

## ARRANGEMENT OF REGULATIONS

*Regulations :*

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## S. 1 No. 14 of 2009

## PART 1—GENERAL POLICIES, PROCEDURES AND DEFINITIONS

## 1.1. RULES OF CONSTRUCTION

(a) Pursuant to Section 30 of the Civil Aviation Act, 2006, the Nigerian Civil Aviation Authority (hereinafter referred to as “The Authority”) hereby makes the following Regulations.

Promulgation  
and Rules of  
Construction.

Throughout these Regulations the following word usage applies :

- (1) *Shall*—indicates a mandatory requirement.
- (2) The words “*no person may...*” or “*a person may not...*”—mean that no person is required, authorised, or permitted to do an act described in a Regulation.
- (3) *May*—indicates that discretion can be used when performing an act described in a Regulation.
- (4) *Will*—indicates an action incumbent upon the Authority.
- (5) *Includes*—means “includes but is not limited to.”
- (6) *Approved*—means the Authority has reviewed the method, procedure, or policy in question and issued a formal written approval.
- (7) *Acceptable*—means the Authority has reviewed the method, procedure, or policy and has neither objected to nor approved its proposed use or implementation.
- (8) *Prescribed*—means the Authority has issued written policy or methodology which imposes either a mandatory requirement, if the written policy or methodology states “shall,” or a discretionary requirement if the written policy or methodology states “may.”

**1.1.1.2.—(a)** These Regulations shall apply to all persons operating or maintaining the following—

Applicability.

- (1) Nigerian registered aircraft ;
  - (2) Aircraft registered in another Contracting State that are operated by a person licensed by Nigeria, and must be maintained in accordance with the standards of the aircraft State of Registry, wherever that maintenance is performed ;
  - (3) Aircraft of other Contracting States operating in Nigeria.
- (b) Those Regulations addressing persons certificated under any Part of these Regulations apply also to any person who engages in an operation governed by any Part of these Regulations without the appropriate certificate, licence, operations specification, or similar document required as part of the certification.
- (c) Regulations addressing general matters establish minimum standards for all aircraft operated in Nigeria. Specific standards applicable to the holder of a certificate shall apply if they conflict with a more general Regulation.
- (d) Foreign air operators who conduct commercial air transport into, from, or within Nigeria, shall be governed by the provisions of the Operations Specification issued by the Authority, and by those provisions in Parts 7, 8, and 10 that specifically address commercial air transport. Regulations that address AOC holders apply only to operators certificated by Nigeria.

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Organisation  
of  
Regulations.

**1.1.1.3.—(a)** These Regulations are subdivided into five hierarchical categories :

(1) *Part* refers to the primary subject area.

(2) *Subpart* refers to any subdivision of a Part.

(3) *Section* refers to any subdivision of a Subpart.

(4) *Subsection* refers to the title of a Regulation and can be a subdivision of a Subpart or Section.

(5) *Paragraph* refers to the text describing the Regulations. All paragraphs are outlined alphanumerically in the following hierarchical order : (a), (1), (i), (A).

(b) Acronyms used within each Part are defined at the beginning of those Parts, and if a definition is supplied, a note will indicate the Part where the definition is located.

(c) Notes appear in Subsections to provide exceptions, explanations, and examples to individual requirements.

(d) Regulations may refer to Implementing Standards, which provide additional detailed requirements that support the purpose of the subsection, and unless otherwise indicated, have the legal force and effect of the referring Regulation. The rules of construction, Subsection 1.1.1.1, apply to Implementing Standards.

### 1.2. GENERAL ADMINISTRATIVE RULES GOVERNING TESTING, LICENCES, AND CERTIFICATES

**1.2.1.1.—(a)** Pilot licence :

(1) To act as a pilot of a civil aircraft of Nigerian registry, a pilot shall have in his or her physical possession or readily accessible in the aircraft a valid pilot licence or special purpose authorisation issued under these Regulations.

(2) To act as a pilot of a civil aircraft of foreign registry within Nigeria, a pilot shall be the holder of a valid pilot licence, and have the pilot licence in his or her physical possession or readily accessible in the aircraft.

(b) Flight instructor licence : A person who holds a flight instructor licence shall have that licence, or other documentation acceptable to the Authority, in that person's physical possession or readily accessible in the aircraft when exercising the privileges of that licence.

(c) Other airman licence : A person required by any part of these Regulations to have an airman's licence shall have it in their physical possession or readily accessible in the aircraft or at the work site when exercising the privileges of that licence.

(d) Medical certificate : A person required by any part of these Regulations to have a current medical certificate shall have it in their physical possession or readily accessible in the aircraft or at the work site when exercising the privileges of that certificate.

