers maintenance manual.

14.6.15.5. The holder of an Aeronautical Meteorological Services Provider certificate shall ensure that the maintenance personnel are properly trained to carry out maintenance and calibration works on the equipment

14.6.15.6. The Aeronautical Meteorological Service Provider's equipment and facilities shall be calibrated to the required operational standards.

14.6.15.7. The calibration shall be carried out at defined intervals of time and the results recorded and filed.

14.6.15.8. The holder of an Aeronautical Meteorological Services Provider certificate shall ensure the implementation of the procedures for carrying out factory acceptance and site acceptance tests for its equipment or facilities as set out in its approved Manual of Operations.

B 2260

14.6.16. Minimum Equipment for Aeronautical Meteorological Services .

14.6.16.1. The holder of an Aeronautical Meteorological Services Provider certificate shall, for each location for which a service is being provided, make available as the minimum, the following facilities and equipment :

- (i) Wall clocks displaying UTC and local time ;
- (ii) Wind speed and direction display ;
- (iii) Temperature and dew point measuring equipment ;
- (iv) Barometer ;
- (v) Visibility targets ;
- (vi) Back-up power ;
- (vii) Telecommunication equipment capable of transmitting/receiving meteorological information to/from other agencies ;
- (viii) Office furniture and appliances.

14.6.16.2. The status and state of calibration of the equipment shall be recorded and filed by the service provider

14.6.17. Fault and Defect Reporting of Equipment.

14.6.17.1. The holder of an Aeronautical Meteorological Services Provider certificate shall maintain a system for tracking and rectifying faults within the Aeronautical Meteorological service system.

14.6.17.2. The tracking, reporting and resolution of faults and defects shall comply with the procedures in the Provider's approved Manual of Operations.

14.6.18. Maintenance of Documents and Records.

14.6.18.1. The holder of an Aeronautical Meteorological Services Provider certificate shall make available the following operational documentation at each location of its service :

- (i) manual of operations ;
- (ii) directives and instructions file ;
- (iii) operational log books ;
- (iv) equipment/facility maintenance and calibration log books ;
- (v) equipment manuals ;
- (vi) local standard operating procedures ;
- (vii) personnel training records ;
- (viii) applicable WMO documents.

14.6.18.2. The holder of an Aeronautical Meteorological Services Provider certificate shall ensure that :

- (i) the documentations are reviewed and authorised for use by appropriate personnel ;
- (ii) current issues of relevant documentation are available to personnel ;
- (iii) obsolete documentation is removed from all points of issue or use ;
- (iv) changes to documentation are reviewed and approved by appropriate personnel ; and
- (v) the current version of each document can be identified to preclude the use of obsolete editions.

14.6.18.3. The holder of an Aeronautical Meteorological Services Provider certificate shall put in place a system to record and retain operational data.

14.6.18.4. Records shall be maintained on the following :

- (i) operational information ;
- (ii) equipment installation, maintenance and calibration ;
- (iii) survey, inspection and test report ;
- (iv) feed back reports from end users ;
- (v) aircraft incident or emergency report
- (vi) training files ;
- (vii) duty roster.

14.6.19. Responsibilities to Search and Rescue (SAR) Unit.

14.6.19.1. The holder of Aeronautical Meteorological Services Provider certificate shall provide such assistance as requested from the agency responsible for conducting SAR.

14.6.19.2. The holder of Aeronautical Meteorological Services Provider certificate shall develop appropriate procedures in its manual of operation for the release of meteorological information to aeronautical search and rescue unit.

14.6.19.3. The holder of Aeronautical Meteorological Services Provider certificate shall supply as rapidly as possible, any meteorological information requested by an air traffic services unit in connection with an aircraft emergency.

14.6.19.4. The holder of Aeronautical Meteorological Services Provider certificate shall retain information supplied to flight crew members, either as printed copies or in computer files, for a period of at least 30 days from the date of issue. Except that if the information is required for enquiries or investigations, it shall be retained until the enquiry or investigation is concluded.

14.6.20. Application of Human Factors Principles.

14.6.20.1. The holder of an Aeronautical Meteorological Services Provider certificate shall ensure that its integrated automatic systems shall conform to human factor principles and include backup facilities and procedures.

14.6.20.2. The holder of an Aeronautical Meteorological Services Provider certificate shall ensure that meteorological information supplied to the users shall be consistent with human factors principles and shall be in forms which require a minimum of interpretation by the users

14.6.21. Application for Approval, Amendment or Renewal of Certificate.

14.6.21.1. An applicant is eligible to become a holder of an Aeronautical Meteorological Services Provider certificate if the applicant is able to :

- (a) Comply with the requirement of these Regulations ;
- (b) Provide sufficient information that will enable the Authority assess the suitability of the applicant ;
- (c) Demonstrate the capacity to implement the provisions of the Authority's Aeronautical Meteorological Services Manual of Standards.

14.6.21.2. An application for the issuance of an Aeronautical Meteorological Services Provider certificate or an amendment thereof shall be made in the manner prescribed by the Authority and shall include :

- (a) a copy of the applicant's Manual of Operations ;
- (b) a written statement setting out aeronautical meteorological services that the applicant proposes to provide ;
- (c) enough information to identify, for each aeronautical meteorological service the type and the location from which the service is proposed to be provided ;
- (d) a written statement setting out the hours during which each aeronautical meteorological service is proposed to be available ;
- (e) a written statement describing the arrangements the applicant has made to comply with the requirements of these Regulations ;
- (f) the appropriate fee prescribed by the Authority.

14.6.21.3. The applicant's manual of operations shall be approved by the Authority.

14.6.21.4. In the case of certificate renewal, the holder of the certificate shall ensure that the process for renewal is commenced at least 60 days prior to the date on which such certificate expires.

14.6.21.5. If an Aeronautical Meteorological Services Provider's certificate is subject to conditions, the provider shall comply with the conditions so specified.

14.6.22. Issuance of Aeronautical Meteorological Services Provider Certificate.

14.6.22.1. The Authority shall issue an Aeronautical Meteorological Services Provider certificate for aeronautical meteorological services, if the applicant complies with the requirements prescribed in these Regulations.

14.6.22.2. The Authority shall issue the certificate in the appropriate form.

14.6.22.3. The certificate shall authorise the provision of :

- (a) a single aeronautical meteorological service by means of a single certified aeronautical meteorological services provider ; or
- (b) a combination of aeronautical meteorological services by means of a network of certified aeronautical meteorological service providers.

14.6.22.4. A certificate issued under this Part shall include the following information.

- (a) the provider's name and address of its principal place of business ;
- (b) a list of the aeronautical meteorological services covered by the provider's certificate ; and
- (c) for each aeronautical meteorological service the location from which the service will be provided.

14.6.23. Scope and Variation of Certificate.

14.6.23.1. The holder of an Aeronautical Meteorological Services Provider certificate shall be entitled to provide any service or combination of services listed in its manual of operation.

14.6.23.2. If an Aeronautical Meteorological Services Provider wants to vary its certificate, it shall apply to the Authority under this Regulation for that purpose :

- (a) the application shall contain, or have with it, a copy of the proposed variation ;

(b) if the Authority approves the variation, the variation shall take effect from the day proposed by the applicant ;

(c) where no date is proposed by the applicant, the effective date of the variation shall be the date the approval is given to the provider.

14.6.24. Period of Validity of Certificate.

14.6.24.1 An Aeronautical Meteorological Services Provider certificate shall be valid for a period determined by the Authority, which period shall not exceed five years from the date of issuance or renewal thereof.

14.6.24.2. The Aeronautical Meteorological Services Provider certificate shall remain in force until it is expired, suspended, or cancelled by the Authority.

14.6.24.3 The holder of a certificate which expires shall forthwith surrender the certificate to the Authority.

14.6.25. Transferability of Certificate.

14.6.25.1. An Aeronautical Meteorological Services Provider certificate shall not be transferable.

14.6.25.2. A change in ownership of the holder of an Aeronautical Meteorological Services Provider certificate shall be deemed to be a change of significance that shall be notified to the Authority.

Suspension
of
Certificate.

14.6.26. An Aeronautical Meteorological Services Provider Certificate may be suspended in the event of violation of any provision of these Regulations.

14.6.27. Suspension, Cancellation or Variation of an Aeronautical Meteorological Services Provider Certificate.

14.6.27.1. The Authority may by written notice given to an aeronautical meteorological service provider, suspend, cancel or vary the certificate if there are reasonable grounds for believing that the certificate holder :

(a) has breached a condition of the certificate ; or

(b) has contravened a provision of this Part ; or

(c) does not meet, or continue to meet, a requirement of this Part for getting or holding the certificate ; or

(d) has otherwise been guilty of conduct that renders the Aeronautical Meteorological Services Provider's continued holding of the certificate likely to have an adverse effect on the safety of air navigation.

14.6.27.2 Before suspending, cancelling or varying an Aeronautical Meteorological Services Provider certificate, the Authority shall :

(a) give written notice to the certificate holder of the facts or circumstances that, in the opinion of the Authority, amount to grounds for the suspension, cancellation or variation of the certificate ; and

(b) invite the certificate holder to show cause in writing, within 7 days after the date of the notice, why the certificate should not be suspended, cancelled or varied ; and

(c) take into account any written representations made, within the time allowed under paragraph (b), by or on behalf of the Aeronautical Meteorological Services Provider explaining why the certificate should not be cancelled.

14.6.28. Right of Appeal of Holder of Certificate.

14.6.28.1. The holder of an Aeronautical Meteorological Services Provider certificate who feels aggrieved by the suspension of the certificate may appeal against such suspension to the Authority, within 7 days after such holder becomes aware of such suspension.

14.6.28.2. The procedure for the appeal shall be as prescribed in Part 1.10.

14.6.29. Register of Certificates.

14.6.29.1. The Authority shall maintain a register of all Aeronautical Meteorological Services Provider certificates issued under this Part.

14.6.29.2. The register shall contain information recorded on the Aeronautical Meteorological Services Provider certificate and any other information required by the Authority.

14.6.29.3. Persons who intend to access the register for the purpose of obtaining information shall apply in writing to the Authority and shall pay the appropriate fees as may be prescribed by the Authority

14.6.30. The Authority may, when it considers it necessary in the interest of aviationsafety, appoint the holder of an Aeronautical Meteorological Services certificate as a substitute aeronautical meteorological services provider to provide aeronautical meteorological services in respect of a certificate which has been suspended by the Authority under this Part, for the duration of such suspension.

Substitution
of
Aeronautical
Meteorological
Services
Provider.

14.6.31. Approval of External Source (Contract) for Aeronautical Meteorological Service Provider.

14.6.31.1. A holder of an Aeronautical Meteorological Services Provider certificate may contract a function to an external source in accordance with IS 14.6.31.1.

B 2266

14.6.31.2. The Authority shall approve the external source to perform the function(s).

14.6.31.3. The Authority shall be informed 60 days before the termination of such agreement.

14.7. PROVISION OF AERONAUTICAL TELECOMMUNICATIONS SERVICES

14.7.0. GENERAL

Applicability. **14.7.0.1.** This subpart is applicable to the provision of aeronautical telecommunication services.

14.7.1. Requirements for Certificate as an - Aeronautical Telecommunications Services Provider.

14.7.1.1. No person shall provide Aeronautical Telecommunications Services or operate an aeronautical facility, except in accordance with the provisions of these Regulations .

14.7.1.2. The Provision of 14.7.1.1 does not apply if a person operates an aeronautical facility on an aeronautical radio frequency and—

(a) the aeronautical facility :

(i) is a radio communication transmitter that does not support air traffic services ; or

(ii) is a radio navigation aid that does not support IFR flight or air traffic services ;

(b) the aeronautical telecommunication facility does not constitute harmful interference with any other Aeronautical Telecommunications Services or aeronautical facility ;

(c) a certificate has been granted by the appropriate Authority for the aeronautical facility ; and

(d) an identification code or a call sign has been assigned to the aeronautical facility under subpart 14.7.9.2 (g) ;

14.7.1.3. The provision of 14.7.1.1 does not apply if a person operates a ground mobile radio on an aeronautical radio frequency and :

(a) the radio is not used to support air traffic services ;

(b) the radio is operated in accordance with the applicable communication procedures prescribed in these Regulations ; and

(c) the radio transmission does not constitute harmful interference with any other Aeronautical Telecommunications Services or aeronautical facility.

14.7.2. No person may provide Aeronautical Telecommunications services at aerodromes or portion of airspace in Nigeria, unless such person holds a certificate issued by the Authority.

Requirement
for
Aeronautical
Telecommuni-
cation
Services
Provider
Certificate.

14.7.3. PROVISION OF AERONAUTICAL TELECOMMUNICATIONS SERVICES

14.7.3.1. The holder of an Aeronautical Telecommunications Services Provider Certificate issued under these Regulations shall be responsible for the provision of Aeronautical Telecommunications Services to ensure that the telecommunications information and data necessary for safe, regular and efficient operation of air navigation is available in the form suitable for the operational requirements of :

- (a) Flight operations personnel including flight crews and other personnel responsible for the provision of pre-flight briefing ; and
- (b) Providers of Air Traffic Services ;

14.7.4.—Responsibilities of Holder of Aeronautical Telecommunications Certificate.

(a) The holder of an Aeronautical Telecommunications Services Provider Certificate shall ensure that the services listed in its Manual of Operations, are in accordance with the procedures prescribed in these Regulations.

(b) The Manual of Operations shall include the following information :

- (i) personnel requirements and the responsibilities of personnel as contained in IS 14.7.4 (b)(i) ;
- (ii) training and checking of staff and how that information is tracked as contained in IS 14.7.4 . (b)(ii) ;
- (iii) quality assurance/safety management system as contained in IS 14.7.4 (b)(iii) ;
- (iv) contingency plans developed for partial or total system failure as contained in IS 14.7.4 (b)(iv) ;
- (v) security plan as contained in IS 14.7.4 . (b)(v) ;
- (vi) Minimum air navigation facility equipment list (MAN FEL) applicable to class of Aerodrome as contained in ; IS.14.7.4. (b)(vi) ;
- (vii) Facilities and equipment and how those facilities are maintained ;
- (viii) fault and defect reporting ;
- (ix) maintenance of documents and records ; and

B 2268

(x) any other information requested by the Authority.

(c) The holder of Aeronautical Telecommunication Services provider certificate shall keep at least one complete and current copy of its Manual of Operations at each Aeronautical Telecommunications Services unit specified in its Manual of Operations ;

(d) comply with all procedures detailed in its Manual of Operations ;

(e) comply with the ICAO *Annex 10* Volume III-Communication Systems. (Part I Digital Data Communication Systems and Part II-Voice Communication Systems), *Annex 10*, Volume IV (Surveillance And Avoidance Collision Systems) and with the Manual Of Standards prescribed by the Authority in the provision of Aeronautical Telecommunication Services.

(f) make each applicable part of the Manual of Operations available to the personnel who require those parts to carry out their duties ;

(g) continue to comply with the appropriate requirements prescribed in these Regulations ;

(h) keep the records of all regular internal inspections for a period of five years from the date of each inspection ;

(i) furnish the Authority with the en-route, terminal and aerodrome facility statistics, status, and performance index ;

(j) replace or upgrade any degraded facility ;

(k) keep the Authority informed of its plans for the development and modernisation of its facilities ;

(l) develop Standard Operating Procedure (SOP) Manual for each facility in the certificate as contained in IS 14.7.4.(b)(l).

14.7.5. Privileges of an Aeronautical Telecommunications Certificate Holder.

14.7.5.1. The Certificate shall specify the Aeronautical Telecommunications Services and aeronautical facility types that the Certificate holder is authorised to operate in support of air navigation services.

14.7.5.2 The holder of the Certificate may operate any of the aeronautical facility types specified on the Certificate, provided :

(a) each aeronautical facility operated is listed in the Certificate holder's Manual of Operations ; or

(b) the aeronautical facility is not listed in the Manual of Operations, its operation is for site test purposes controlled by the procedures required under these Regulations.

14.7.6. The holder of an Aeronautical Telecommunications Services provider certificate shall display the Certificate in a prominent place, generally accessible to the public at such holder's principal place of business and, if a copy of the original Certificate is displayed, it shall produce the original to the Authority's officials, if so requested.

Display of
Aeronautical
Telecommuni-
cations
Services
Provider
Certificate

14.7.7. SITE VALIDATION , SAFETY INSPECTIONS AND AUDITS

14.7.7.1. An applicant for the Issuance of an Aeronautical Telecommunications Services Provider Certificate shall permit the Authority's Inspector to carry out, safety inspections and audits as may be necessary to verify the validity of any application made in accordance with these Regulations.

14.7.7.2. The holder of an Aeronautical Telecommunications Services Certificate shall permit the Authority to carry out such safety audits and inspections Aeronautical Telecommunications facility, safety inspections and audits as may be necessary to determine compliance with the appropriate requirements prescribed in this subpart and for post implementation monitoring to verify that the certificate holder continues to meet the defined level of safety.

14.7.7.3. The holder of an Aeronautical Telecommunications Services Certificate shall permit the Authority to carry out site validation inspection prior to installation and participate in the conduct of Factory Acceptance Test (FAT).

14.7.7.4. The holder of an Aeronautical Telecommunications Services Certificate shall permit the Authority's Inspector to carry out radio frequency audit to ascertain the usability and status of the assigned frequencies.

14.7.8. Persons Authorised to perform Equipment/Facility Inspections.

14.7.8.1. No person shall perform equipment/facility inspections prior to, or after commissioning, maintenance, preventive maintenance, and upgrade, except such person holds an ATSEP licence or is authorized by the Authority.

14.7.8.2. An ATSEP licensed personnel shall conduct the required inspections of aeronautical telecommunications facility for which such personnel is rated and current.

14.7.9. Application for Aeronautical Telecommunications Certificate, Amendment or Renewal.

14.7.9.1. An applicant is eligible to become an Aeronautical Telecommunications Services Provider if the applicant is able to comply with the requirements of these Regulations.

B 2270

14.7.9.2. An application for the issuance of an Aeronautical Telecommunications Services Provider certificate or an amendment thereof shall be made in the manner prescribed by the Authority and shall include :

- (a) a copy of the applicant's Manual of Operations ;
- (b) a written statement setting out Aeronautical Telecommunications Services that the applicant proposes to provide ;
- (c) enough information to identify, for each Aeronautical Telecommunications Service, the type and the location from which the services is proposed to be provided ;
- (d) a written statement setting out the hours during which each aeronautical telecommunications service is proposed to be available ;
- (e) a written statement describing the arrangements the applicant has made to comply with the requirements of these Regulations ;
- (f) the appropriate fee prescribed by the Authority ;
- (g) a written statement requesting for aeronautical radio frequency assignment for the facility to be provided.

14.7.9.3. In the case of certificate renewal, the holder of a certificate shall ensure that the process for renewal is commenced at least 60 days prior to the date on which such certificate expires ;

14.7.9.4. If an Aeronautical Telecommunications Services Provider's certificate is subject to conditions, the provider shall comply with the conditions so specified.

Issuance of
Aeronautical
Telecommuni-
cations
Services
Provider
Certificate.

14.7.10.1. The Authority shall issue an Aeronautical Telecommunications Services provider a certificate to provide aeronautical Telecommunications services, if the applicant complies with the requirements prescribed in these Regulations.

14.7.10.2. The Authority shall issue the certificate in the appropriate form.

14.7.10.3. The certificate shall authorise the provision of :

- (a) a single Aeronautical Telecommunications Service by means of a single Aeronautical Telecommunications Services unit ; or
- (b) a combination of Aeronautical Telecommunications Services by means of a network of approved Aeronautical Telecommunications Services.

14.7.10.4. A certificate issued under this Part shall include the following information :

- (a) the provider's name and address of its principal place of business ;
- (b) a list of the Aeronautical Telecommunications Services covered by the provider's certificate ; and

(c) for each Aeronautical Telecommunications Services the location from which the services will be provided.

14.7.11. Scope and Variation of Aeronautical Telecommunications Certificate.

14.7.11.1. The holder of an Aeronautical Telecommunications provider certificate shall be entitled to provide any service or combination of services listed in its Manual of Operations.

14.7.11.2. If an Aeronautical Telecommunications Services certificate holder wants to vary its Certificate, it shall apply to the Authority under this regulation for that purpose :

(a) the application shall contain, or have with it, a copy of the proposed variation ;

(b) if the Authority approves the variation, it shall take effect from the day proposed by the applicant ;

(c) where no date is proposed by the applicant, the effective date of the variation shall be the date the certificate is issued to the provider.

14.7.12. Period of Validity of Aeronautical Telecommunications Certificate.

14.7.12.1. A Certificate shall be valid for a period determined by the Authority, which period shall not exceed five years, from the date of issuance or renewal thereof.

14.7.12.2. The Certificate shall remain in force until it is expired, suspended, or cancelled by the Authority.

14.7.12.3. The holder of an expired Certificate shall forthwith surrender the Certificate to the Authority.

14.7.13. Transferability of Aeronautical Telecommunications Certificate.

14.7.13.1. Subject to the provisions of this Regulation, an Aeronautical Telecommunication Certificate shall not be transferable.

14.7.13.2. A change in ownership of the holder of a Certificate shall be deemed to be a change of significance that shall be notified to the Authority.

14.7.14. Suspension of Aeronautical Telecommunications Certificate.
An Aeronautical Telecommunication provider certificate may be suspended in the event of violation of any provision of these Regulations .

14.7.15. Suspension, Cancellation or Variation of an Aeronautical Telecommunications Services Provider Certificate by the Authority.

14.7.15.1. The Authority may, by written notice given to an Aeronautical Telecommunications Services Provider, suspend, cancel or vary the Aeronautical Telecommunications Services Provider Certificate if there are reasonable grounds for believing that the certificate holder :

- (a) has breached a condition of the Certificate ; or
- (b) has contravened a provision of this Part ; or
- (c) does not meet, or continue to meet, a requirement of this Part for getting or holding the Certificate ; or
- (d) has otherwise been guilty of conduct that renders the Aeronautical Telecommunication Services Provider's continued holding of the Certificate likely to have an adverse effect on the safety of air navigation ;
- (e) delays or fails to submit and implement Corrective Action Plan(CAP) necessary for safety of air navigation ;
- (f) obstructs investigation on sudden or willful shutdown of air navigation facility.

14.7.15.2. Impairment of assigned aeronautical radio frequency.

14.7.15.2.1. No person shall alter, change, swap or reassign any radio frequency already in use without the approval of the Authority.

14.7.16. Right of Appeal of Holder of Aeronautical Telecommunications Certificate.

14.7.16.1. The holder of an aeronautical Telecommunication services provider who feels aggrieved by the suspension of his certificate, may appeal against such suspension to the Authority within 7days after such holder becomes aware of such suspension.

14.7.16.2. The procedure for appeal shall be as prescribed in Part 1.10

14.7.16.3. Exemptions—

- (a) The Authority may exempt, in writing, Aeronautical Telecommunications Service Provider from complying with specific provisions of these Regulations ;
- (b) The exemption process shall be in accordance with Nig.CARs Part 1.4 ;
- (c) An exemption is subject to the Aeronautical telecommunications Services Provider complying with the conditions and procedures specified by the Authority in the Aeronautical Telecommunications Certificate as being necessary in the interest of safety ;

(d) When Aeronautical Telecommunication Service does not meet the requirement of a standard or practice specified in these Regulations and other relevant advisory documents, the Authority may determine, after evaluating the operational manual and operational environment where such facilities or services are to be provided by the Aeronautical Telecommunication Service Provider, the conditions and procedures that are necessary to ensure a level of safety equivalent to that established by the relevant Regulations ;

(e) Deviation from these Regulations and the conditions and procedures shall be set out in an endorsement on the Aeronautical Telecommunications Certificate and published in the AIP.

14.7.17. Register of Aeronautical Telecommunications Certificate.

14.7.17.1. The Authority shall maintain a register of all Aeronautical Telecommunications Services Provider Certificate as issued under this Part.

14.7.17.2. The register shall contain information recorded on the Aeronautical Telecommunication Services Provider certificate and any other information required by the Authority

14.7.17.3. Persons who intend to access the register for the purpose of obtaining information shall apply in writing to the Authority and shall pay appropriate fees as may be prescribed by the Authority.

14.7.18. The Authority may, when it considers it necessary in the interest of aviation safety, appoint the holder of an Aeronautical Telecommunications Services unit I Certificate as a substitute Aeronautical Telecommunications Services Provider to provide an Aeronautical Telecommunications Services in respect of a Certificate which has been suspended by the Authority under this Part, for the duration of such suspension.

Substitution of Aeronautical Telecommunications Services Provider.

14.7.19. The Authority shall certify all the Air Navigation Services Communications, Navigation, Surveillance, Landing aids, products, facilities and procedures before their deployment in the Nigerian airspace and aerodromes.

Certification of Aeronautical Telecommunications equipment, facility and procedures.

14.7.20. The holder of a Aeroautical Telecommunication Certificate shall be required to provide navigation information specifications to permit the use of GNSS procedures.

Provision for GNSS procedure.

B 2274

Continued Serviceability, Availability and Maintainability of Aeronautical Telecommunications Facility and Components.

14.7.21. The Aeronautical Telecommunications Services Provider shall be responsible for maintaining the Aeronautical Telecommunications facility by ensuring that—

(a) All maintenance, overhaul, alterations and repairs which may affect or alter continued serviceability are carried out as contained in the equipment maintenance manual :

(b) Maintenance personnel make appropriate entries in the logbook certifying the serviceability of the equipment ;

(c) The approval for return to services is completed to the effect that the maintenance carried out has satisfactorily been completed in accordance with the equipment maintenance manual ;

14.7.22. Faults and Defects Reporting.

4.7.22.1. The Aeronautical Telecommunications Services Provider shall maintain system for tracking and rectifying faults within the Aeronautical Telecommunications Services system.

14.7.22.2. Procedure for reporting and the resolutions of faults and defects shall be documented in the manual of operations. This includes procedures for ensuring that the operational Status of Communications, Navigation and Surveillance facilities are provided to the Air Traffic Services Provider.

14.7.22.3. The Aeronautical Telecommunications Services Provider shall forward daily, weekly and monthly defect reports to the Authority.

14.7.22.4. The Aeronautical Telecommunications Services Provider shall report power system failures to the Authority as they occur.

14.7.23. Persons Authorized to Perform Maintenance, Preventive Maintenance and Alterations.

14.7.23.1. No person shall perform maintenance on an Aeronautical Telecommunications facility, equipment part or component except such a person is :

(a) an Air Traffic Safety Electronic Personnel licensed by the Authority ;

(b) working under supervision of an ATSEP license holder ;

(c) a licensed ATSEP maintenance personnel performing or supervising the maintenance of an aeronautical Telecommunications facility for which the personnel is rated.

14.7.23.2 An aeronautical Telecommunications facility manufacturer or its representative may :

(a) replace, upgrade, or alter any Aeronautical Telecommunications facility part manufactured by that manufacturer ;

(b) Perform any inspection as prescribed in the Authority's Manual of Standards (MOS) and the Air Navigation Services Provider's Manual of Operations (MOO).

14.7.24. The holder of an Aeronautical Telecommunications Services Certificate , shall carry out flight calibration of navigation and landing aids and surveillance systems in accordance with the provision of Aeronautical Telecommunications Manual of Standards.

Flight
Inspection
and
Calibration.

14.7.25. Maximum Periodicity of Ground Check and Flight Calibration. Radio Navigation Aids of the types covered by these Regulations and available for use by aircraft engaged in air navigation shall be subject to ground check and flight calibration as indicated below :

(i) Non-directional Beacon and distance measuring equipment shall be ground- checked once in 6 months and flight calibrated once in 12 months.

(ii) Conventional Very High Frequency Omni-directional Radio range shall be ground- checked and flight-calibrated once in 12 months.

(iii) Doppler Very High Frequency Omni-directional Radio range shall be ground- checked once in 12 months and be flight calibrated once in 3 years.

(iv) Instrument Landing System-Localizer and Glide slope shall be ground checked once in 3 months and flight calibrated once in 6 months.

(v) Radar shall be calibrated once in 3 years or after a major break down or modification.

14.7.26. APPROVAL FOR RETURN OF EQUIPMENT/FACILITY TO SERVICES

14.7.26.1. No person shall approve for return to services any Aeronautical Telecommunications facility that has undergone maintenance, preventive maintenance, or alteration/ or upgrading unless—

(a) The appropriate entry has been made in the maintenance logbook ;

(b) The facility is tested, ground- checked and flight checked.

14.7.26.2. No person shall describe in any required state in a maintenance logbook of an Aeronautical Telecommunications facility as having been altered/ upgraded unless it has been disassembled, cleaned, inspected as permitted, repaired as necessary, reassembled, and tested to the same tolerances and limits as a new item, using either new parts or used parts that conform to new part tolerances and limits.

B 2276

14.7.26.3. No person shall approve the return to service of equipment/facility after a major alteration or equipment part replacement unless such person has tested the equipment to determine satisfactory performance in accordance with the current manufacturer's recommendations.

Authority
to Return
Equipment
to Service.

14.7.27. No person, other than the Chief Executive Officer of an Aeronautical Telecommunications Services Provider shall authorise the return to service, of an Aeronautical Telecommunications equipment/ facility especially after a major component of the equipment/facility has been replaced or undergone maintenance or alteration.

14.7.28. Maintenance of Documents and Entries.

14.7.28.1. Each person who maintains, performs preventive maintenance, or alters/upgrades Aeronautical Telecommunications facility shall, when the work is performed satisfactorily, make an entry in the maintenance logbook of that equipment as follows :

(a) A description (or reference to data acceptable to the Authority) of work performed, including—

(i) Appropriate details of alterations and repairs ;

(ii) The current status of the aeronautical Telecommunications facility on return to services.

(b) Completion date of the work performed ;

(c) Name, signature, and type of license held if any by the person making such records and person approving the work.

14.7.28.2. The holder of an Aeronautical Telecommunications Services Provider Certificate shall provide the following operational documentation at locations at an Aeronautical Telecommunications Services unit :

(a) procedures manual ;

(b) Aeronautical Telecommunications Manual of Standards ;

(c) Aeronautical Telecommunications SOP Manual ;

(d) AIP and AIP Supplements ;

(e) AIC's and NOTAM ;

(f) Civil Aviation Regulations, 2006 ;

(g) Aeronautical Search and Rescue Manual, issued by the Authority ;

(h) airport emergency plan, where applicable ;

(i) directives and instructions file ;

(j) occurrence log books ;

(k) equipment/facility status log books ;

- (l) Circulars and bulletins file ;
- (m) equipment manuals ;
- (n) technical standards and practices ; and
- (o) all applicable ICAO documents.

14.7.28.3. The Aeronautical Telecommunications Services Provider shall ensure that :

- (a) the documentation is reviewed and authorised by appropriate personnel before issue ;
- (b) current issues of relevant documentation are available to personnel ;
- (c) obsolete documentation is removed from all points of issue or use ;
- (d) changes to documentation are reviewed and approved by appropriate personnel ; and
- (e) the current version of each document can be identified to preclude the use of obsolete editions.

14.7.28.4. The Aeronautical Telecommunications Services provider shall demonstrate that there is a system in place to record and retain operational data.

14.7.28.5. Records shall be maintained on the following :

- (a) regular reports and returns to the Authority ;
- (b) local incidents with remedial actions ;
- (c) personnel files including supervisory reports ;
- (d) training files ;
- (e) licence and medical validity details ;
- (f) minutes of facility maintenance meetings ;
- (g) rosters and roster keys ; and (h) leave records.

14.7.29. Responsibilities to Aeronautical Search and Rescue Unit

The Aeronautical Telecommunications Services Provider shall provide such assistance as requested from the agency responsible for conducting SAR activities.

14.7.30. General Requirement for Maintenance and Inspection.

14.7.30.1. No person may operate an Aeronautical Telecommunications facility unless the facility and its components are maintained in accordance with equipment certification procedures and the facility is inspected in accordance with the Authority's certification programme in accordance with IS 14.7.30.1.

14.7.30.2. The facility maintenance procedure in the Aeronautical Telecommunications Services Provider's Manual of Operation shall include a description of the equipment and components and recommended methods for the accomplishment of maintenance tasks. Such information shall include guidance on fault diagnosis.

14.7.30.3. The Aeronautical Telecommunications Services Provider 's Manual of Operation shall include the maintenance tasks and the recommended intervals at which these tasks are to be performed.

14.7.30.4. Maintenance tasks and frequencies that have been specified as mandatory by the manufacturer of the equipment shall be identified in the Manual of Operations which includes basic details of the maintenance carried out.

14.7.31. Performance Rules Maintenance, Preventive Maintenance or Alterations/ Upgrade.

14.7.31.1. Each person performing maintenance, preventive maintenance, or alteration/upgrade on an Aeronautical Telecommunications facility shall use :

(a) the methods, techniques, and practices prescribed in the Manual of Standards ;

(b) the current manufacturer's maintenance manual or Manual of Operations for Continued Serviceability prepared by the Services Provider and approved by the Authority. in accordance with IS 14.7.31.1

14.7.31.2. Each person shall use the tools, equipment, and test apparatus necessary to ensure completion of the work in accordance with accepted industry practices. If the equipment manufacturer involved recommends special equipment or test apparatus, the person performing maintenance shall use that equipment or apparatus or its equivalent acceptable to the Authority.

14.7.31.3. Each person performing maintenance, preventive maintenance, or alteration on an aeronautical facility shall do that work in such a manner, and use materials of such a quality, that the condition of the Aeronautical Telecommunications facility worked on will be at least equal to its original or properly altered condition with regards to acceptable standards by the Authority.

14.7.31.4. The methods, techniques, and practices contained in a Manual of Operations and equipment certification maintenance procedure, as approved by the Authority, will constitute an acceptable means of compliance with the requirements of this sub-section.

**IMPLEMENTING STANDARDS (IS)
AIR TRAFFIC SERVICES**

IS14.1. IMPLEMENTING STANDARDS : AIR TRAFFIC SERVICES

IS14.1.15.2. On application for issue and renewal of an ATS provider certificate, the applicant shall provide sufficient information to the Nigerian Civil Aviation Authority so that the Authority can assess and determine that the information required is included in the applicant's Manual of Operations.