(e) Approved Training Organisation (ATO) certificate : Each holder of a certificate shall display that certificate in a place in the school that is normally accessible to the public and that is not obscured.

Display and  
Inspection of  
Licences and  
Certificates.

(f) Aircraft Certificate of Registration : Each owner or operator of an aircraft shall carry the aircraft certificate of registration on the aircraft and have it available for inspection.

(g) Aircraft Certificate of Airworthiness : Each owner or operator of an aircraft shall display that certificate in the cabin of the aircraft or at the entrance to the aircraft flight deck.

(h) Approved Maintenance Organisation (AMO) Certificate : Each holder of an AMO certificate shall prominently display that certificate in a place accessible to the public in the principal business office of the AMO.

(i) Aerial work certificate : Each owner or operator of an aircraft engaged in aerial work shall carry that certificate or a copy of that certificate on the aircraft and have it available for inspection.

(j) Air operator certificate : Each owner or operator of an aircraft engaged in commercial air transport shall carry the air operator certificate or a certified true copy of that certificate on the aircraft and a copy of the operations specifications applicable to that aircraft type, and have them available for inspection.

(k) Inspection of licence : Each person who holds an airman or crewmember licence, medical certificate, or authorisation required by these Regulations shall present it for inspection upon a request from—

- (1) The Authority ; or
- (2) Any national or local law enforcement officer.

**1.2.1.2.—**(a) A holder of a licence or certificate issued under these Regulations may apply to change the name on a licence or certificate. The holder shall include with any such request—

Change of  
Name.

- (1) The current licence or certificate ; and
- (2) A copy of the marriage licence, court order, or other document verifying the name change.

(b) The Authority will return to the airman the documents specified in paragraph (a) of this subsection.

**1.2.1.3.—**(a) The holder of an airman licence or certificate, or approved training organisation certificate who has made a change in permanent mailing address may not, after 30 days from that date, exercise the privileges of the licence or certificate unless the holder has notified the Authority in writing of the new permanent mailing address, or current residential address if the permanent mailing address includes a post office box number.

Change of  
Address.

**1.2.1.4.—**(a) An applicant who has lost or destroyed one of the following documents issued under these Regulations shall request a replacement in writing from the office designated by the Authority :

Replacement  
of a Lost or  
Destroyed  
Airman  
Licence or  
Medical  
Certificate or  
Knowledge  
Test Report.

- (1) An airman licence.
- (2) A medical certificate.
- (3) A knowledge test report.

(b) The airman or applicant shall state in the request letter—

- (1) The name of the airman or applicant ;
- (2) The permanent mailing address, or if the permanent mailing address includes a post office box number, the person’s current residential address ;
- (3) The social security number or equivalent national identification number ;
- (4) The date and place of birth of the airman or applicant ; and
- (5) Any available information regarding the—
  - (i) Grade, number, and date of issuance of the licence, and the ratings, if applicable ;
  - (ii) Date of the medical examination, if applicable ; and
  - (iii) Date the knowledge test was taken, if applicable.

(c) After receiving a letter or facsimile from the Authority confirming that the lost or destroyed document was issued, an airman may carry the letter or facsimile in lieu of the lost or destroyed document for up to 60 days pending the airman’s receipt of a duplicate document.

Falsification, Reproduction, or Alteration of Applications, Licences, Certificates, Logbooks, Reports, or Records.

**1.2.1.5.—(a)** No person may make or cause to be made concerning any licence, certificate, rating, qualification, or authorisation, application for or duplicate thereof, issued under these Regulations :

- (1) Any fraudulent or intentionally false statement ;
- (2) Any fraudulent or intentionally false entry in any logbook, record, or report that these Regulations require, or used to show compliance with any requirement of these Regulations ;
- (3) Any reproduction for fraudulent purpose ; or
- (4) Any alteration.

(b) Any person who commits any act prohibited under paragraph (a) of this section may have his or her airman licence, rating, certificate, qualification, or authorisation revoked or suspended.

Voluntary Surrender or Exchange of Licence.

**1.2.1.6.—(a)** The holder of a licence or certificate issued under these Regulations may voluntarily surrender it for :

- (1) Cancellation ;
- (2) Issuance of a lower grade licence ; or
- (3) Another licence with specific ratings deleted.

(b) An applicant requesting voluntary surrender of a licence shall include the following signed statement or its equivalent : ‘This request is made for my own reasons, with full knowledge that my (insert name of licence or rating, as appropriate) may not be reissued to me unless I again pass the tests prescribed for its issuance.’

Prohibition on Performance During Medical Deficiency.