Application
for approval
as an Air
Traffic
Service
Provider.

(2) To assist applicants the following is a guideline to ensure that applicants include the information required.

(3) An applicant for an approval shall provide the Authority with a Manual of Operations containing :

(a) a statement signed by the accountable officer, on behalf of the applicant's organisation confirming that :

(i) the Manual of Operations defines the organisation and demonstrates its means and methods for ensuring ongoing compliance with the Regulation ;

(ii) the Manual of Operations and Manual of Standards and appropriate operational documentation, shall be complied with by the organisation's personnel at all times ;

(b) the titles and names of the senior person or persons ;

(c) the duties and responsibilities of the senior person or persons in (b) including matters for which they have responsibility to deal directly with the Authority on behalf of the organisation ;

(d) an organisation chart showing lines of responsibility of the senior persons in (b) and covering each location listed under (f) ;

(e) a summary of the organisation's staffing structure at each location listed under (f) ;

(f) a list of each type of air traffic service and the duration of that service to be operated under the authority of the air traffic service provider approval ;

(g) the airspace in which each service will be provided ;

(h) the aerodrome for which the service will be provided ;

(i) procedures and a plan to undertake checking and training of staff in the positions for which they will provide a service ;

(j) the detailed procedures required regarding internal quality assurance and safety management system ;

(k) a contingency plan for implementation in the event of a disruption to services provided ;

B 2280

(l) a security programme that details protection for facilities, services and personnel ;

(m) a summary of the operational details of each aeronautical facility associated with each location listed under (f) and (g) ;

(n) procedures to control, amend, and distribute documentation and retain records ;

(o) a Aeronautical search and rescue Manual.

(4) The Authority may not grant an approval unless the Authority is satisfied that the applicant's Manual of Operation complies with this Part.

The
Authority
to carry out
Air Traffic
Control
Function.

IS:14.1.33.2.—(1) A person may carry out an air traffic control function in Nigeria if, at the time the person carries out the function :

(a) he or she holds an ATC licence with a rating for the function and an endorsement for the place where, or the airspace in relation to which, he or she carries it out ; and

(b) the licence, rating and endorsement are in force ; (c) he or she :

(i) satisfies the recency and currency requirements in relation to the endorsement ; and

(ii) satisfies the currency requirement in relation to the rating.

(2) A person may carry out an air traffic control function in Nigeria under the supervision of a person who meets the requirements above.

(3) A person who may carry out an air traffic control function in Nigeria under supervision is a person who the Authority has authorised in writing to carry out the relevant function and is ;

(a) a person who :

(i) holds an ATC licence with a rating for the function and an endorsement for the place where, or the airspace in relation to which, he or she carries it out ; but at the relevant time, in relation to the rating or endorsement, does not satisfy the recency or currency requirement ;

(b) a person who :

(i) holds an ATC licence ; and

(ii) carries out the function in the course of training for a rating or endorsement (whether or not the person holds a rating or endorsement at the time) ;

(c) a person (other than a person who held an ATC licence that has been cancelled) who :

(i) has completed an approved course of training in the theory of air traffic control ; and

(ii) carries out the function in the course of undergoing practical training for an ATC licence.

IS: 14.1.47.3. The Contingency plan shall include :

Contingency
Plan.

The actions to be taken by the members of the ATS provider's personnel responsible for providing the service, including the notification of suspected communicable diseases, or other public health risk, on board an aircraft are as follows :

(1) The flight crew of an aircraft shall, upon identifying a suspected case(s) of communicable disease, or public health risk, on board the aircraft, promptly notify the ATS unit with which the pilot is communicating, the information listed below :

- (i) aircraft identification ;
- (ii) departure aerodrome ;
- (iii) destination aerodrome ;
- (iv) estimated time of arrival ;
- (v) number of persons on board ;
- (v) number of suspected case(s) on board ; and
- (vi) nature of the public health risk, if known.

(2) The ATS unit, upon receipt of information from a pilot regarding suspected case(s) of communicable disease, or public health risk, on board the aircraft, shall forward a message as soon as possible to the ATS unit serving the destination/departure, unless procedures exist to notify the appropriate authority designated by the State and the aircraft operator or its designated representative.

(3) When a report of a suspected case(s) of communicable disease, or other public health risk, on board an aircraft is received by an ATS unit serving the destination/departure, from another ATS unit or from an aircraft or an aircraft operator, the unit concerned shall forward a message as soon as possible to the public health authority (PHA) or the appropriate authority designated by the State.

IS14.1.49.2.—(1) The ATS provider shall, for each location for which a service is provided, supply and indicate from the list below a list of facilities and equipment. An indication shall be provided on the quality of the facilities and equipment.

Facilities.

(2) All equipment used in the provision of Air Traffic Services, including navigation and approach services shall perform and be maintained in accordance with the standards and practices as contained in these regulations.

B 2282

(3) *General Item*

The means to monitor the domestic frequency 121.7 MHz independent of mains and standby radio equipment

Emergency lighting

Notice boards

Head sets

Lockers and a safe

Emergency exits

Lightening protection

Fire alarm

A briefing room

Equipment repair space

Technical equipment storage

Restrooms

Running water

Entry control

Any other items

(4) *Control Tower Item*

Headsets

Microphones

Transceivers

Speakers

Radio selector panel

Telephone selector panel/handsets

Intercom

Auto-switch headset/speaker

Recorder (radio and telephone) where applicable

Power

Back-up power

Signal lamp

Device for alerting RFFS in the event of aerodrome emergency

Rapid communications with RFFS

Wind speed and direction display
Barometric altimeter
Altimeter setting indicator
Clock
Aerodrome lighting panel
Navaid(s) monitor panel
Lighting, including emergency lights
Daylight radar/display consoles, as appropriate
Flight data panel, flight progress strip card holders and flight progress strip cards
Clipboards/displays (NOTAM, etc.)
Automatic terminal information system recorder where applicable
Fire alarm and extinguishers
Desks/consoles/shelves
Chairs
Shades
Air Conditioning, heating/cooling
Binoculars
Sound-absorbing coverings (floor/wall)
Any other items
(5) Aerodrome/Approach Combined Item
Headsets
Microphones
Transceivers
Speakers
Radio selector panel
Telephone selector panel /headsets
Intercom
Auto-switch headset/speaker
Voice recorder (radio and telephone)
Power
Back-up power
Device for alerting RFFS in the event of aerodrome emergency

B 2284

Rapid communications with RFFS
Wind speed and direction display
Altimeter setting indicator
Clock
Navaid (s) monitor panel
Lighting, including emergency lights
Radar displays, controls, consoles, as appropriate
Secondary radar controls, as appropriate
Radar simulator, as appropriate
Flight data panel, flight progress strip card holders and flight progress strip cards
Automation equipment, if required
Clipboards/display (NOTAM etc)
Automatic terminal information system recorder
Fire alarm and extinguishers
Desks/consoles/shelves
Chairs
Air conditioning, heating/cooling
Sound-absorbing coverings (floor/wall)
Plotting and writing area
Navigation plotting equipment
Aeronautical fixed telecommunication network
Any other items
(6) Area Control Centre/Flight Information Centre Item
Area Control Centre/ Flight Information Centre
Writing area/counter space
Plotting table
Navigation plotting equipment
Large-scale area map
Headsets
Microphones
Speakers
Radio communications selector panels

- Telephones and selector panels
- Aeronautical fixed telecommunications network
- Access to direction - finding equipment
- Flight progress console and equipment
- Clocks
- Lighting including emergency lighting
- Chairs
- Storage for reference documents
- Lavatory
- Running water
- Fire alarm and extinguisher
- Air conditioning heating/cooling
- Power
- Back-up power
- Any other items

IS14.1.50.—(1) The tower shall permit the controller to survey those portions of the aerodrome and its vicinity over which control is exercised. Control Tower.

(2) The tower shall be equipped so as to permit the controller rapid and reliable communications with aircraft with which he or she is concerned.

(3) The controller shall be able to discriminate between aircraft and vehicles while they are on the same or different runways/taxiways.

- IS 14.1.52.1.**—(a) procedures manual ;
- (b) air traffic control instructions manual ;
- (c) local air traffic control instructions manual ;
- (d) AIP and AIP Supplements ;
- (e) AICs and NOTAM ;
- (f) Nigeria Civil Aviation Regulations ;
- (g) Aeronautical search and rescue Manual, approved by the Authority ;
- (h) airport emergency plan ;
- (i) directives and instructions file ;
- (j) occurrence log ;
- (k) unserviceability log ;
- (l) circulars and bulletins file ;

Maintenance of Documents and Records (Operational Documents).

- (m) equipment manuals ;
- (n) technical standards and practices ; and
- (o) all applicable ICAO documents

IS14.1.56.1.—(1) A Local Air Traffic Control Instructions shall contain the following :

- (a) Detailed unit operational procedures and requirements ;
- (b) Detailed unit administrative requirements, including the responsibilities of each operating position ;
- (c) Amplification and/or explanation of provisions of the national requirements, where necessary ;
- (d) Procedures for the control of movement of persons and vehicles on the manoeuvring area; where required ;
- (e) Co-ordination procedures between internal and external agencies (and when this is to occur-(change in status of facilities, navigation aids, MET observation) ;
- (f) Procedures for the provision of services to aircraft in an emergency :
 - (i) within the vicinity of the airport-Aerodrome emergencies of Air Traffic Services ; and
 - (ii) outside the vicinity of the airport-Aeronautical Aeronautical search and rescue procedures ;
- (g) Contingency arrangements in the event of a communications, navaid, facility failure (including runway/taxiway closure) ;
- (h) Procedures to provide assistance to strayed or unidentified aircraft ;
- (i) Procedures for pilots in the event of an air-ground radio communications failure.

(Note : These procedures shall be included in the AIP).

(j) Letters of Agreement with other agencies adjacent to the unit for the transfer of responsibility of control.

(k) Procedures for the LATCI amendment which shall include :

(i) a requirement that Air Traffic Controllers are to indicate, in the appropriate manner, that an amendment has been noted.

(ii) a requirement that any amendment by hand shall be accompanied by the authorised person's signature and date. Authorised person means any air traffic controller authorised by the ATS provider to make the relevant amendment by hand.

(i) A requirement that notice of these amendments shall be transmitted to the head office responsible for the relevant service for ratification.

IS14.2.2.2. On application for and renewal to operate as a Procedures Design Certificate holder, the applicant shall provide sufficient information to the Nigerian Civil Aviation Authority so that the Authority can assess the suitability of the applicant.

Application
for
Procedures
Design
Certificate .

(1) The Authority shall confirm that the information required in the Manual of Operations are complete.

(2) the information required 14.2..2.2(1) are :

(a) a statement signed by the accountable officer, on behalf of the applicant's organisation confirming that :

(i) the Manual of Operations defines the organisation and demonstrates its means and methods for ensuring ongoing compliance with the Regulations ;

(ii) the Manual of Operations and Manual of Standards and appropriate operational documentation, shall be complied with by the organisation's personnel at all times ;

(b) the titles and names of the senior person or persons ;

(c) the duties and responsibilities of the senior person or persons in 14.2..2.2(1) (b) including matters for which they have responsibility to deal directly with the Authority on behalf of the organisation ;

(d) an organisation chart showing lines of responsibility of the senior persons in 14.2..2.2(1)(b) and covering each location listed under 14.2..2.2(1) (f) ;

(e) a summary of the organisation's staffing structure at each location listed under 14.2..2.2(1)(f) ;

(f) a list of each type of air traffic service and the duration of that service to be operated under the authority of the air traffic service provider certificate ;

(g) the airspace in which each service will be provided ;

(h) the aerodrome for which the service will be provided ;

(i) procedures and a plan to undertake checking and training of staff in the positions for which they will provide a service ;

(j) the detailed procedures required regarding internal quality assurance and safety management system ;

(k) a contingency plan for implementation in the event of a disruption to services provided ;

(l) a security programme that details protection for facilities, services and personnel ;

B 2288

(m) a summary of the operational details of each aeronautical facility associated with each location listed under 14.2..2.2(1) (f) and 14.2..2.2(1) (g) ;

(n) procedures to control amend, and distribute documentation and retain records.

(3) The Authority may not grant a certificate unless the Authority is satisfied that the applicant's Manual of Operation complies with this Part.

Responsibility
of Holder of
Procedures
Design
Certificate.

IS 14.2.4.1.—(1) An applicant for the provision of Instrument Procedures Design shall provide in its Manual of Operations :

(a) current unit organisational chart and written delegated responsibilities and position descriptions ;

(b) staffing-levels for operational positions ;

(c) designated instructors and ratings and proficiency assessment officers ;

(d) staffing numbers and qualifications at unit level.

(2) A Procedures Design certificate holder shall, at all times, maintain an appropriate organisation with a sound and effective management structure to enable it provide, in accordance with the standards set out in the Regulations, the services covered by its certificate.

(3) A Procedures Design certificate holder shall have, at all times, enough suitably qualified and trained personnel to enable it provide, in accordance with the standards set out in the Regulations, the services covered by its certificate.

(4) The Procedures Design certificate holder shall ensure that its personnel are of sufficient numbers and experience and have been given appropriate authority to be able to discharge their allocated responsibilities.

(5) A Procedures Design certificate holder shall not carry out design work on a instrument flight procedure under the designer's certificate unless :

(a) the certificate holder has appointed a person to be the chief designer for the designer's organisation ;

(b) the appointment is approved by the Authority and is in force ; and

(c) the functions of the head designer are being carried out by the person or, if the head designer is temporarily absent from duty, another authorized person :

(i) who is appointed by the certificate holder to act as head designer ; and

(ii) whose appointment is approved by the Authority and is in force.

(6) The minimum qualifications for a Qualified Designer, in relation to a flight procedure, means an individual who :

(a) is the holder, or an employee of the holder, of a procedures design certificate that authorises the holder to design flight procedures of the same type as the procedure concerned ; and

(b) has successfully completed :

(i) an approved course of training in the methods and practices contained in ICAO Doc. 8168 (PANS-OPS) ; and

(ii) any training for persons carrying on design work on flight procedures that is specified in the Operations Manual under which the qualified designer performs the designer's duties ; and

(iii) meets the experience requirements for performing the functions of a qualified designer set out in the Manual of Standards.

(c) enough licensed personnel to plan, provide and supervise the services listed in its certificate in a safe and efficient manner.

IS: 14.2.7.1.—(1) On application for and renewal to operate as an Procedures Design Certificate Holder, the applicant shall provide sufficient information to the Nigerian Civil Aviation Authority so that the Authority can assess the suitability of the applicant.

Requirement for Approval as a Procedure Designer for Air Navigation Services.

(2) The Authority shall confirm that the information required in the applicant's Manual of Operations are complete.

(3) The information required in the Manual of Operations are :

(a) a statement signed by the accountable officer, on behalf of the applicant's organisation confirming that :

(i) the Manual of Operation defines the organisation and demonstrates its means and methods for ensuring ongoing compliance with the Regulation ; and

(ii) the Manual of Operation and Manual of Standards and appropriate operational documentation, shall be complied with by the organisation's personnel at all times ; and

(b) the titles and names of the senior person or persons ; and

(c) the duties and responsibilities of the senior person or persons in . IS14.2.7.1 (4)(a)(i) and IS14.2.7.1 (b) including matters for which they have responsibility to deal directly with the Authority on behalf of the organisation ; and

(d) an organisation chart showing lines of responsibility of the senior persons in IS14.2.7.1(4)(a)(i) and IS14.2.7.1 (b) and covering each location listed under. IS14.2.7.1(4)(a)(i) and IS14.2.7.1 (f) ; and

B 2290

(e) a summary of the organisation's staffing structure at each location listed under IS14.2.7.1(4)(a)(i) and IS14.2.7.1 (f) ; and

(f) a list of each type of flight Procedures Design service and the duration of that service to be operated under the authority of the flight Procedures Design Certificate Holder ;

(g) procedures and a plan to undertake checking and training of staff in the positions for which they will provide a service ;

(h) the detailed procedures required regarding internal quality assurance and safety management system ;

(i) a contingency plan for implementation in the event of a disruption to services provided ;

(j) a summary of the facilities that will be used in association with the provision of flight Procedures Design and

(k) procedures to control, amend, and distribute documentation and retain records.

(4) The Authority may not grant a a Certificate unless it is satisfied that the applicant's Manual of Operation complies with this Part.

IS14.2.18. VERIFICATION/VALIDATION OF INSTRUMENT FLIGHT PROCEDURE DESIGN

IS 14.2.18.1. Each new or revised procedure designed shall be verified by a qualified procedure designer other than the one that designed the procedure to ensure compliance with applicable Criteria.

IS 14.2.18.2. Validation of designed instrument flight procedure shall be undertaken as the necessary final quality assurance step in the procedure design process prior to publication.

IS 14.2.18.3. The purpose shall be to verify all obstacle and navigational data and assessment fly-ability of the procedure.

IS 14.2.18.4. Validation shall consists of ground validation and flight validation.

IS 14.2.18.5. Ground validation shall be undertaken to enable the Authority verify the accuracy, completeness of all obstacle and navigation data considered in the procedure design and any other factors normally considered in the flight validation process.

IS 14.2.18.6. Ground validation shall be undertaken by a person(s) trained in procedure design and with appropriate knowledge of flight validation issue. This enables the Authority catch errors in Criteria and documentation and evaluate on the ground to the extent possible, those elements that will be evaluated in a flight validation, so that issues identified in the ground validation shall be addressed prior to flight validation.

IS 14.2.18.7 Ground validation shall be carried out to determine if flight validation is needed for flight validation is needed for modifications and amendments to previously published procedures.

IS 14.2.19. FLIGHT VALIDATION

14.2.19.1. Flight validation of instrument flight procedures shall be carried out as part of the initial certification and shall be included as part of the periodic quality assurance programme established by the Authority.

14.2.19.2. Flight validation shall be accomplished by a qualified and experienced flight validation Pilot, certified or approved by the Authority.

14.2.19.3 The objectives of the flight validation of instrument flight procedures shall be to ;

- (a) Provide assurance that adequate obstacle clearance has been provided ;
- (b) Verify that the navigation data to be published, as well as that used in the design of the procedure is correct ;
- (c) Verify that all required infrastructure, such as runway markings, lighting, communication and navigation services are in place and operative ;
- (d) Conduct an assessment of fly-ability to determine that the procedure can be safely flown ; and
- (e) Evaluate the charting, required infrastructure, visibility and other operational factors.

IS 14.2.28. Maintenance of Instrument Approach Procedure and Documentation/Recording.

14.2.28.1. A flight procedure design certificate holder shall keep a record of all essential data, results of calculations involved in the process of developing a flight instrument approach procedure.

14.2.28.2. The record shall be kept in a checklist form, one for non-precision and the other for precision approach for each segment.

14.2.28.3. The controlling obstacle, the MOC applied and the resulting minimum altitude shall be listed.

14.2.28.4. At the end of the form the OCA/H for the procedure shall be recorded.

14.2.28.5. These checklists shall be retained as part of a permanent file along with terrain charts and other documents which support the procedure. Sample checklist to be included.

B 2292

PROCEDURE CHECKLIST NON-PRECISION
THRESHOLD ELEVATION

<i>Initial 1</i>	A	B	C	D
Type straight(s)racetrack(RT)reversal(R)				
Obstacle elevation				
Location of Obstacle primary(P)secondary(S)				
MOC applied				
Required altitude				
Nominal altitude				
Speed restriction no(N) yes (Y) value				
Comments :				

<i>Initial 2</i>	A	B	C	D
Type straight(S) racetrack(RT)reversal(R)				
Obstacle elevation				
Location of obstacle primary(P) secondary(S)				
MOC applied				
Required altitude				
Nominal altitude				
Speed restriction no(N) yes(Y) value				
Comments :				

<i>Intermediate</i> yes(Y) no(N)	A	B	C	D
Length(L) or Time(T) value				
Alingment with final : straight(S) angle				
Obstacle elevation				
Primary(P)secondary(S)area				

B 2293

MOC applied				
Required altitude				
Nominal altitude				
Gradient(G) rate of descent(R) value				
Comments :				

<i>Final</i>	A	B	C	D
On or Off Aerodrome facility				
Length(L) or time(T) value				
Obstacle elevation				
Primary(P) or secondary(S) area				
Stepdown fix yes(Y) or no(N) MOC applied				
OCA(final)				
Comments :	Threshold elevation			

<i>Missed Approach</i>	A	B	C	D
MAPT facility(F) fix(FIX)distance/FAF(D)value				
Straight missed approach				
Obstacle elevation				
Primary(P) secondary(S)				
MOC applied (full MOC=30m)				
Required altitude				
OCAmissed approach				
Comments : (non standard gradient)				

B 2294

<i>Turning Missed Approach</i>	A	B	C	D
Fix(F) altitude (A) distance D)				
Obstacle elevation in turn initiation area (if turn at an altitude)				
Minimum turn altitude (MOC=50m)				
Obstacle elevation in turn area				
Resulting turn altitude				
OCA(missed approach)				
Restricted speed no(N) yes(Y) value				
Comments :				

<i>Result</i>	A	B	C	D
Resulting OCA for the procedure				
Gradient(G) rate of descent(R) value on final				
Level acceleration segment height				
Comments ;				

PROCEDURE CHECKLIST FOR PRECISION APPROACH

<i>Initial 1</i>	A	B	C	D
Type straight(S) racetrack(RT) reversal(R)				
Obstacle elevation				

<i>Location of obstacle primary(P) secondary(S)</i>				
MOC applied				
Required altitude				
Nominal altitude				
Speed restriction no(N) yes(Y) value				
Comments :				

<i>Initial 2</i>	A	B	C	D
Type straight(S) racetrack(RT) reversal(R)				
Obstacle elevation				
Location of obstacle primary(P) secondary(S)				
MOC applied				
Required altitude				
Nominal altitude				
Speed restriction no(N) yes(Y)				
Comments :				

<i>Intermediate yes(Y) no(N)</i>	A	B	C	D
Length (L) time(T) value				
Alignment with final straight(S) angle				
Obstacle elevation				
Primary(P) secondary(S)				
MOC applied				
Required altitude				
Nominal altitude				
Gradient(G) rate of descent(R) value				
Comments :				

B 2296

<i>Precision Segment</i>	A	B	C	D
Distance FAP/Threshold				
OAS penetrated no(N) yes(Y)value				
Obsacle height				
HL appliedOCHps				
OCHps (precision segment) applied				
OCHps CRM				
Comments :				

<i>Straight Missed Approach After (PS)</i>	A	B	C	D
Obstacle height				
SOC height				
HLapplied				
OCHm(missed approach)				
Comments :				

<i>Turning Missed Approach</i>	A	B	C	D
Fix(F) length (L)				
Obstacle height in turn initiation area(if turn at a height)				
Minimum turn height(MOC=50m)				
Obstacle height in turn area				
Resulting Turn height				
D2 (minimum 1200)				
SOC height				
HL applied				
OCHm (missed approach)				
Comments :				

<i>Results</i>	A	B	C	D
Resulting OCH for the progedure				
Level acceleration segment height				
Comments :				

<i>GP Inoperative</i>	A	B	C	D
FAF : Fix (Fix) facility (<i>F</i>) name				
Obstacle height				
MOC applied				
OCHf (final)				
MAPt facility(<i>F</i>) fix(FIX) distance/FAF(<i>D</i>) value				
Missed approach:straight(<i>S</i>) turn(<i>T</i>)				
If obstacle, height in turn intiation(<i>T</i>) area minimum (<i>T</i>) height (MOC=50)				
Obstacle height				
Rquired height				
OCHm (missed approach)				
Resulting OCH				
Comments :				

<i>Circling</i>	A	B	C	D
Obstacle elevation				
MOC applied				
OCA (check minimum value)				
Comments:				

AERONAUTICAL SEARCH AND RESCUE

IS 14.3.22. Search And Rescue Signals

IS : 14.3.22.1. Signals with surface crafts :

14.3.22.1. The following manoeuvres performed in sequence by an aircraft mean that the aircraft wishes to direct a surface craft towards an aircraft or a surface craft in distress :

- (a) circling the surface craft at least once ;
- (b) crossing the projected course of the surface craft close ahead at low altitude and :

- (1) rocking the wings ; or
- (2) opening and closing the throttle ; or
- (3) changing the propeller pitch.

Note.—Due to high noise level on board surface craft, the sound signals in 2) and 3) may be less effective than the visual signal in 1) and are regarded as alternative means of attracting attention.

(c) heading in the direction in which the surface craft is to be directed. Repetition of such maneuvers has the same meaning.

IS : 14.3.22.2. The following manoeuvres by an aircraft means that the assistance of the surface craft to which the signal is directed is no longer required :

crossing the wake of the surface craft close astern at a low altitude and :

- (1) rocking the wings ; or
- (2) opening and closing the throttle ; or
- (3) changing the propeller pitch.

Note.—The following replies may be made by surface craft to the signal in 1.1 :

for acknowledging receipt of signals :

(1) the hoisting of the "code pennant" (vertical red and white stripes) close up (meaning understood) ;

(2) the flashing of a succession of "T's" by signal lamp in the Morse code ;

(3) the changing of heading to follow the aircraft.

for indicating inability to comply :

(1) the hoisting of the international flag "N" (a blue and white checkered square) ;

(2) the flashing of a succession of "N's" in the Morse code.


Note.—See Note following IS : 14.3.22.1 (b), 3

IS : 14.3.22.3.—(1) Ground-air visual signal code for use by survivors

Ground-air visual signal code.

<i>No.</i>	<i>Message</i>	<i>Code Symbol</i>
1.	Require assistance	V
2.	Require medical assistance	X
3.	No or Negative	N
4.	Yes or Affirmative	Y
5.	Proceeding in this direction	↑

(2) Ground-air visual signal code for use by rescue units

<i>No</i>	<i>Message</i>	<i>Code Symbol</i>
1.	Operation completed	LLL
2	We have found all personnel	<u>LL</u>
3	We have found only some personnel	++
4	We are not able to continue. Returning to base	XX
5	Have divided into two groups. Each proceeding in direction indicated	
6	Information received that aircraft is in this direction	→ →
7	Nothing found. Will continue to search	NN

(3) Symbols shall be at least 2.5 meters (8 feet) long and shall be made as conspicuous as possible.

Note 1.—Symbols may be formed by any means such as: strips of fabric, parachute material, pieces of wood, stones or such like material; marking the surface by tramping, or staining with oil.

B 2300

Air-to-ground signals.

Note 2.—Attention to the above signals may be attracted by other means such as radio, flares, smoke and reflected light.

IS : 14.3.22.4.—(1) The following signals by aircraft mean that the ground signals have been understood :

(a) during the hours of daylight: by rocking the aircraft's wings;

(b) during the hours of darkness :

flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

(2) Lack of the above signal indicates that the ground signal is not understood.

No.	Message	Code Symbol
1.	Operation completed	
2.	We have found all personnel	
3.	We have found only some personnel	
4.	We are not able to continue. Returning to base	
5.	Have divided into two groups. Each proceeding in direction indicated	
6.	Information received that aircraft is in this direction	
7.	Nothing found. Will continue to search	

(3) Symbols shall be at least 2.5 meters (8 feet) long and shall be made as conspicuous as possible.

Note 1.—Symbols may be formed by any means such as: strips of fabric, parachute material, pieces of wood, stones or such like material; marking the surface by tramping, or staining with oil.

Note 2.—Attention to the above signals may be attracted by other means such as radio, flares, smoke and reflected light.

AERONAUTICAL INFORMATION SERVICES

Provision of Aeronautical Information Services (AIS).

IS 14.4.2.—(1) On application for, and renewal to operate as an Aeronautical Information Services Provider, the applicant shall provide sufficient information to the Authority in order to assess the suitability of the applicant.

(2) The Authority shall determine the information required to be included in the applicant's Manual of Operations.

(3) The Aeronautical Information Services provider shall provide Aeronautical Information Services in accordance with the Manual of Standards.

(4) An Aeronautical Information Services provider shall ensure that any aeronautical information service that it provides is provided in accordance with its Manual of Operations.

IS 14.4.6.1.—(a) An applicant for an approval shall provide the Authority with a Manual of Operations containing :

Responsibility
of Holder of
an AIS
provider
Certificate.

(1) a statement signed by the accountable officer, on behalf of the applicant's organisation confirming that :

(i) the Manual of Operation defines the organisation and demonstrates its means and methods for ensuring ongoing compliance with the Regulation ; and

(ii) the Manual of Operation and Manual of Standards and appropriate operational documentation, shall be complied with by the organisation's personnel at all times ; and

(2) the titles and names of the senior person or persons ; and

(3) the duties and responsibilities of the senior person or persons whose responsibility is to deal directly with the Authority on behalf of the organisation ; and

(4) an organisational chart showing lines of responsibility of the senior persons.

(5) a summary of the organisation's staffing structure at each operational base.

(6) a list of each type of aeronautical information service to be operated under the authority of the aeronautical information service provider approval ; and

(7) a summary of the scope of activities at each operational base.

(8) procedures and a plan to undertake checking and training of staff in the positions for which they will provide a service ;

(9) the detailed procedures required regarding internal quality assurance and safety management system ;

(10) a contingency plan for implementation in the event of a disruption to services provided ; and

(11) a security programme that details protection for facilities and services ; and

(12) a summary of the operational details of each facility associated with each each operational base.

B 2302

(13) procedures to control, amend, and distribute documentation and retain records.

The Authority may not grant an approval unless the Authority is satisfied that the applicant's Manual of Operation complies with this Requirement.

IS 14.4.6.1(b)(i) ; Personnel Requirements.

(1) An applicant for the provision of Aeronautical Information Services shall provide in its Operations Manual ;

(a) current unit organisational chart and written delegated responsibilities and position descriptions ;

(b) staffing-levels for operational positions ;

(c) designated supervisor and their qualifications ; (d) staffing numbers and qualifications at unit level.

(2) An Aeronautical Information Service provider shall, at all times, maintain an appropriate organisation with a sound and effective management structure to enable it provide, in accordance with the standards set out in the Regulations, the aeronautical information services covered by its approval.

(3) An Aeronautical Information Service provider shall have, at all times, enough suitably qualified and trained personnel to enable it provide, in accordance with the standards set out in the Regulations, the aeronautical information services covered by its approval.

(4) The Aeronautical Information Service provider shall ensure that its personnel are of sufficient numbers and experience and have been given appropriate authority to discharge their allocated responsibilities.

(5) The Aeronautical Information Service provider will advise the minimum qualifications required for aeronautical information services personnel operating positions.

(6) An Aeronautical Information Service provider shall arrange the work flow schedule of aeronautical information service officers to provide duty rest periods. A copy of the Aeronautical Information Service providers fatigue management procedure is to be included in the Manual of Operations.

(7) An aeronautical information service officer shall not perform his duties if he knows or suspects that he is suffering from or having regards to the circumstances of the period of duty to be undertaken is likely to suffer from such fatigue.

(8) A person shall not perform the duties of an aeronautical information service officer when under the influence of alcohol or drugs.

(9) At the unit level the Aeronautical Information Service provider shall engage, employ, or contract :

(a) a senior person to whom authority has been granted to ensure that all activities undertaken by the unit are carried out in accordance with the applicable requirements prescribed in this section, and who shall in addition be vested with the following powers and duties in respect of the compliance with such requirements.

(i) Unrestricted access to work performed or activities undertaken by all other persons as employees of, and other persons rendering service within the unit ;

(ii) full rights of consultation with any such person(s) in respect of such compliance by him or her ;

(iii) a duty to establish liaison mechanisms with the Authority with a view to ascertain correct manners of compliance with the said requirements, and interpretations of such requirements by the Authority, and to facilitate liaison between the Authority and the unit concerned ; and

(iv) powers to report directly to the management of the his or her organisation, on his or her investigations and consultations generally, and in cases contemplated in subparagraph (iii), and with regard to the results of the liaison contemplated in sub-paragraph (iv) ;

(b) a person who is responsible for quality control, and who shall have direct access to the person referred to in paragraph (a) on matters affecting aviation safety ; and

(c) enough personnel to plan, provide and supervise the services listed in its approval as a service provider, in a safe and efficient manner.

IS 14.4.6.1.—(b)(ii) Training and Checking of Staff.

(1) The Aeronautical Information Service provider shall establish a procedure for initially assessing, and a procedure for maintaining, the competence of the personnel required to operate and maintain the unit concerned.

(2) The AIS service provider shall :

(a) regularly review the competence, experience, qualifications, capabilities and abilities of its staff to ensure that any skills and qualifications needed by the AIS are available for the tasks to be completed.

(b) provide training when deficiencies are noted, or when new employees start work.

B 2304

(3) Required basic training shall be provided at NCAA recognized training institutes and may be carried out in stages.

(4) The service provider shall include details of the program, including necessary training and tests of competency, in its operations manual and shall establish procedures acceptable to the Authority in addition to the ICAO AIS personnel Training Manual DOC-7192 Part E-3 and follow the approved training programs for aeronautical information services officers as follows :

- (a) Basic introduction ;
- (b) Initial Aeronautical Information Service Training ;
- (c) Air traffic Assistant training ;
- (d) On-job-training ;
- (e) Recurrent training ;
- (f) Remedial training ;
- (g) Human factor initial and recurrent ;
- (h) QMS training.
- (i) Any other course/s as changes in the system may warrant.

Ancillary Qualifications

(5) An aeronautical information service officer may also provide an ancillary function.

(6) These functions include the following :

- (a) classroom instructor ; or
- (b) on-the-job instructor.

(7) An aeronautical information service officer should have a minimum of five years on the job experience. Where possible, the officer should have experience in instructional techniques.

(8) An aeronautical information service officer should continue on-the-job training until he or she demonstrates competency in accordance with the Standards set out in the Manual of Standards.

IS 14.4.6.1(b)(iii) ; Contingency Plan.

(1) An Aeronautical Information Service provider shall develop and maintain Contingency Plans for implementation in the event of disruption, or potential disruption, of aeronautical information services and related supporting services for which it is responsible. The disruption may be caused intentionally (sabotage) or unintentionally (equipment failure).