**1.2.1.7.—(a)** A person who holds a current medical certificate issued under these Regulations shall not act in a capacity for which that medical certificate is required while that person :

(1) Knows or has reason to know of any medical condition that would make the person unable to meet the requirements for the required medical certificate ; or

(2) Is taking medication or receiving other treatment for a medical condition that results in the person being unable to meet the requirements for the required medical certificate.

**1.2.1.8.**—(a) Any person who performs any function requiring a licence, rating, qualification, or authorisation prescribed by these Regulations directly or by contract for a certificate holder under the provisions of these Regulations may be tested for usage of psychoactive substances. Psychoactive  
Substance  
Testing and  
Reporting.

(b) Chemicals considered psychoactive substances are listed in IS 1.2.1.8.

(c) Any person subject to these Regulations who refuses to submit to a test to indicate the percentage by weight of alcohol in the blood, when requested by a law enforcement officer or the Authority, or refuses to furnish or to authorise the release of the test results requested by the Authority may—

(1) be denied any licence, certificate, rating, qualification, or authorisation issued under these Regulations for a period of up to 1 year after the date of that refusal ; or

(2) have his or her licence, certificate, rating, qualification, or authorisation issued under these Regulations suspended or revoked.

(d) Any person subject to these Regulations who refuses to submit to a test to indicate the presence of narcotic drugs, marijuana, or depressant or stimulant drugs or substances in the body, when requested by a law enforcement officer or the Authority, or refuses to furnish or to authorise the release of the test results requested by the Authority may—

(1) be denied any licence, certificate, rating, qualification, or authorisation issued under these Regulations for a period of up to 1 year after the date of that refusal ; or

(2) have his or her licence, certificate, rating, qualification, or authorisation issued under these Regulations suspended or revoked.

(e) Any person subject to these Regulations who is convicted for the violation of any local or national statute relating to the growing, processing, manufacture, sale, disposition, possession, transportation, or importation of narcotic drugs, marijuana, or depressant or stimulant drugs or substances, may—

(1) be denied any licence, certificate, rating, qualification, or authorisation issued under these Regulations for a period of up to 1 year after the date of final conviction ; or

(2) Have his or her licence, certificate, rating, qualification, or authorisation issued under these Regulations suspended or revoked.

### **1.3. INVESTIGATIVE AND ENFORCEMENT PROCEDURES**

#### **1.3.1. INVESTIGATIVE PROCEDURES**

**1.3.1.1.**—(a) Any person who knows of a violation of the Civil Aviation Act or these Regulations or orders thereunder should report it to the Authority as soon as is reasonably practicable. Reports of  
Violations.

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(b) Each report made under this section together with any other information the Authority may have that is relevant to the matter reported will be reviewed by the Authority to determine the nature and type of any additional investigation or enforcement action the Authority will take.

Investigations-general.

**1.3.1.2.—(a)** Under the Civil Aviation Act, and other enabling laws, the Director General may conduct investigations, hold hearings, issue subpoenas, require the production of relevant document, records, and property, and take evidence and depositions.

Formal Complaints.

**1.3.1.3.—(a)** Complaints submitted to the Authority under section 1.3.1.1(a) shall be in a form and manner prescribed by the Authority.

**1.3.2. ADMINISTRATIVE ACTION**

Administrative Actions.

**1.3.3.1.—(a)** If it is determined that a violation or an alleged violation of the Civil Aviation Act, or an order or Regulation issued under it, is appropriate for administrative action, the Authority may take administrative action by one of the following :

(1) A “*Warning Notice*” that shall recite available facts and information about the incident or condition and indicate that it may have been a violation ; or

(2) A “*Letter of Correction*” which confirms the Authority’s decision in the matter and states the necessary corrective action the alleged violator has taken or agreed to take. If the agreed corrective action is not fully completed, formal certificate action may be taken in accordance with 1.3.3.3.

(b) An administrative action under this section does not constitute a formal adjudication of the matter.

**1.3.3. LEGAL ENFORCEMENT ACTIONS**

Civil Penalties.

**1.3.3.1.—(a)** Any person, other than a person conducting an operation in commercial air transport or international commercial air transport, who violates any provision of the Civil Aviation Act, these Regulations, or any order issued thereunder, is subject to a civil penalty imposed by the Authority in accordance with the provisions of the Civil Aviation Act and these Regulations.

(b) Any person conducting an operation in commercial air transport or international commercial air transport, who violates any provision of the Civil Aviation Act, these Regulations, or any order issued thereunder, is subject to a civil penalty imposed by the Authority in accordance with the provisions of the Civil Aviation Act and these Regulations.

(c) Civil penalties may be assessed instead of or in addition to any licence or certificate action described in 1.3.3.3.