(2) In developing such contingency plans, the Aeronautical Information Service provider shall liaise closely with the Aeronautical Information Services authorities responsible for the provision of services in adjacent or contiguous airspaces and other airspace users concerned.

(3) The plan shall include :

(a) the actions to be taken by the members of the provider's personnel responsible for providing the service ; and

(b) Possible alternative arrangements for providing the service ; and

(c) the arrangements for resuming normal operations for the service.

(4) These plans shall be submitted as part of the Manual of Operation.

IS 14.4.6.1(b)(v) Facilities, Equipment and Maintenance.

(1) In addition to adequate numbers of suitably experienced and competent personnel, AIS also requires appropriate accommodation and adequate facilities to get the work done and so provide quality services.

(2) To ensure conformity with this part of the ISO Standards, AIS service provider should determine, provide and maintain the facilities it needs to achieve product conformity, including :

(a) Workspace ;

(b) Equipment, hardware and software ; and

(c) Supporting services.

(3) At the most basic level, the service providers should ensure that the following are provided at all AIS aerodrome units :

(a) Suitable furniture for staff to work comfortably, efficiently and ergonomically ;

(b) Sufficient space between work-stations to avoid disruption to other staff ;

(c) Noisy equipment isolated away from staff or sound-proofed ;

(d) Adequate overhead or specialist lighting to be able to easily read source document ;

(e) A quiet area for proof-reading ; and

(f) Suitable computing equipment for word-processing and data capture.

(4) Wall displays at the AIS briefing office should consist of the following taking cognizance of the extent of coverage zone availability of suitable chart and size of available wall.

B 2306

(5) The following should be provided for wall displays :

- (a) 2 sets of charts of the coverage zone as small scale (1:1,000,000) showing ;
- (b) air traffic service system, aerodrome/heliports and radio aids to navigation ;
- (c) areas over which the flight of aircraft is dangerous, restricted or prohibited ;
- (d) a 1:500,000 chart of the country in which the aerodrome/heliport is located ;
- (e) an outline chart of the coverage zone at small scale to the area or route breakdown used in disseminating briefing material and showing FIR ;
- (f) A large scale chart of the aerodrome traffic area showing controlled area approach aids and holdings, approach and departure procedures ;
- (g) An aerodrome obstacle chart ;
- (h) Aerodrome movement chart (1:3,000) ;
- (i) Diagram of the terminal area showing location of various offices and facilities of interest to visiting aircrews.

(6) An Aeronautical Information Service provider shall, at all times, make available for the use by its personnel, the equipment and facilities necessary for providing aeronautical information services covered by its approval.

(7) The Aeronautical Information Service provider shall include in their Operations Manual a list of facilities from which Aeronautical Information Service will be provided.

(8) The equipment shall meet with the requirements specified in ICAO *Annex 10* and the Regulations.

(9) All persons involved with the provision of service shall be fully conversant with current ICAO standards and recommended practices, instructions, directives and relevant information.

(10) The Aeronautical Information Service provider shall, for each location for which a service is provided, indication from the list below a list of facilities and equipment. This should also include an indication of the quality of the equipment.

10.2. *Aeronautical Information Equipment and Facilities include the following :*

- Writing area/counter space
- Access to Maps and Charts

Computer workstations with Internet access
Display boards
Telephones
Aeronautical fixed telecommunications network
Clocks
Lighting including emergency lighting
Chairs
Storage for reference documents
Photocopier
Power supply
Back-up power supply
Fire alarm and extinguisher
Air conditioning system
Restrooms
Running water
Consumables (paper, printer cartridges, etc.)
Standard briefing room close to the apron

IS 14.4.6.1.(b)(vi) Fault and Defect Reporting.

(1) The applicant shall maintain system for tracking and rectifying faults within the Aeronautical Information Service system.

(2) Procedures for the reporting and the resolution of faults and defects shall be documented in the Manual of Operations.

(3) The Aeronautical Information Service provider shall maintain a record of the number of reported equipment faults on a month by month basis.

IS 14.4.6.1. (b)(vii) Maintenance of Documents and Records.

The applicant for service provider approval shall provide the following operational documentation at locations at an aeronautical information service unit:

- (a) Manual of Standards ;
- (b) Logbook to record occurrences and events ; (including unserviceability of equipment) ;
- (c) AIPs and AIP Supplements ;
- (d) AICs and current NOTAM ;
- (e) Current Civil Aviation Regulations,

B 2308

- (f) Circulars and bulletins file ;
- (g) Equipment manuals ;
- (h) Technical standards and practices ; and
- (i) All applicable ICAO documents.

(2) The Aeronautical Information Service provider shall ensure that :

(a) the documentation is reviewed and authorised by appropriate personnel before issue ;

(b) current issues of relevant documentation are available to personnel ;

(c) obsolete documentation is removed from all points of issue or use ;

(d) changes to documentation are reviewed and approved by appropriate personnel ; and

(e) the current version of each document can be identified to preclude the use of obsolete editions.

(3) The Aeronautical Information Service provider shall demonstrate that there is a system in place to record and retain operational data.

(4) Records shall be maintained on the following :

(a) regular reports and returns to the Authority ;

(b) local incidents with remedial actions ;

(c) personnel files including supervisory reports ;

(d) training files ;

(e) duty rosters ; and

(f) leave records.

(5) The following basic reference materials should be kept at both NOF and AIS aerodrome/heliport units :

(a) Annexes 1-18 ;

(b) Doc 8400 - ICAO Abbreviation and Codes (PANS-ABC) ;

(c) Doc 4444 - Rules of the Air and Air Traffic Services (PANS-RAC) ;

(d) Doc 8168 - Aircraft Operations (PANS - OPS) ;

(e) Doc 7030 - Regional supplementary Procedures (Supps) ;

(f) Doc 7910-Location Indicators ;

(g) Doc 8585 - Designators for Aircraft operation ;

(h) Doc 8643 - Aircraft type designators ;

(i) Doc 8126 - AIS manual ;

(j) Doc 8697 - Aeronautical charts manual ;

- (k) Doc 8896 - Manual of Aeronautical Met practice 1 ;
- (l) Doc 7383 - Aeronautical Information services provided by States ;
- (m) Doc 7101- Aeronautical chart catalogue ;
- (n) Doc 7100 - Manual of Airport and Air Navigation facility tariffs ;
- (o) Doc 7474 - African-Indian Ocean region ;
- (p) Doc 8733 - Caribbean and South American regions ;
- (q) Doc 7754 - European Union ;
- (r) Doc 8700 - Middle East and Asia Regions ;
- (s) Doc 8755 - North Atlantic, North American and Pacific Regions.

IS: 14.4.11.—(1) The Aeronautical Information Service provider shall develop local operating procedures for the collection and dissemination of relevant data.

Local
Operating
Procedures.

(2) An Aeronautical Information Service provider shall consider the availability and reliability of external data sources required to provide an Aeronautical Information Service. The Aeronautical Information Service provider shall include the provider, the data source and means of receipt, display and integrity of the following information :

- (a) WGS-84 survey co-ordinates ;
- (b) Aeronautical Meteorology information ;
- (c) Information on aerodrome conditions and the operational status of facilities and navigation aids ;
- (d) Aerodrome works and administration ;

(3) The Aeronautical Information Service provider should include procedures to ensure that it can, and will continue to be able to provide reliable information in relation to its Aeronautical Information Services to other organisations whose functions reasonably require that information (e.g. ATS units and centres).

(4) Data recipients may include :

- (a) ATS providers ;
- (b) Briefing offices ;
- (c) Airline offices ;
- (d) Pilots ;
- (e) Other AIS providers ;
- (f) Military ;
- (g) The Aeronautical Telecommunications provider ; and
- (h) Other Government agencies.

B 2310

Aeronautical Charts

Provision of
Aeronautical
Charts.

IS14.5.2.1.—(i) The Aeronautical Charts Provider shall provide Aeronautical Charts in accordance with these Regulations and Aeronautical Charts Manual of Standards.

(ii) An Aeronautical Charts Provider shall ensure that any aeronautical chart that it provides is in accordance with its Manual of Operations.

(iii) On application for issue and renewal to operate as an Aeronautical Charts Provider, the applicant shall provide sufficient information to the Authority to enable it to assess the suitability of the applicant.

Application
for an
Aeronautical
Charts
Provider
Certificate.

IS14.5.3.2. The Authority should ensure that the information required are included in the applicant's Manual of Operations.

The following is a guideline to ensure that applicants include the information required :—

(i) an applicant for an approval shall provide the Authority with a Manual of Operation containing :

(a) a statement signed by the accountable officer, on behalf of the applicant's organisation confirming that :

(b) the Manual of Operation defines the organisation and demonstrates its means and methods for ensuring ongoing compliance with the Regulation; and Manual of Standards, Manual of Operations and appropriate operational documentation, shall be complied with by the organisation's personnel at all times ; and

(c) the titles and names of the senior person or persons ; and

(d) the duties and responsibilities of the senior person or persons in (c) including matters for which they have responsibility to deal directly with the Authority on behalf of the organisation ;

(e) an organisation chart showing lines of responsibility of the senior persons in paragraph (i)(b) and (e) a summary of the organisation's staffing structure at each location listed under paragraph (i)(g) ; and

(f) a list of each type of aeronautical Charts to be produced by the organisation ; and

(g) a summary of the scope of activities at each location where the organisation's personnel are based for the purpose of providing or maintaining the types of services listed under paragraph (i)(f) ; and

(h) procedures and a plan to undertake adequate training of staff in the positions for which they will provide a service ;

(i) a contingency plan for implementation in the event of a disruption to services provided ; and

(j) a security programme that details protection for facilities and services ; and

(k) personnel requirements and the responsibilities of personnel ;

(l) quality assurance/safety management system ;

(m) contingency plans developed for part or total system failure for which the organisation provides a service ;

(n) security plan ;

(o) any other information requested by the Authority.

(ii) The Authority may not grant an approval unless it is satisfied that the applicant's Manual of Operation complies with this implementing standard.

IS 14.5.3.4.—(i) The approval holder shall ensure that there are sufficient personnel to collect, collate, check, co-ordinate, edit, draw/draft and amend an aeronautical charts design and production for the flight operations ;

(ii) Provide those authorized personnel with written evidence of the scope of their authorization and as well establish a procedure to maintain the competence of those authorized personnel ;

(iii) The certificate holder shall establish a procedure to initially assess the competence of those personnel authorized by the applicant to check, edit, and amend aeronautical charts for the flight operations procedures listed in their Manual of Operation ;

(iv) current unit organisational chart and written delegated responsibilities and position descriptions ;

(v) staffing-levels for operational positions ;

(vi) designated supervisor and their qualifications ;

(vii) staffing numbers and qualifications at unit level ;

(viii) An Aeronautical Charts Provider shall, at all times, maintain an appropriate organisation with a sound and effective management structure to enable it provide, in accordance with the standards set out in the Regulations, the aeronautical Charts covered by its certificate ;

(ix) An Aeronautical Charts Provider shall have, at all times, enough suitably qualified and trained personnel to enable it provide, in accordance with the standards set out in the Regulations, the aeronautical Charts covered by its certificate ;

(x) The Aeronautical Charts Provider shall ensure that its personnel are of sufficient numbers and experience and have been given appropriate authority to discharge their allocated responsibilities.

Personnel
requirement
and
Responsibility
of an
Aeronautical
Charts
Provider.

B 2312

(xi) The Aeronautical Charts Provider will advise the minimum qualifications required for aeronautical Charts personnel operating positions ;

(xii) An Aeronautical Charts Provider shall arrange the work flow schedule of aeronautical Charts officers to provide duty rest periods ;

(xiii) A person shall not perform the duties of an aeronautical Charts officer when under the influence of alcohol or drugs.

Training of staff of an Aeronautical Charts Provider.

IS 14.5.3.5. The personnel involved in the charts production shall undergo the following courses :

- (1) Basic Aeronautical cartography
- (2) Conventional Aeronautical cartography.
- (3) Digital Aeronautical cartography.
- (4) Geographic Information System (GIS).
- (5) Procedure design for Air Navigation.
- (6) Refreshers course.
- (7) Other relevant courses

Quality System for an Aeronautical Charts Provider.

IS 14.5.5. The aeronautical charts producer shall establish, implement, maintain, and adhere to a safety and quality assurance management system that is appropriate to the size, nature, and complexity of all activities authorized

(2) The quality system shall be documented in the service providers' Manual of Operations.

(3) The results of this system and related audits and corrective actions shall be made available to the Authority.

(4) If the holder of an Aeronautical Charts Provider Approval certificate makes any change in the quality system referred to in this section, which is significant to the showing of compliance with the appropriate requirements prescribed in this Part, the holder shall notify the Authority.

(5) A safety assessment shall be undertaken for any safety related change in (4) for assessment ; the applicant shall include information on the procedure for monitoring the quality of all Aeronautical data and aeronautical charts.

IS 14.5.15.—(1). The Aeronautical Charts service providers should ensure that the following are available for his operations :

- (a) Conducive workspace ;
- (b) Equipment, hardware and software ; and
- (c) Supporting services.
- (d) Adequate revision of charts are carried out when there are new or changes in safety related structures.

Facilities and
Equipment
and
Maintenance
of
Aeronautical
charts

IS 14.5.25.1.—(a) The total phase of flight can be sequenced into the following phases :

- (1) Phase 1-Taxi from aircraft stand to take-off point.
- (2) Phase 2-Take-off and Note -The total flight is divided into the following phases : Climb to en-route ATS route structure.
- (3) Phase 3-En route ATS route structure.
- (4) Phase 4-Descent to approach.
- (5) Phase 5-Approach to land and missed approach.
- (6) Phase 6-Landing and taxi to aircraft stand.
- (b) Each type of chart shall provide information relevant to the function of the chart ;
- (c) Each type of chart shall provide information appropriate to the phase of flight, to ensure the safe and expeditious operation of the aircraft ;
- (d) The presentation of information shall be accurate, free from distortion and clutter, unambiguous, and be readable under all normal operating conditions ;
- (e) Colors or tints and type size used shall be such that the chart can be easily read and interpreted by the pilot in varying conditions of natural and artificial light ;
- (f) The information shall be in a form, which enables the pilot to acquire it in a reasonable time consistent with workload and operating conditions ;
- (g) The presentation of information provided on each type of chart shall permit smooth transition from chart to chart as appropriate to the phase of flight ;
- (h) The aeronautical charts producer shall make the charts to be True North oriented.
- (i) The basic sheet size of the charts should be 210 x 297 mm (A4).

Operational
Requirements
and General
Specifications
for Charts.

B 2314

General
Specifications
and other
Requirements..

IS14.5.25.5.—(i) *Titles.*

The title of a chart or chart series shall not include "ICAO" unless the chart conforms with all the requirements specified in this Part.

(ii) *Miscellaneous information*

The aeronautical charts producer shall :

(a) Make the marginal note layout in accordance with Appendix 1 of Aeronautical Chart MOS.

(b) Show the following information on the face of each chart unless otherwise stated in the specification of the chart concerned :

(1) Designation or title of the chart series ;

(2) Name and reference of the sheet ;

(3) On each margin an indication of the adjoining sheet.

(c) Provide a legend to the symbols and abbreviations used. The legend shall be on the face or reverse of each chart except that, where it is impracticable for reasons of space, a legend may be published separately.

(d) Show the name and adequate address of the producing agency in the margin of the chart.

(iii) *Symbols*

The aeronautical charts producer shall conform with the symbols used to those shown in *Appendix 2.* of Aeronautical charts MOS, except that where it is desired to show on an aeronautical chart special features or items of importance to civil aviation for which no ICAO symbol is at present provided, any appropriate symbol may be chosen for this purpose, provided that it does not cause confusion with any existing ICAO chart symbol or impair the legibility of the chart.

(iv) *Units of measurement*

The aeronautical charts producer shall :

(a) Derive distances as geodesic distances ;

(b) Express the distances in nautical miles ;

(c) Express altitudes, elevations and heights in feet ;

(d) Express linear dimensions on aerodromes and short distances in meters ;

(e) Specify the order of resolution of distances, dimensions, elevations and heights for a particular chart ;

(f) State the units of measurement used to express distances, altitudes, elevations and heights on the face of each chart ;

(g) Provide the conversion scales (kilometers/nautical miles, meters/feet) on each chart on which distances, elevations or altitudes are shown. The conversion scales shall be placed on the face of each chart.

(v) *Scale and projection*

The aeronautical charts producer shall indicate :—

(a) The name and basic parameters and scale of the projection for charts of large areas.

(b) A linear scale only for charts of small areas.

(vi) *Date of validity of aeronautical information*

The aeronautical charts producer shall indicate clearly the date of validity of aeronautical information on the face of each chart.

(vii) *Spelling of geographical names*

The aeronautical charts producer shall :

(a) Use the symbols of the Roman alphabet for all writing.

(b) Accept the names of places and of geographical features in countries which officially use varieties of the Roman alphabet in their official spelling, including the accents and diacritical marks used in the respective alphabets.

(viii) *Abbreviations*

The aeronautical charts producer shall :

(a) Use abbreviations on aeronautical charts whenever they are appropriate.

(b) Where applicable, should select abbreviations from the Procedures for Air Navigation Services - ICAO Abbreviations and Codes (Doc 8400).

(ix) *Political boundaries*

The aeronautical charts producer shall :

(a) Show International boundaries but may be interrupted if data more important to the use of the chart would be obscured.

(b) Where the territory of more than one State appears on a chart, shall indicate the names identifying the countries.

(x) *Relief*

(a) Relief, where shown, the aeronautical charts producer shall portray in a manner that will satisfy the chart users' need for :

B 2316

- (1) Orientation and identification ;
- (2) Safe terrain clearance ;
- (3) Clarity of aeronautical information when shown ;
- (4) Show the spot elevations for selected critical points.
- (5) Shall follow the value of spot elevations of doubtful accuracy by the sign±.

(xi) Prohibited, restricted and danger areas

When prohibited, restricted or danger areas are shown, the aeronautical charts producer shall include the reference or other identification except that the nationality letters may be omitted.

(xii) Air traffic services airspaces

When ATS airspace is shown on a chart, the aeronautical charts producer shall indicate the class of airspace, the type, name or call sign, the vertical limits and the radio frequency(ies) to be used and the horizontal limits depicted.

(xiii) Magnetic variation

The aeronautical charts producer shall :

- (1) Indicate the True North.
- (2) Indicate the Magnetic variation
- (3) Ensure that the magnetic variation values shown should be those for the year nearest to the date of publication that is divisible by 5. (eg. 2005,2010 etc) In exceptional cases where the current value would be more than one degree different, after applying the calculation for annual change, an interim date and value should be quoted.

(xiv) Aeronautical data

The aeronautical charts producer shall :

- (a) ensure that established procedures exist in order that aeronautical data at any moment is traceable to its origin so to allow any data anomalies or errors, detected during the production/ maintenance phases or in the operational use, be corrected;
- (b) Ensure that the order of chart resolution of aeronautical data be that as specified for a particular chart as contained in Aeronautical Charts MOS ;
- (c) Ensure that integrity of aeronautical data is maintained throughout the data process ;

(d) Ensure that from Survey , data integrity level shall apply as classified in :—

(1) Critical data, integrity level 1×10^{-8} : there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe ;

(2) Essential data, integrity level 1×10^{-5} : there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe ; and

(3) Routine data, integrity level 1×10^{-3} : there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

(e) Aeronautical data quality requirements related to the integrity and data classification shall be as provided in Appendix 6 of Aeronautical Charts MOS. Protection of electronic aeronautical data while stored or in transit shall be totally monitored by the Cyclic Redundancy Check (CRC).

(f) To achieve protection of the integrity level of critical and essential aeronautical data, a 32 - or 24-bit CRC algorithm shall apply respectively.

(g) To achieve protection of the integrity level of routine aeronautical data, a 16-bit CRC algorithm or a WX system software or any equivalent system could be applied.

(xv) *World Geodetic System-1984 (WGS-84)*

The Aeronautical Charts service provider shall make use of the following :

(a) Horizontal reference system.

World Geodetic System - 1984 (WGS-84) shall be used as the horizontal (geodetic) reference system. Published aeronautical geographical coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS- 84 geodetic reference datum.

(b) Geographical coordinates which have been transformed into WGS-84 coordinates but whose accuracy of original field work does not meet the requirements in Charts MOS 2.18.1.2 shall be identified by an asterisk.

(c) The order of chart resolution of geographical coordinates shall be that specified for a particular chart series and in accordance with Charts MOS *Appendix 6, Table 1*

(d) Vertical reference system shall be Mean sea level (MSL) datum, which gives the relationship of gravity-related height (elevation) to a surface known as the geoid, shall be used as the vertical reference system.

(e) In addition to the elevation (referenced to mean sea level) for the specific surveyed ground positions, publish geoids undulation (referenced to the WGS-84 ellipsoid) for those positions as specified for a particular chart ;

(f) Where the vertical reference system is ellipsoidal the geoidal undulation shall be determined or calculated based on EGM96 or better whichever model should be stated as necessary ;

(g) The order of chart resolution of elevation and geoid undulation shall be that specified for a particular chart series and in accordance with Appendix 6, Table 2 of Aeronautical Charts MOS ;

(h) Temporal reference system. The Gregorian calendar and Co-ordinated Universal Time (UTC) shall be used as the temporal reference system ;

(i) When a different temporal reference system is used for charting, this shall be indicated in GEN 2.1.2 of the Aeronautical Information Publication (AIP).

(xvi) Obstacle Restriction and Removal

Aeronautical charts Approval Holder shall determine the Obstacle limitation surfaces in accordance with requirement contained in Aerodrome Standard Manual chapter 8 (8.2.2).

(xvii) Establishing Procedure Design unit

The aeronautical Charts provider shall establish an appropriate Flight Procedure Design unit approved by the Authority to ensure that safety is maintained in the provision of ATS within its airspace and aerodromes.

(xviii) Establishing VOR and NDB Routes

The aeronautical Charts provider shall establish an appropriate VOR and NDB routes approved by the Authority to ensure that safety is maintained in the provision of ATS within its airspace and aerodromes.

AEROMET

Hazardous weather.

IS 14.6.2.1.—(f)—(i) Issue SIGMET information phenomena which may affect the safety of aircraft operations, and of the development of those phenomena in time and space within its area of responsibility to the ATS providers, AIS Unit and other meteorological watch offices for dissemination in accordance with the template shown in ICAO Annex 3 ;

(ii) SIGMET messages concerning volcanic ash cloud and tropical cyclones shall be based on advisory information provided by Volcanic Ash Advisory Centers and Tropical Cyclone Advisory Centers designated by regional air navigation agreement respectively ;

(iii) Issue wind shear warnings for aerodromes where wind shear is considered a factor ;

(iv) At aerodromes where wind shear is detected by automated ground-based, wind shear remote-sensing or detection equipment, wind shear alerts generated by these systems shall be issued ;

(v) Wind shear alerts shall give concise, up-to-date information related to the observed existence of wind shear involving a headwind/tailwind change of 7.5m/s (15 kt) or more which could adversely affect aircraft on the final approach path or initial take-off path and aircraft on the runway during the landing roll or take-off run ;

(vi) Issue aerodrome warnings and any other hazardous weather events on meteorological conditions which could adversely affect aircraft on the ground, including parked aircraft, and the aerodrome facilities and services.

IS 14.6.2.1.—(n)—(i) ensuring that wind sensors for local meteorological reports are appropriately sited to give the best practicable indication of conditions along the runway/touchdown zone ;

Meteorological
Information
on wind.

(ii) the provision in air traffic services units of wind displays related to the same integrated automatic systems as that of the aeronautical meteorological service provider ;

(iii) the calibration and maintenance of these wind displays/instruments ;

(iiii) the use to be made of these wind displays/instruments by air traffic services personnel ;

(iv) the provision of supplementary visual observations for meteorological phenomena of operational significance in the climb-out and approach areas made by air traffic services personnel to update or supplement the information supplied by the meteorological observer ;

(v) action to be taken in respect of meteorological information obtained from aircraft taking off or landing ;

(vi) implementation of the required criteria/procedures regarding meteorological information/data for the establishment of aerodrome operating minima.

IS14.6.3.1.—(1) SIGMET information shall be issued by a meteorological watch office and shall give a concise description in abbreviated plain language concerning the occurrence and/or expected occurrence of specified en-route weather phenomena, which may affect the safety of aircraft operations, and of the development of those phenomena in time and space.

SIGMET
and other
Information.

B 2320

(2) SIGMET messages shall be disseminated to other meteorological watch offices, WAFCs and to other meteorological offices in accordance with regional air navigation agreement. SIGMET messages for volcanic ash shall also be disseminated to VAACs.

(3) SIGMET messages shall be disseminated to international OPMET databanks and the centres designated by regional air navigation agreement for the operation of aeronautical fixed service satellite distribution systems, in accordance with regional air navigation agreement.

(4) SIGMET information shall be cancelled when the phenomena are no longer occurring or are no longer expected to occur in the area.

(5) The following standards shall be complied with in accordance with the Authority's Aeronautical Meteorological Manual of Standards.

(i) Period of validity of a SIGMET message ;

(ii) Period of validity of special case of SIGMET messages for volcanic ash cloud and tropical cyclones ;

(iii) Period within which SIGMET messages shall be issued before the commencement of the period of validity and period of up-dating SIGMET messages.

Quality
Management
System.

IS14.6.6.—(b)—(1) An aeronautical meteorological service provider shall implement a Quality Management System (QMS in line with ISO 9001 standards) which is aim to provide the user with assurance that the meteorological information supplied complies with the stated requirements in terms of the geographical and spatial coverage, format and content, time and frequency of issuance and period of validity, as well as the accuracy of measurement, observation and forecasts.

(2) The QMS documentation requirements shall include :

(a) documented statements of policy and objectives ;

(b) relevant procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to users ;

(c) verification and validation procedures and resources for monitoring adherence to standards ;

(d) document and records as needed to ensure effective planning, operation and control of processes.

(3) An aeronautical meteorological service provider shall determine, collect and analyse appropriate data to demonstrate the suitability and effectiveness of the QMS.

(4) An aeronautical meteorological service provider shall keep under review its QMS and take such corrective action as it is necessary to ensure continue improvement in the effectiveness of the QMS.

(5) The demonstration of compliance of the quality system applied shall be by internal and external audit.

(6) If nonconformity of the system is identified, action shall be initiated to determine and correct the cause.

(7) All audit observations shall be evidenced and properly documented.

IS14.6.7.1.—(a) On application for or renewal to operate as an Aeronautical Meteorological service provider, the applicant shall provide sufficient information to the Nigerian Civil Aviation Authority so that the Authority can assess the suitability of the applicant.

AMSP
Manual of
Operations.

(1) The NCAA has determined that the information required should be included in the applicant's Manual of Operations.

(2) To assist applicants the following is a guideline to ensure that applicants include information required.

(3) An applicant for an approval shall provide the Authority with a Manual of Operation containing :

(a) a statement signed by the accountable officer, on behalf of the applicant's organisation confirming that :

(i) the Manual of Operation defines the organisation and demonstrates its means and methods for ensuring ongoing compliance with the Regulation ; and

(ii) the Manual of Operation and appropriate operational documentation, shall be complied with by the organisation's personnel at all times ; and

(b) the titles and names of the senior person or persons ; and

(c) the duties and responsibilities of the senior person or persons in paragraph (3)(b) including matters for which they have responsibility to deal directly with the Authority on behalf of the organisation ; and

(d) an organisation chart showing lines of responsibility of the senior persons in paragraph (3)(b) and covering each location listed under paragraph 1(4)(f) ; and

(e) a summary of the organisation's staffing structure at each location listed under paragraph (3)(f) ; and

B 2322

(f) a list of the type of Aeronautical Meteorological Service to be provided under the authority of the Aeronautical Meteorological Service provider approval ; and

(g) a summary of the scope of activities at each location where the organisation's personnel are based for the purpose of providing or maintaining the types of services listed under paragraph (3)(f) ; and

(h) procedures and a plan to undertake checking and training of staff in the positions for which they will provide a service ;

(i) the detailed procedures required regarding internal quality assurance and safety management system ;

(j) a contingency plan for implementation in the event of a disruption to services provided ; and

(k) a security programme that details protection for facilities and services ; and

(l) a summary of the communication capability of each facility associated with each location listed under paragraph (3)(g) ; and

(m) procedures to control, amend, and distribute documentation and retain records.

(n) procedures for decommissioning of equipment or facilities.

(4) The Authority may not grant an approval unless the Authority is satisfied the applicant's Manual of Operation complies with this Part.

Personnel
Requirements.

IS14.6.9.1.—(1) An applicant for the provision of Aeronautical Meteorological Service shall provide in its Operations Manual ;

(a) current unit organisational chart and written delegated responsibilities and position descriptions ;

(b) staffing-levels for operational positions ; and

(c) staffing numbers and qualifications of personnel at each office or station.

(2) An Aeronautical Meteorological Service provider shall, at all times, maintain an appropriate organisation with a sound and effective management structure to enable it provide, in accordance with the standards set out in the Regulations, the aviation meteorological services covered by its approval.

(3) An Aeronautical Meteorological Service provider shall have, at all times, sufficient suitably qualified and trained personnel to enable it provide, in accordance with the standards set out in the Regulations, the aviation meteorological services covered by its approval.

(4) The Aeronautical Meteorological Service provider shall ensure that its personnel are in sufficient numbers and experience and have been given the appropriate authority to be able to discharge their allocated responsibilities.

(5) The Aeronautical Meteorological Service provider shall ensure that the qualifications of personnel providing aviation meteorological services are in accordance with World Meteorological Organisation requirements.

(6) An Aeronautical Meteorological Service provider shall arrange the work flow schedule of aviation meteorological personnel to provide sufficient rest time. A sample of the Aviation Meteorological service providers roster is to be included in the Manual of Operations.

(7) The Aeronautical Meteorological Service provider shall engage, employ or contract :

(a) At each meteorological office a senior person to whom authority has been granted to ensure that all activities undertaken by the unit are carried out in accordance with the applicable requirements prescribed in this section, and who shall in addition be vested with the following powers and duties in respect of the compliance with such requirements :

(i) unrestricted access to work performed or activities undertaken by all other persons as employees of, and other persons rendering service within the unit ;

(ii) full rights of consultation with any such person(s) in respect of such compliance by him or her ;

(iii) powers to order cessation of any activity where such compliance is not effected ;

(iv) a duty to establish liaison mechanisms with the Authority with a view to ascertain correct manners of compliance with the said requirements, and interpretations of such requirements by the Authority, and to facilitate liaison between the Authority and the unit concerned ;

(v) powers to report directly to the management of his or her organisation, on his or her investigations and consultations generally, and in cases contemplated in subparagraph (iii), and with regard to the results of the liaison contemplated in sub-paragraph (iv) ; and

(vi) Upon receipt of proficiency reports received from synoptic and forecast units, the responsible officer at the headquarters of the service provider shall undertake thorough evaluation with a view to correcting any deficiency revealed by the assessment report.

B 2324

(b) At each meteorological office and station a person who is responsible for :

(i) quality control, and who shall have direct access to the person referred to in paragraph (7) a on matters affecting Aeronautical Meteorology ; and

(ii) preparation of proficiency reports on personnel within the stations for onward transmission to the management of the aviation meteorological service provider ;

(c) enough personnel to plan, provide and supervise the services listed in its approval as a service provider, in a safe and efficient manner.

Qualification
and Training
of personnel
of an AMSP.

IS14.6.9.2.—(1) It is the responsibility of the meteorological service provider to establish and maintain proficiency standards in service provision.

(2) The Aeronautical Meteorological Service provider shall establish a procedure for initially assessing, and a procedure for maintaining, the competence of the personnel required to operate and maintain the unit concerned. This shall include copies of the relevant assessment forms.

(3) The training of aeronautical meteorological forecasters and observers shall be in compliance with the details set out in the Guidelines for the Education and Training of Personnel in Meteorology and Hydrology; Supplement No1-WMO-No. 258 (Training and Qualification Requirements for Aeronautical Meteorological Personnel).

(4) The Aeronautical Meteorological Service provider shall establish a training program for its technical staff and maintain proper accounts of the training undertaken for each staff member.

(5) An Aeronautical Meteorological Service provider shall ensure that practical training carried out by him or her or on his or her behalf complies with :

(a) the standards and requirements set out in the Manual of Standards ;
and

(b) the provider's operations manual.

IS14.6.10.—(1) An application for the provision of Aeronautical Meteorology services shall include the agreement between the applicant and an Air Traffic Services provider for the provision of Meteorological services. This shall include :

Collaboration between Aeronautical Meteorological Service Provider and Agency providing Air Traffic Services.

(a) the provision in air traffic services units of displays related to integrated automatic systems ;

(b) the calibration and maintenance of these displays/instruments ;

(c) the use to be made of these displays/instruments by air traffic services personnel ;

(d) as and where necessary, supplementary visual observations (for example, of meteorological phenomena of operational significance in the climb-out and approach areas) if and when made by air traffic services personnel to update or supplement the information supplied by the meteorological station ;

(e) meteorological information obtained from aircraft taking off or landing (for example, on wind shear) ; and

(f) if available, meteorological information obtained from ground weather radar.

IS14.6.12.—(a) Meteorological observation and forecasting. The following aspects shall be examined :

Safety Audit and Inspection.

(1) Compliance with the Authority's Aeronautical Meteorological Services Manual of Standards to ensure that standard practices are maintained, that instruments and all their indicators are functioning correctly, and to check whether the exposure of the instruments has changed significantly ;

(2) Quality of information regarding the accuracy, integrity, completeness, timeliness and reliability of the information disseminated ;

(3) Training and competence checking ;

(4) Quality assurance regarding the necessary systems and processes put in place to support all aspects of meteorological services provision ;

(5) Contingency arrangements ; other causes may include civil unrests, industrial disputes, natural disasters, public health emergencies, military conflicts, or acts of unlawful interference with civil aviation ;

(6) Safety assessment of any safety-related change to the system being operated by the aeronautical meteorological services provider ;

(7) The dissemination of meteorological information between meteorological watch offices, aerodrome meteorological offices, air traffic services and other users of aeronautical meteorological services.