(d) Guidelines for civil penalties and certificate actions are listed in IS 1.3.3.

Criminal Penalties.

**1.3.3.2.—(a)** The Civil Aviation Act establishes criminal penalties for any person who knowingly and willfully violates specified provisions of the Act, or any Regulation or order issued thereunder.

(b) If the Authority becomes aware of a possible violation of any criminal provision of the Civil Aviation Act that is under the jurisdiction of another Nigerian Government Agency, the Authority shall immediately report it to the appropriate Agency in a manner prescribed by both government agencies.

(c) Guidelines for criminal penalties and certificate actions are listed in IS. 1.3.3.

Certificate  
Action.

**1.3.3.3.—(a)** Suspension or revocation of a licence or certificate for violation of the Regulations.

(1) The holder of any licence or certificate issued under these Regulations who violates any provision of the Civil Aviation Act, any amendment thereto, or any Regulation or order issued thereunder, is subject to suspension or revocation of the licence or certificate, in accordance with the provisions of the Civil Aviation Act and these Regulations.

(2) Any licence or certificate issued under these Regulations ceases to be effective, if it is surrendered, suspended, or revoked.

(3) The holder of any licence or certificate issued under these Regulations that has been suspended or revoked shall return that licence to the Authority when requested to do so by the Authority.

(b) Re-examination or re-inspection of a certificate or licence for lack of qualification.

(1) Under the Civil Aviation Act and these Regulations, the Authority may re-inspect any civil aircraft, aircraft engine, propeller, appliance, air operator, school, or approved maintenance organisation, or any civil airman holding a certificate or licence issued by the Authority.

(2) If, as a result of that re-inspection or re-examination, or any other investigation made by the Authority, the Authority determines that a lack of qualification exists, and that safety in air transport and the public interest requires it, the Authority may issue an order to amend, modify, suspend, or revoke the licence or certificate in whole or in part.

(3) Procedures for the re-examination of personnel licences, ratings, authorisations, or certificates are set forth in Part 2 of these Regulations.

(c) Notice and opportunity to be heard. Unless safety in air transport requires immediate action, prior to a final determination under this section 1.3.3, the Authority shall provide the person with an opportunity to be heard as to why such certificate or licence should not be amended, modified, suspended, or revoked.

(d) Reapplication after revocation. Unless otherwise authorised by the Authority, a person whose licence, certificate, rating, or authorisation has been revoked may not apply for any licence, certificate, rating, or authorisation for 1 year after the date of revocation.

(e) Reapplication after suspension. Unless otherwise authorised by the Authority, a person whose licence has been suspended may not apply for any licence, rating, or authorisation during the period of suspension.

Detention of  
Aircraft.

**1.3.3.4.—(a)** As provided by the Civil Aviation Act 2006, an aircraft that is involved in a violation for which a civil penalty has been imposed or may be imposed on its owner or operator may be subject to detention by the Authority in accordance

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with enforcement procedures set forth by the Authority.

Applicability.

**1.4. EXEMPTIONS**

General.

**1.4.1.—(a)** This subpart prescribes procedures for the request, review, and denial or issuance of exemptions from the Nigeria Civil Aviation Regulations.

**1.4.2.—(a)** Any interested person may apply to the Authority for an exemption from a requirement of the Regulations.

*(b)* Only the Authority may issue exemptions, and no person may take or cause to be taken any action not in compliance with these Regulations unless the Authority has issued an applicable exemption to the person.

*(c)* Exemptions will only be granted in extraordinary circumstances.

General.

**1.4.3. REQUIREMENTS FOR APPLICATION**

**1.4.3.1.—(a)** Applications for an exemption shall be submitted at least 60 days in advance of the proposed effective date, to obtain timely review.

*(b)* The request must contain the applicant's :

- (1) Name
- (2) Street address and mailing address, if different
- (3) Telephone number
- (4) Fax number if available
- (5) Email address if available
- (6) Agent for all purposes related to the application

*(c)* If the applicant is not a citizen or legal resident of Nigeria, the application must specify a Nigerian agent for service.

Substance of the Request for Exemption.

**1.4.3.2.—(a)** Applications must contain the following :

- (1) A citation of the specific requirement from which the applicant seeks relief ;
- (2) Description of the type of operations to be conducted under the proposed exemption ;
- (3) The proposed duration of the exemption ;
- (4) An explanation of how the exemption would be in the public interest, that is, benefit the public as a whole.
- (5) A detailed description of the alternative means by which the applicant will ensure a level of safety equivalent to that established by the Regulation in question.
- (6) A review and discussion of any known safety concerns with the requirement, including information about any relevant accidents or incidents of which the applicant is aware.