B 2326

Approval
of External
S o u r c e
(Contract)
for AMSP

IS 14.6.31.1.—(a) To enable the approval of an external source, the holder of an Aeronautical Meteorological Services Provider certificate shall make available to the Authority, the following information :

- (i) The function(s) to be contracted to the external source ;
 - (ii) The Agreement between the Aeronautical Meteorological Services Provider and contractor detailing how the contractor shall carry out the function(s) in accordance with the Aeronautical Meteorological Service Provider Manual of Operation ;
 - (iii) The cost recovery method ; and
 - (iv) The organisational chart, nominal roll and qualifications of personnel of the contractor ;
- (b) The holder of an Aeronautical Meteorological Services Provider certificate shall verify, by test and/or inspection and maintain records that the function(s) has been performed satisfactorily by the contractor ;
- (c) The holder of an Aeronautical Meteorological Services Provider certificate shall take the responsibility for the function(s) performed by the contractor.

AERONAUTICAL TELECOMMUNICATIONS SERVICES

Personnel
Requirements
and
Responsibilities
of Aerotel
Service
Provider.

IS 14.7.4. (b) (i)—(1) An applicant for the provision of Aeronautical Telecommunications Services shall provide in its Manual of Operations :

- (a) current unit organizational chart and written delegated responsibilities and position descriptions ;
 - (b) staffing-levels for operational positions ;
 - (c) designated instructors and ratings and proficiency assessment officers ;
 - (d) staffing numbers and qualifications at unit level.
- (2) An Aeronautical Telecommunications Services provider shall, at all times, maintain an appropriate organisation with a sound and effective management structure to enable it provide, in accordance with the standards set out in the Regulations, the Aeronautical Telecommunication Services covered by its Approval.
- (3) An Aeronautical Telecommunications Services provider shall have, at all times, enough suitably qualified and trained personnel to enable it provide, in accordance with the standards set out in the Regulations, the aeronautical telecommunications services covered by its Approval.
- (4) The Aeronautical Telecommunications Services provider shall ensure that its personnel are of sufficient numbers and experience and have been given appropriate authority to be able to discharge their allocated responsibilities.

(5) An Aeronautical Telecommunications Services provider shall arrange the work flow schedule of Aeronautical Telecommunications Services officers to provide duty rest periods. A copy of the Aeronautical Telecommunications Services providers' fatigue management procedure is to be included in the Manual of Operations.

(6) An Aeronautical Telecommunications Services officer shall not exercise the privileges of his licence if he knows or suspects that he is suffering from or having regards to the circumstances of the period of duty to be undertaken is likely to suffer from such fatigue as may endanger the safety of any aircraft to which an aeronautical telecommunications control services is provided.

(7) A person shall not when exercising the privileges of an ATSEP licence be under the influence of alcohol or a drug to the extent as to impair his capacity to exercise such privileges.

(8) At the unit level the Aeronautical Telecommunications Services provider shall engage, employ or contract :

(a) a senior person to whom authority has been granted to ensure that all activities undertaken by the unit are carried out in accordance with the applicable requirements prescribed in this section, and who shall in addition be vested with the following powers and duties in respect of the compliance with such requirements.

(i) Unrestricted access to work performed or activities undertaken by all other persons as employees of, and other persons rendering services within the unit ;

(ii) full rights of consultation with any such person(s) in respect of such compliance by him or her ;

(iii) powers to order cessation of any activity where such compliance is not effected ;

(iv) a duty to establish liaison mechanisms with the Authority with a view to ascertain correct manners of compliance with the said requirements, and interpretations of such requirements by the Authority, and to facilitate liaison between the Authority and the unit concerned ; and

(v) powers to report directly to the management of his or her organisation, on his or her investigations and consultations generally, and in cases contemplated in subparagraph (iii), and with regard to the results of the liaison contemplated in sub-paragraph (iv) ;

B 2328

Training and
Checking of
Aeronautical
Telecommu-
nications
Personnel.

(b) a person who is responsible for quality control, and who shall have direct access to the person referred to in paragraph (a) on matters affecting aviation safety ; and

(c) enough licensed personnel to plan, provide and supervise the services listed in its Approval as a services provider, in a safe and efficient manner.

IS 14.7.4. (b) (ii)—(1) The Aeronautical Telecommunications Services provider shall establish a procedure for initially assessing, and a procedure for maintaining, the competence of the personnel required to operate and maintain the equipment concerned.

Granting of Ratings and Endorsements

(2) An endorsement certifies that an ATSEP licence holder is competent to maintain a particular aeronautical telecommunications facility at a particular aerodrome, or in relation to particular airspace.

(3) The Authority may designate the Aeronautical Telecommunications Services provider authority to grant an endorsement to a person who :

(a) Is a senior technician within the Aeronautical Telecommunications Services organisation ;

(b) Has held a rating for five year for the position in which an endorsement is being sought ;

(c) Has been approved by the Authority to act in this capacity.

(4) A person approved by the Authority may grant an endorsement to a person who :

(a) is eligible to be granted an ATSEP licence with a rating ; and

(b) successfully completes the training required by the Manual of Standards for the grant of the endorsement.

(5) An Aeronautical Telecommunications Services provider shall set up and maintain a program to ensure that its employees who hold ATSEP licences maintain endorsements appropriate to their duties.

(6) That program shall be in accordance with any standards and requirements set out in the manual of standards for aeronautical telecommunications.

(7) The provider shall include details of the program, including necessary training and tests of competency, in its Manual of Operations.

Periods of Validity of Ratings and Endorsement.

(8) Unless sooner cancelled, a rating on an ATSEP licence is valid for 36 months or until the licence is cancelled.

(9) Unless sooner cancelled, an endorsement on an ATSEP licence remains valid :

(a) for the period (no longer than 6 months) specified for an endorsement in the operations manual of the Aeronautical Telecommunications Services provider that granted it ; or

(b) if the licence is cancelled before that time ; or

(c) if the rating with which the endorsement is connected is cancelled before that time ; or

(d) until the licence holder ceases to be employed by that Aeronautical Telecommunications Services provider.

(10) For paragraph 3(9) (c), an endorsement is connected with a rating if the endorsement authorises the performance of the maintenance function of a facility for the holder of the rating.

(11) A rating or endorsement is not in force :

(a) during any period of suspension ; or

(b) during any period of suspension of the relevant licence.

Proficiency

(12) As part of the quality system, the holder of an Aeronautical Telecommunication Services provider Approval shall assess the Aeronautical Telecommunications Services personnel in his or her employment.

(13) A formal proficiency assessment shall be carried out before a validation certificate or a rating validation can be issued to assess whether the applicant has achieved the required level of competence.

(14) At each facility the Aeronautical Telecommunications Services provider is to nominate a person to establish and maintain unit proficiency standards ; specific senior officers are to be appointed and tasked by the person responsible for the services as proficiency assessment officers for each discipline; at units where operational staff are multi-disciplined, the person responsible for the services shall appoint and task at least one proficiency assessment officer. Proficiency assessment officers may be appointed and tasked for each discipline although it is a multi-disciplined environment.

(15) At each major facility, the manager is to appoint and task an Aeronautical Telecommunications Services officer responsible for satellite units as the proficiency assessment officer.

B 2330

(16) A person assessed as unsatisfactory may not be permitted to continue in the assessed discipline without supervision. If after a reasonable period a person is unable to pass the proficiency check, all details pertaining to the unsatisfactory assessment shall be assembled and sent to the Authority.

(17) Proficiency assessment officers shall prepare proficiency check rosters so that all operational staff are screened on a regular basis. Personnel shall be given advanced notice of a real time annual proficiency check so that adequate preparation, mentally and functionally, can be made.

(18) In addition, a formal assessment shall be carried out at least every 12 months to determine whether all operational personnel are maintaining the required level of competence in the positions for which a valid rating is held. Routine assessments should be conducted on an on-going basis during duty assignment.

(19) Personnel shall be assessed in key elements of the performance areas detailed on an assessment form.

(20) An assessment shall be made of both the quality of work and the level of knowledge of the elements assessed.

(21) The Manual of Operations shall also include the procedures for :

(a) Aeronautical Telecommunications Services personnel to undertake remedial training ; and

(b) updating Aeronautical Telecommunications Services personnel skills when introducing new equipment into services and updating communications.

(22) Proficiency and training records shall be maintained for all Aeronautical Telecommunications Services personnel.

Aeronautical Telecommunications Services provider's obligation to provide currency and recency training and assessment.

(23) An Aeronautical Telecommunications Services provider shall set up and maintain, in accordance with the Manual of Standards, programs for :

(a) continuing assessment of its employees' competency for the purposes of ensuring that they continue to satisfy the currency requirements in relation to ratings and endorsements ; and

(b) familiarisation, retraining and assessment of any of its employees who at any time do not satisfy the currency or recency requirement in relation to an endorsement.

(24) The provider shall include details of the program, including necessary training and tests of competency, in its operations manual.

Ancillary Qualifications.

(25) An ATSEP qualification certifies that the holder is competent to perform a particular ancillary function.

(26) The functions include the following :

- (a) classroom instructor ;
- (b) on-the-job instructor ;
- (c) workplace assessor.

(27) Within the limits set out in the Manual of Standards, an Aeronautical Telecommunications Services provider may define, for the provider's organisation, the responsibilities of the holder of an ATSEP qualification mentioned in paragraph 3(26).

(28) Paragraph 3(26) does not prevent an Aeronautical Telecommunications Services provider defining an ancillary function for use within its own organisation.

(29) An Aeronautical Telecommunications Services provider shall set up and maintain a program to grant ATSEP qualifications to, and administer ATSEP qualifications held by, its employees.

(30) The provider shall include details of the program, including necessary training and tests of competency, in its operations manual.

(31) The program shall be in accordance with the standards and requirements set out in the Manual of Standards.

Conduct of Practical Training

(32) An Aeronautical Telecommunications Services provider shall ensure that practical training carried out by him or her or on his or her behalf, for the award of an ATSEP licence, rating, endorsement or ATSEP qualification, is carried out in accordance with :

- (a) the standards and requirements set out in the Manual of Standards ;
- and
- (b) the provider's Manual of Operations.

IS 14.7.4. (b) (iii)—(1) An Aeronautical Telecommunications Services provider shall have, and put into effect, a safety management system that includes the policies, procedures, and practices necessary to provide the Aeronautical Telecommunication Services covered by its Approval safely.

Safety Management System.

(2) The provider shall keep under review its safety management system and take such corrective action as is necessary to ensure that it operates properly.

B 2332

Safety reviews shall be conducted on a regular basis by qualified personnel.

(3) A safety assessment shall be undertaken for any safety related change.

(4) For assessment, the applicant shall include information on the procedures for the :

(a) recording and investigation of incidents ;

(b) recording and investigation of accidents ;

(c) monitoring of equipment outages ;

(d) assessment of elements critical to the services provision ; and

(e) monitoring of Mean Time Between Failures (MTBF).

Contingency
Plan of
Aeronautical
Telecommu-
nications
Service
Provider.

IS 14.7.4. (b) (iv)—(1) An Aeronautical Telecommunications Services provider shall develop and maintain Contingency Plans for implementation in the event of disruption, or potential disruption, of Aeronautical Telecommunication Services and related supporting services for the facilities it maintains. The disruption may be caused intentionally (sabotage) or unintentionally (equipment failure).

(2) The plan shall include :

(a) the actions to be taken by the members of the provider's personnel responsible for providing the services ; and

(b) possible alternative arrangements for providing the services ; and

(c) the arrangements for resuming normal operations for the services.

(3) These plans shall be submitted as part of the Manual of Operations.

Security
Plan of
Aeronautical
Telecommuni-
cations.

IS14.7.4. (b) (v) The applicant shall provide a plan that details what measures, both physical and procedural that they intend to protect facilities used for air navigation. This should include a security assessment of the facilities maintained by the applicant.

IS 14.7.4. (b) (vi) Minimum equipment list for different types /category of airport shall include :

Minimum
Air
navigation
facility
equipment
list for
Aeronautical
Telecommu-
nication
service
Provider
certificate
holder.

INTERNATIONAL AIRPORTS :

1. Air Traffic Control

(i) Three (3) position control console with associated circuitry including ground movement control position.

(ii) Primary and Secondary frequencies for VHF communication (Air-ground communication) equipped with battery/UPS, at Tower/Approach/Area control centres where applicable.

(iii) One (1) number HF communication set (ups/battery backup).

(iv) VHF (121.7MHz) communication equipped with battery/UPS for domestic operations.

(v) Integrated Voice communication recorder/playback system (dual installation with ups/battery of not less than 60 minutes autonomy),

(vi) ATIS information system.

(vii) PABX (Hotline) and intercom facilities at each ATC centre.

(viii) Three (3) VHF air-band (hand-held) radios.

(ix) Aerodrome rotating beacon.

(x) Remote Nav aids monitor.

(xi) Air Field Lighting Control System (LICOS).

(xii) Signalling Lamp with required colour slides.

(xiii) Crash Alarm Bell.

2 . Rescue Coordination Centre :

(i) VHF hand-held Air-band radios with variable frequencies.

(ii) Satellite Telephone/GSM phones.

(iii) PABX (Hotline) and intercom facilities.

B 2334

3. Communication Centre :

(i) Two (2) numbers- HF communication set (one to serve as redundancy with ups/battery backup).

(ii) AFTN/AMHS facility with adequate terminals.

4 Navigation equipment :

(i) VOR/DME co - located (dual installation).

(ii) Non Directional Beacon (NDB) /Locator Beacon (dual installation).

(iii) One (1) number ILS/DME (dual installation), (PAPI) (serving both ends of a runway for category II condition). Note: The provision of two (2) ILS/DME equipment serving one runway for opposite orientation is optional.

(iv) Remote Nav aids monitor.

5. Surveillance equipment :

(i) Terminal Approach radar and allied accessories (PSR/SSR)—(dual installation)-optional.

(ii) GNSS capability based on WGS - 84 surveys.

6. Auxiliary Facilities :

(i) VHF (Hand-held) radios.

(ii) Effective cooling system.

7. Power requirement :

All equipment shall be connected to :—

(i) Primary and secondary power supplies.

(ii) UPS/Batteries.

(iii) Solar (optional).

DOMESTIC AIRPORT :

Minimum Communication and Navigational Aids requirement ;

1. Control Tower facility :

(i) Primary and Secondary frequencies for VHF communication (controller/pilot communication) equipped with battery/UPS, at the Control Tower.

(ii) VHF (121.7MHz) equipped with battery/UPS for domestic operations.

(iii) One (1) number HF communication set (ups/battery backup).

(iv) One (1) direct line, One (1) intercom with fax capability.

(v) Two (2) VHF (Hand-held) radios.

(vi) Integrated Voice communication recorder/playback system.

2. Communication centre :

(i) One (1) number HF transmitter/receiver (variable frequencies) with associated circuitry for AFTN.

3. Navigation and Landing equipment :

(i) VOR/ DME (co-located).

(ii) Non Directional Beacon (NDB) or Locator Beacon.

(iii) ILS and ILS/DME category.

(iv) Nav aids monitor.

4. Auxiliary Facilities :

(i) Air band VHF (hand-held) Radios.

(ii) Effective cooling system.

5. Power requirement :

All equipment shall be connected to :—

(i) Primary and secondary power supplies.

(ii) UPS/Batteries (tertiary).

AIRSTRIP (critical for Dornier 228).

Minimum Communication and Navigational Aids requirement ;

1. Control Tower facility :

(i) Primary and Secondary frequencies for VHF communication (controller/pilot communication) equipped with battery/UPS.

(ii) VHF (121.7MHz) equipped with battery/UPS for domestic operations.

(iii) Two (1) number HF communication set.

(iv) Integrated Voice communication recorder/playback system.

(v) One (1) direct telephone line or equipment.

(vi) Intercom with fax capability.

(vii) Two (2) VHF (hand-held) Air band Radios.

2. Navigation equipment :

(i) Non Directional Beacon or Locator Beacon (dual installation).

3. Auxiliary Facilities.

(i) VHF (hand-held) Air band Radios.

(ii) Effective cooling systems.

B 2336

4. Power requirement :

All equipment must be connected to :—

- (i) Primary and secondary power supply
- (ii) UPS/Batteries

CONTINGENCY PLAN FOR COMMUNICATION, NAVIGATION AIDS AND SURVEILLANCE FACILITIES - POWER AND REDUNDANCY

Contingency plan shall be drawn for CNS facilities to establish continuity of service in both domestic and International Airports.

Standard
Operating
Procedure
Manual
(SOP).

IS 14.7.4. (i)—(1) The holder of an Aeronautical Telecommunication Services provider certificate shall provide each Aeronautical Telecommunication Services unit listed in its Manual of Operations, a local Aeronautical Telecommunications instructions manual which sets out the procedures for the operation of the Aeronautical Telecommunication Services unit concerned.

(2) The local Aeronautical Telecommunications Instructions Manual shall not be seen in isolation but rather as the document necessary to provide the interface between peculiarities of a particular unit and the various source documents, and does not relieve Aeronautical Telecommunication Services personnel from the responsibility of being familiar with and the application of procedures laid down in the following documents :

(a) Aeronautical Information Publication, AIP supplements, AIC and NOTAM ;

(b) Nigerian Aviation Act, 2006 ;

(c) Nigeria Civil Aviation Regulations ;

(d) Manual of Standards approved, authorised, published and amended by the Authority ; and

(e) Relevant documents, manuals and annexes published by ICAO.