(7) If the applicant seeks to operate under the proposed exemption outside of Nigerian airspace, the application must also indicate whether the exemption would contravene any provision of the Standards and Recommended Practices of the

International Civil Aviation Organisation (ICAO).

(b) Notwithstanding 1.4.3.1, an applicant may seek emergency processing of an exemption request.

(1) If the applicant seeks emergency processing, the application must contain supporting facts and reasons that the application was not timely filed, and the reasons it is an emergency.

(2) The Authority may deny an application if the Authority finds that the applicant has not justified the failure to apply in a timely fashion.

**1.4.4. REVIEW, PUBLICATION, AND ISSUE OR DENIAL OF THE EXEMPTION**

Initial Review  
by the  
Authority.

**1.4.4.1.—(a)** The Authority will review the application for accuracy and compliance with the requirements of 1.4.3.

(b) If the application appears on its face to satisfy the provisions of 1.4.3 and the Authority determines that a review of its merits is justified, the Authority will publish a detailed summary of the application for comments and specify the date by which comments must be received by the Authority for consideration.

(c) If the filing requirements of 1.4.3 have not been met, the Authority will notify the applicant and take no further action until the applicant complies with the requirements of 1.4.3.

Evaluation of  
the Request.

**1.4.4.2.—(a)** After initial review, if the filing requirements have been satisfied, the Authority shall conduct an evaluation of the request to include :

(1) A determination of whether an exemption would be in the public interest ;

(2) A determination, after a technical evaluation, of whether the applicant's proposal would provide a level of safety equivalent to that established by the Regulation ;

(i) If it appears to the Authority that a technical evaluation of the request would impose a significant burden on the Authority's technical resources, the Authority may deny the exemption on that basis.

(3) A determination, if the applicant seeks to operate under the exemption outside of Nigerian airspace, of whether a grant of the exemption would contravene the applicable ICAO Standards and Recommended Practices.

(4) An evaluation of comments received from interested parties concerning the proposed exemption.

(5) A recommendation, based on the preceding elements, of whether the request should be granted or denied, and of any conditions or limitations that should be part of the exemption.

Notification of  
Determination.

**1.4.4.3.—(a)** The Authority shall notify the applicant by letter and publish a detailed summary of its evaluation and decision to grant or deny the request. The summary shall specify the duration of the exemption and any conditions or limitations to the exemption.

(b) If the request is for emergency relief, the Authority will publish the application and/or the Authority's decision as soon as possible after processing the application.

(c) If the exemption affects a significant population of the aviation community of Nigeria the Authority shall also publish the summary in its aeronautical information

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Extension of  
the Exemption  
to Other  
Interested  
Parties.

publications.

**1.4.4.4.**—(a) If the Authority determines that an exemption should be granted, other persons or organisations may apply to the Authority to be included in the relief granted.

(b) Such applications shall be in accordance with the requirements of 1.4.3.

(c) If the Authority determines that the request merits extension of the exemption to the applicant, it shall notify the applicant by letter, specifying the duration of the exemption, and listing any additional conditions that may pertain to the applicant that are not addressed in the underlying exemption.

### 1.5. DEFINITIONS

For the purpose of these Regulations, the following definitions shall apply :

(1) *Acceptance Checklist*—A document used to assist in carrying out a check on the external appearance of packages of dangerous goods and their associated documents to determine that all appropriate requirements have been met.

(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 person is fatally or seriously injured as a result of—

Being in the aircraft ;

Direct contact with any part of the aircraft, including parts which have become detached from the aircraft; or Direct exposure to jet blast, except when the injuries are from natural causes, selfinflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew.

The aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and 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 the aircraft is missing or is completely inaccessible.

(3) *Accountable Manager*—The person acceptable to the Authority who has corporate authority for ensuring that all operations and maintenance activities can be financed and carried out to the standard required by the Authority, and any additional requirements defined by the operator.

(4) *Accredited representative*—As relating to an aircraft accident, a person designated by a State, on the basis of his or her qualifications, for the purpose of participating in an investigation conducted by another party.

(5) *Acrobatic flight*—Manoeuvres intentionally performed by an aircraft involving an abrupt change in its attitude, an abnormal attitude, or an abnormal variation in speed.

(6) *ADS agreement*—An ADS reporting plan that establishes the conditions of ADS data reporting (i.e. data required by the air traffic services or control unit and frequency of ADS reports that have to be agreed to prior to the provision of the

ADS services).

(7) *ADS contract*—A means by which the terms of an ADS agreement will be exchanged between the ground system and the aircraft, specifying under what conditions ADS reports would be initiated, and what data would be contained in the reports.