CONTENTS OF STANDARD OPERATION PROCEDURE MANUAL

(3) Standard Operation Procedure Manual shall contain the following :

(a) detailed unit operational procedures and requirements ;

(b) detailed unit administrative requirements, including the responsibilities of each operating position ;

(c) amplification and/or explanation of provisions of the national requirements, where necessary ;

(d) coordination procedures between internal and external agencies (and when this is to occur-(change in status of facilities or navigation aids) ;

(e) contingency arrangements in the event of a communications, navigation aids, facility failure (including runway/taxiway closure) ;

(f) letters of Agreement with other agencies adjacent to the unit for the transfer of responsibility of control.

External Data Sources

(4) An Aeronautical Telecommunication Services provider shall consider the availability and reliability of external data sources required to provide an Aeronautical Telecommunication Services. The Aeronautical Telecommunication Services provider shall include the provider, the data source and means of receipt, display and integrity of the following information :

(a) AIS ;

(b) AFTN ;

(c) Flight testing ;

(d) Meteorological information ;

(e) Meteorological warnings ;

(f) Voice coordination with ATS providers ;

(g) Information on Aerodrome conditions and the operational status of facilities and navigation aids ; and

(h) Aerodrome works and administration coordination.

Output Data

(5) The Aeronautical Telecommunications Services provider should provide a description of the arrangements made or proposed to be made by the applicant to ensure that it can, and will continue to be able to provide the information in relation to its Aeronautical Telecommunications Services to other organisations whose functions reasonably require that information (e.g. ATS units and centres, Aerodrome Operators).

(6) Data recipients may include :

(a) AIS ;

(b) ATS providers ;

(c) Aerodrome administration ;

(d) ARFFS ;

(e) Aeronautical Meteorology services provider ; (f) Military ; and

(g) Other Government Agencies.

Amendments

(7) Amendments to the SOP should be recorded in the document itself and brought to the attention of all concerned.

B 2338

(8) Aeronautical Telecommunications officers are required to indicate, in the appropriate manner, that an amendment has been noted.

(9) Any amendments by hand shall be accompanied by the authorised person's signature and date.

(10) Authorized person means any Aeronautical Telecommunications officer authorised by his or her manager to make the relevant amendment by hand. Notice of these amendments shall be transmitted to the head office responsible for the relevant services for ratification.

(a) Military ;

(b) The Aeronautical Telecommunications Provider ; and

(c) Other Government Agencies.

Application
for
Approval,
Amendment
or renewal as
an
Aeronautical
Telecomm-
unications
Service
Provider.

IS 14.7.10.1.—(1) On application for, and renewal to operate as an Aeronautical Telecommunications Services provider, the applicant shall submit sufficient information to the Nigerian Civil Aviation Authority so that the Authority can assess the suitability of the applicant.

(2) The NCAA has determined that the information required should be included in the applicant's Manual of Operations.

(3) To assist applicants the following is a guideline to ensure that applicants include the information required.

(4) An applicant for an Approval shall provide the Authority with a Manual of Operations containing :

(a) a statement signed by the accountable officer, on behalf of the applicant's organisation confirming that :

(i) the Manual of Operations defines the organisation and demonstrates its means and methods for ensuring ongoing compliance with the Regulation ; and

(ii) the Manual of Operations and Manual of Standards and appropriate operational documentation, shall be complied with by the organization's personnel at all times ; and

(b) the titles and names of the senior person or persons ; and

(c) the duties and responsibilities of the senior person or persons in paragraph including matters for which they have responsibility to deal directly with the Authority on behalf of the organisation ; and

(d) an organisation chart showing lines of responsibility of the senior persons in paragraph 1 (4), 1 (4) (b) and covering each location listed under paragraph 1(4),1(4) (f) ; and

(e) a summary of the organization's staffing structure at each location listed under paragraph 1(4), 1(4)(f) ; and

(f) a list of each Aeronautical Telecommunications facility and associated equipment to be operated under the authority of the Aeronautical Telecommunications Services provider Approval ; and

(g) a summary of the scope of activities at each location where the organisation's personnel are based for the purpose of providing or maintaining the types of facilities listed under paragraph 1(4), 1(4)(f) ; and

(h) procedures and a plan to undertake checking and training of staff in the positions for which they will provide a services ;

(i) the detailed procedures required regarding internal quality assurance and safety management system ; and

(j) a contingency plan for implementation in the event of a disruption to services provided ;

(k) a security programme that details protection for facilities and services ; and

(l) procedures to control, amend and distribute documentation and retain records.

(5) The Authority may not grant an Approval unless the Authority is satisfied that the applicant's Manual of Operations complies with this Part.

(6) Where the Aeronautical Telecommunications services provider is proposing to use facilities owned by an aerodrome operator, such as on-rodrome navigation aids or facilities in a control tower owned by an aerodrome then the services provider shall demonstrate that there is an agreement with the owner such as memorandum of understanding.

The Authority to carry out an aeronautical telecommunications services function.

(7) A person may carry out an Aeronautical Telecommunications Services function in Nigeria if, at the time the person carried out the function :

(a) the Personnel holds an Air Traffic Safety Electronics Personnel (ATSEP) licence with a rating for the function and an endorsement for the equipment where, or, he or she carries it out ; and

(b) the licence, rating and endorsement are in force ; and

(c) he or she :

(i) Satisfies the recency and currency requirements in relation to the endorsement ; and

(ii) satisfies the currency requirement in relation to the rating.

B 2340

(8) A person may carry out an Aeronautical Telecommunications Services functions in Nigeria under the supervision of a person who meets the requirements of paragraph 1 (6).

(9) A person who may carry out an Aeronautical Telecommunications Services function in Nigeria under supervision is a person who the Authority has authorised in writing to carry out the relevant services function and is ;

(a) a person who ;

(i) who holds an ATSEP licence with a rating for the function and an endorsement for the maintenance of equipment he or she carries out ; but at the relevant time, in relation to the rating or endorsement, does not satisfy the recency or currency requirement ;

(b) a person who :

(i) holds an ATSEP licence ; and

(ii) carries out the function in the course of training for a rating or endorsement (whether or not the person holds a rating or endorsement at the time) ;

(c) a person (other than a person who held an ATSEP that has been cancelled) who :

(i) has completed an approved course of training in the theory of Aeronautical Telecommunication Services ; and

(ii) carries out the function in the course of undergoing practical training for an ATSEP licence.

Rules applicable when a person performs an Aeronautical Telecommunications Services function under supervision

(10) If a person defined in paragraph 1(6) 1(8) (the trainee) is carrying out an Aeronautical Telecommunications Services function under supervision of a person who meets the requirement of section 1(6) (the supervisor) ; the trainee shall comply with the supervisor's directions.

(11) Any failure by the supervisor to supervise the trainee adequately is an offence, and shall be taken into account in considering whether the supervisor's ATSEP licence should be suspended or cancelled.

Carrying out Aeronautical Telecommunications Services Function without the Authority

(12) A person who is not authorised to do so by section 1(6) of 1(8) shall not carry out an Aeronautical Telecommunications Services function in Nigeria.

(13) A person to whom subsection 1(8) applies shall not carry out an Aeronautical Telecommunications Services function in Nigeria if the person is not acting under the supervision of a person who meets the requirements of section 1(6).

(14) It is an offence to a charge of contravening section 1(11) or 1(12) that the relevant action was, in the circumstances, reasonable in the interests of the safety of air navigation.

Provision of Aeronautical Telecommunications Services

(15) The Aeronautical Telecommunications Services provider shall provide Aeronautical Telecommunications Services in accordance with the Manual of Standards, approved, authorised, published and amended by the Authority.

(16) The Aeronautical Telecommunications Services provider may deviate from the standards if an emergency, or other circumstances, arises that makes the deviation necessary in the interest of safety.

(17) As soon as practicable, the provider shall report, the deviation to the Authority, stating how the deviation is expected to last.

(18) An Aeronautical Telecommunications Services provider shall ensure that the Aeronautical Telecommunications Services it provides are provided in accordance with the radiotelephony procedures and the procedures for Aeronautical Telecommunications set out in these Regulations.

(19) An Aeronautical Telecommunications Services provider shall ensure that any Aeronautical Telecommunications Services that it provides is provided in accordance with its Manual of Operations.

Application of Human Factors Principles

(20) The applicant shall demonstrate that human factors principles are considered when assessing the appropriateness of equipment, systems, software, facilities, procedures, jobs, environments, training, staffing, and personnel management to produce safe, comfortable and effective human performance.

IS 14.7.30.1.(i) The Aeronautical telecommunication Service certificate holder shall comply with certification procedures including :

Equipment
Certification
Procedure.

- *Initial certification meeting.
- *Permit Authority's inspector's visit to site (for site survey, site proving, an aerial survey and Environmental Impact Assessment (EIA).
- *Factory Acceptance test (Joint NCCA/owner/consultant).
- *Installation.
- *Frequency Assignment/Identification codes.

B 2342

- *On site verification (NCAA to establish the relevant area of compliance).
- *M.O.U with service provider or technical agreement with designated service provider.
- *Personnel Requirement; Licensed officers /trained officers.
- *Training Programmes/Manuals of Operation.
- *Power supply requirement (Primary sources and secondary sources).
- *Workshop (equipped with test equipments/tools).
- *Contingency Plans (power supply, spares, emergency conditions, security plan (fencing intruders) fire cover).
- *Flight Testing/calibration.
- *Commissioning.
- *Certification Audit.

(ii) Expression of Interest.

The intending applicant for equipment certification shall express the intention to the Authority. This can be in telephone, writing, or visit to the Authority.

(b) A pre-application meeting will be arranged between the applicant and the Authority to discuss the application requirements and certification process.

(c) The Authority, after meeting with the proposed service provider, will issue FORM : AC - ANS (AET) 001.

(iii) Certification Requirement.

The application for equipment certification shall be prepared with form: AC - ANS (AET) 001, the form which contain under listed information and shall be submitted by Air Navigation Service Provider (ANSP) :

- (a)* Type of equipment (Communication, Navigation, Surveillance) e.t.c
- (b)* Name and address of the manufacturer.
- (c)* Purpose e.g. en-route, approach, landing e.t.c.
- (d)* Year of manufacture.
- (e)* Proposed location (geographical coordinates).
- (f)* Proposed transmission power (PEP) of the facility.
- (g)* Information concerning similar facilities in the vicinity including distances from/to the proposed location and also respective frequencies and transmission power.
- (h)* Justification for the need
- (i)* Name and address of the manufacturer including telephone numbers.

(j) Any additional information that could facilitate the certification process.

(k) Copy of receipt of payment of statutory fee. (All necessary charges are expected to be paid by a proposed operator as contained in the Civil Aviation Act 2006 before grant of certificate).

(iv) Manpower / Equipment and Technical Information.

The submission shall also include :

*Schematic diagram,

*Technical manuals,

*User's manuals

*Manufacturers maintenance programme and procedures.

*A list of test equipment required, the inspector (s) should be able to identify the type and model.

*Proof of availability of spare parts for sustainable operation.

*List of licensed personnel trained on this equipment with training records (or training programme before and after installation of the equipment.

(v) *Application Conditions—*

(i) If the service Provider's submission is not complete or the quality is obviously unacceptable, it must be returned immediately with an explanation of the deficiencies before further review and evaluation is conducted.

(ii) When the results of the NCAA evaluation of the application are satisfactory activities continue.

(vi) *Equipment Manufacturer's Profile Assessment.*

NCAA shall ensure that the applicant is able to produce manufacturer's proof of evidence/ credentials e.g. ISO certification, ICAO Approval/National certification for the production of such aeronautical telecommunication equipment.

(vi) *Factory Acceptance Test*

Joint participatory Factory Assessment Test must be conducted by ANSP and NCAA inspector at factory of the equipment manufacturer, to confirm if the equipment meets specification/operational requirements listed in the technical manual. This will be initiated and facilitated by the service provider. The evidence must be included in the application.

B 2344

(vii) Air Navigation Service Provider clearance.

In this section the applicant shall be cleared to go ahead and instruct the manufacturer for the shipment of the equipment. This will be done through a formal letter granting such clearance after the conduct of a satisfactory Factory Acceptance Test and copy of report submitted to NCAA has been examined. This will be done through a formal letter granting such clearance.

(viii) Feasibility of Radio Frequency

The Authority will examine the feasibility of the frequency for use by the service provider. If the frequency requested is not available an alternative frequency will be assigned.

(ix) Site Acceptance Test

Joint participatory Site Acceptance Test must be conducted by ANSP representatives and the Authority's inspectors at installation site of the equipment, to confirm that the installed equipment meets performance requirements. The evidence must be included in the application.

(x) Demonstration

Demonstration of the performance of the equipment shall be conducted to confirm if the operational parameters listed in the technical manual are correct.

(a) If the equipment is a navigational aid, or surveillance aid, successful flight testing is required prior to the granting of operational certification.

(b) Operational certification will be issued for navigation aids for a period of five years base on successful calibration results over that period in with NCAA Advisory circular on testing of radio Navigation aids.

(xi) Grant of Operational Certificate

On successful commissioning of the equipment and certification audit, NCAA will grant operational certification which will be based on successful commissioning and certification audit results Service providers are to apply every five years for re-certification.

Facilities,
Equipment
and
Maintenance
Tools.

IS 14.7.31.1.—(1) An Aeronautical Telecommunications Services provider shall, at all times, make available for the use by its personnel, the repair and equipment testing materials necessary for providing Aeronautical Telecommunications Services covered by its Approval.

(2) The Aeronautical Telecommunications Services provider shall include in their Manual of Operations a list of facilities, and the repair and equipment testing materials required to maintain the equipment within tolerance levels, that will be maintained by the Aeronautical Telecommunications Services pro

(3) The equipment shall meet with the requirements specified in ICAO Annex 10 and Nigerian CARs Part 14 section 7.

(4) All persons involved with the provision of maintenance shall be fully conversant with current ICAO standards and recommended practices, documents, instructions, directives and relevant information.

IS. 14.7.26 .1.—(a) The management (Chief Executive Officer) of ANS provider shall approve the return to service of an Aeronautical Telecommunication facility.

Authorized
Personnel to
Approve
Return to
Service.

(b) An ATSEP personnel licensed by the Authority may approve return to services, of an Aeronautical Telecommunications facility after performing maintenance as delegated by the Chief Executive Officer.

Existing Facilities

(6) The Aeronautical Telecommunications Services provider shall, for each location for which a service is provided, indicate from the list below a list of facilities and equipment. An indication shall be provided on the quality of the facilities and equipment.

(7) All equipment used in the provision of Aeronautical Telecommunications Services, including navigation and approach services shall perform and be maintained in accordance with the standards and recommended practices as contained in ICAO Annex 10, Volumes I, II, III, IV and V, as well as ICAO Document 8071.

GENERAL

Item

The means to monitor the emergency frequency 121.5 MHz independent of mains and standby radio equipment emergency lighting.

ILS NDB VOR VDF DVOR DME

Locator Beacon

RADAR

Satellite Communications VHF Communications UHF Communications

HF Communications

Hotline

GSM

B 2346

Hand held receivers
Ground based monitoring system
Lightening protection
Fire alarm

A briefing room. Equipment repair space Technical equipment storage
Toilet facilities Running water Entry control Any other items.

Procurement of Aeronautical Telecommunications and Radio Navigation Equipment/ General CNS Facilities

(8) Aeronautical Telecommunications Services providers shall :

- (a) ensure to avoid the proliferation of equipment and systems ;
- (b) ease systems maintenance and spares sourcing ;
- (c) conduct quality assessment of equipment and systems prior to purchase ; and
- (d) maintain uniform operational characteristics and standardization.

(9) The Aeronautical Telecommunications Services provider shall inform the NCAA by writing prior to the purchase of any Aeronautical Telecommunications facilities.

(10) The Authority's Inspector shall observe the installation and radiation tests of the facilities and commissioning tests before they are finally put into operation.

Flight
Inspection
and
Calibration.

IS. 14.7.25. Flight Inspection and Calibration.

(11) Flight tests are required to inspect signals in space as received at the aircraft after being influenced by external factors such as site conditions, ground conductivity, terrain irregularities, metallic structures, propagation effects, etc.

(12) The Aeronautical Telecommunications Services provider shall ensure that flight testing is used for :

- (a) site proving ;
- (b) commissioning ;
- (c) periodic inspections (these should occur at least once a year) ; and
- (d) special inspections, for example after an aircraft accident.

Facility Operation and Maintenance Plan

(13) The Aeronautical Telecommunications Services provider shall provide :

- (a) A description of the maintenance scheduling system ;

(b) The interval between scheduled maintenance and/or routine performance inspections and the basis of the establishment of that time interval ;

(c) The operation and maintenance instructions for each facility ;

(d) Details of planned facility flight inspections. This shall include details of the standards and procedures to be used for flight inspections, the scheduled time between flight inspections, and the identity of the flight inspection organisation that will be contracted to carry out the flight inspections ;

If repair work is to be undertaken by a third party organisation, then the identity of the repair organisation should be included.