(8) *Advisor*—As relating to an aircraft accident, a person appointed by a State on the basis of his or her qualifications, for the purpose of assisting its accredited representative in an investigation.

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

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

(11) *Aerial Work*—An aircraft operation in which an aircraft is used for specialised services such as agriculture, construction, photography, surveying, observation and patrol, search and rescue, aerial advertisement, etc.

(12) *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.

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

(16) *Accredited medical conclusion*—The conclusion reached by one or more medical experts, acceptable to the Authority, for the purposes of the case concerned, in consultation with other experts as necessary.

(17) *Aerodrome Certificate*—The certificate to operate an aerodrome issued by the Authority subsequent to the approval of the aerodrome operator's manual.

(18) *Aerodrome Facilities and Equipment*—Facilities and equipment, inside or around the boundaries of an aerodrome, that are constructed or installed and maintained for the arrival, departure, and surface movement of aircraft.

(19) *Aerodrome Operator's Manual*—The operations manual that forms part of the application for an aerodrome certificate pursuant to these regulations, including any amendments thereto accepted and approved by the Authority.

(20) *Aerodrome Operator*—The owner or provider of an aerodrome that is certified for operations by the Authority.

(21) *Aerodrome Beacon*—Aeronautical beacon used to indicate the location of an aerodrome from the air.

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

(23) *Aeroplane Reference Field Length*—The minimum field length required for take-off at maximum certified take-off mass, sea level, standard atmospheric conditions, still air, and zero runway slope, as shown in the appropriate aeroplane flight manual prescribed by the certifying authority or equivalent data from the

aeroplane manufacturer.

(24) *Aeronautical fixed service (AFS)*—A telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services.

(25) *Aeronautical mobile service*—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.

(26) *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.

(27) *Aeronautical station*—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.

(28) *Aeronautical telecommunication station*—A station in the aeronautical telecommunication service.

(29) *Aerodrome Reference Point*—The designated geographic allocation of an aerodrome.

(30) *Aeroplane Reference Field Length*—The minimum field length required for take off at maximum certified take-off mass, sea level, standard atmospheric conditions, still air, and zero runway slope, as shown in the appropriate aeroplane flight manual prescribed by the certifying authority or equivalent data from the aeroplane manufacturer.

(31) *Aeronautical Study*—A study of an aeronautical problem to identify possible solutions and select a solution that is acceptable without degrading safety.

(32) *ALERFA*—The code word used to designate an alert phase.

(33) *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.

(34) *Air-ground communication*—Two-way communication between aircraft and stations or locations on the surface of the earth.

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

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

(37) *Anticipated operating conditions*—Those conditions which are known from experience or which can be reasonably envisaged to occur during the operational life of the aircraft taking into account the operations for which the aircraft is made eligible, the conditions so considered being relative to the meteorological state of the atmosphere, to the configuration of terrain, to the functioning of the aircraft, to the efficiency of personnel and to all the factors affecting safety in flight. Anticipated operating conditions do not include :

(a) those extremes which can be effectively avoided by means of operating

procedures ; and

(b) those extremes which occur so infrequently that to require the Standards to be met in such extremes would give a higher level of airworthiness than experience has shown to be necessary and practical.

(38) *Ampere (A)*—The ampere is that constant electric current which, if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section, and placed 1 metre apart in vacuum, would produce between these conductors a force equal to  $2 \times 10^{-7}$  newton per metre of length.

(39) *Area navigation route*—An ATS route established for the use of aircraft capable of employing area.

(40) *Automatic Terminal Information Service (ATIS)*—The automatic provision of current routine information to arriving and departing aircraft throughout 24 hours of a specified portion thereof.

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

(a) Takeoff, 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.

(42) *Aerodrome traffic zone*—An airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic.

(43) *Aeronautical experience*—Pilot time obtained in an aircraft, approved flight simulation training device for meeting the training and flight time requirements of these Regulations.

(44) *Aeronautical product*—Any aircraft, aircraft engine, propeller, or subassembly, appliance, material, part, or component to be installed thereon.

(45) *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.

(46) *Aeroplane Flight Manual*—A manual, associated with the certificate of airworthiness, containing limitations within which the aeroplane is to be considered airworthy, and instructions and information necessary to the flight crew members of the safe operation of the aeroplane.

(47) *Agricultural aircraft operation*—The operation of an aircraft for the purpose of—

(i) Dispensing any economic poison ;

(ii) Dispensing any other substance intended for plant nourishment, soil treatment,

propagation of plant life, or pest control ; or

(iii) Engaging in dispensing activities directly affecting agriculture, horticulture, or forest preservation, but not including the dispensing of live insects.

(48) *Air navigation facility*—Any facility used in, available for use in, or designed for use in aid of air navigation, including aerodromes, landing areas, lights, any apparatus or equipment for disseminating weather information, for signalling, for radio directional finding, or for radio or other electrical communication, and any other structure or mechanism having a similar purpose for guiding or controlling flight in the air or the landing and takeoff of aircraft.

(49) *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.

(50) *Aircraft avionics*—A term designating any electronic device including its electrical part - for use in an aircraft, including radio, automatic flight control and instrument systems.

(51) *Aircraft category*—Classification of aircraft according to specified basic characteristics, e.g. aeroplane, helicopter, glider, free balloon, airship, powered-lift.

(52) *Aircraft certificated for single-pilot operation*—A type of aircraft which the State of Registry has determined, during the certification process, can be operated safely with a minimum crew of one pilot.

(53) *Aircraft certificated for multi-pilot operation*—A type of aircraft which the State of Registry has determined, during the certification process, can be operated safely with a minimum crew of two pilots.

(54) *Aircraft engine*—Any engine used, or intended to be used, for propulsion of aircraft and includes all parts, appurtenances, and accessories thereof other than propellers.

(55) *Aircraft Operating Manual*—A manual, acceptable to the State of the Operator, containing normal, abnormal and emergency procedures, checklists, limitations, performance information, details of the aircraft systems, and other material relevant to the operation of the aircraft.

(56) *Aircraft required to be operated with a co-pilot*—A type of aircraft that is required to be operated with a co-pilot as specified in the flight manual or by the air operator certificate.

(57) *Aircraft piracy*—Any actual or attempted seizure or exercise of control, by force or violence, or by any other form of intimidation, with wrongful intent, of an aircraft within the jurisdiction of Nigeria.

(58) *Aircraft Technical Log*—Documentation for an aircraft that includes the maintenance record for the aircraft and a record for each flight made by the aircraft. The aircraft technical log is comprised of a journey records section and a maintenance section.

(59) *Airman*—This term refers to—

(a) Any individual who engages, as the person in command or as pilot, engineer, or member of the crew, or who navigates an aircraft while the aircraft is underway ;

(b) Any individual in charge of the inspection, maintenance, overhauling, or repair of aircraft, and any individual in charge of the inspection, maintenance,

overhauling, or repair of aircraft, aircraft engines, propellers, or appliances ; or

(c) Any individual who serves in the capacity of air traffic controller, flight operations officer air traffic services engineering personnel, aeronautical station operators, parachute riggers or cabin crew.

(60) *Airmanship*—The consistent use of good judgment and well-developed knowledge, skills and attitudes to accomplish flight objectives.

(61) *Air navigation facility*—Any facility used in, available for use in, or designed for use in aid of air navigation, including airports, landing areas, lights, any apparatus or equipment for disseminating weather information, for signalling, for radio directional finding, or for radio or other electromagnetic communication, and any other structure or mechanism having a similar purpose for guiding or controlling flight in the air or the landing and takeoff of aircraft.

(62) *Air Operator*—Any organisation which undertakes to engage in domestic commercial air transport or international commercial air transport, whether directly or indirectly or by a lease or any other arrangement.

(63) *Air Operator Certificate (AOC)*—A certificate authorising an operator to carry out specified commercial air transport operations.

(64) *Airship*—A power-driven lighter than air aircraft.

(65) *Air traffic*—All aircraft in flight or operating on the manoeuvring area of an aerodrome.

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

(67) *Air Traffic Control (ATC) facility*—A building holding the persons and equipment responsible for providing ATC services (e.g., airport tower, approach control, centre) ; may also be called air traffic control unit.

(68) *Air traffic control service*—A service provided within advisory airspace that promotes the safe, orderly, and expeditious flow and separation of air traffic at aerodromes and during the approach, departure, and en route environments including aircraft that are operating on IFR flight plans. Also can be called air traffic advisory service or air traffic service.

(69) *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.

(70) *Air traffic services reporting office*—A unit established for the purpose of receiving reports concerning air traffic services and flight plans submitted before departure.

(71) *Aircraft component*—Any component part of an aircraft up to and including a complete powerplant and/or any operational/emergency equipment.

(72) *Aircraft type*—All aircraft of the same basic design.

(73) *Airframe*—The fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces (including rotors but excluding propellers and rotating airfoils of a powerplant), and landing gear of an aircraft and their accessories and controls.

(74) *Airship*—A power-driven lighter-than-air aircraft.

(75) *Airworthiness approval tag (NCAA form)*—A tag ( NCAA FORM ONE )

that may be attached to a part. The tag must include the part number, serial number, and current life status of the part. Each time the part is removed from a type certificated product, a new tag must be created or the existing tag must be updated with the current life status. (The NCAA Form One) has two distinct purposes ñ (1) as a certification of release to service of a part, component or assembly after maintenance, preventive maintenance, overhaul or rebuilding, and (2) for shipping of a newly manufactured part.

(76) *Airworthiness data*—Any information necessary to ensure that an aircraft or aircraft component can be maintained in a condition such that airworthiness of the aircraft, or serviceability of operational and emergency equipment, as appropriate, is assured.

(77) *Airworthiness Directive*—Continuing airworthiness information that applies to the following products : aircraft, aircraft engines, propellers, and appliances. An airworthiness directive is mandatory if issued by the State of Design.

(78) *Airworthiness release*—The air operator's aircraft are released for service following maintenance by a person specifically authorised by the air operator rather than by an individual or maintenance organisation on their own behalf.

(79) *Alteration*—The alteration of an aircraft/aeronautical product in conformity with an approved standard.

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

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

(i) *Takeoff alternate*—An alternate aerodrome at which an aircraft can land should this become necessary shortly after takeoff and it is not possible to use the aerodrome of departure.

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

(iii) *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.

(iv) *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.

(82) *Altitude*—The vertical distance of a level, a point or an object considered as a point, measured from Mean Sea Level (MSL).

(83) *Annexes to the Chicago Convention*—The documents issued by the International Civil Aviation Organisation (ICAO) containing the Standards and Recommended Practices applicable to civil aviation.

(84) *Appliances*—Instruments, equipment, apparatus, parts, appurtenances, or accessories, of whatever description, which are used, or are capable of being or intended

to be used, in the navigation, operation, or control of aircraft in flight (including parachutes and including communication equipment and any other mechanism or mechanisms installed in or attached to aircraft during flight), and which are not part or parts of aircraft, aircraft engines, or propellers.

(85) *Approach and landing operations using instrument approach procedures*—Instrument approach and landing operations are classified as follows :

(i) *Non-precision approach and landing operations*—An instrument approach and landing which utilises lateral guidance but does not utilise vertical guidance.

(ii) *Approach and landing operations with vertical guidance*—An instrument approach and landing which uses lateral and vertical guidance but does not meet the requirements established for precision approach and landing operations.

(iii) *Precision approach and landing operations*—An instrument approach and landing using precision lateral and vertical guidance with minima as determined by the category of operation.

(a) *Category I (CAT I) operation*—A precision instrument approach and landing with a decision height not lower than 60 m (200 feet), and with either a visibility not less than 800 m or a runway visual range not less than 550 m.

(b) *Category II (CAT II) operation*—A precision instrument approach and landing with a decision height lower than 60 m (200 feet) but not lower than 300 m (100 feet) and a runway visual range not less than 350 m.

(c) *Category IIIA (CAT IIIA) operation*—A precision instrument approach and landing with :

A decision height lower than 30 m (100 feet) or no decision height ; and

A runway visual range not less than 200 m.

(d) *Category IIIB (CAT IIIB) operation*—A precision instrument approach and landing with :

A decision height lower than 15 m (50 feet) or no decision height ; and

A runway visual range less than 200 m but not less than 50 m.

(e) *Category IIIC (CAT IIIC) operation*—A precision instrument approach and landing with no decision height and no runway visual range limitations.

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

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

(88) *Appropriate ATS or ATC authority*—The relevant authority designated by Nigeria responsible for providing air traffic services in the airspace concerned.

(89) *Appropriate airworthiness requirements*—The comprehensive and detailed airworthiness codes established, adopted or accepted by a Contracting State for the class of aircraft, engine or propeller under consideration.

(90) *Appropriate authority*—

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

(ii) *Regarding flight other than over the high seas* : The relevant authority of

the State having sovereignty over the territory being overflown.

(iii) *Regarding flight over Nigeria* : The Nigeria Civil Aviation Authority, which, under the Civil Aviation Act, is responsible for the oversight of civil aviation in Nigeria.

(91) *Approval for return to service*—See maintenance release.

(92) *Approved by the Authority*—Approved by the Authority directly or in accordance with a procedure approved by the Authority.

(93) *Approved continuous maintenance program*—A maintenance program approved by the State of Registry.

(94) *Approved data*—Technical information approved by the Authority.

(95) *Approved Maintenance Organisation (AMO)*—An organisation approved by the Authority, in accordance with Nigeria CARs Part 6, to perform specific aircraft maintenance activities by the Authority. These activities may include the inspection, overhaul, maintenance, repair and/or alteration and release to service of aircraft or aeronautical products.

(96) *Approved Training Organisation (ATO)*—An organisation approved by the Authority, in accordance with Nigeria CARs Part 3, to perform flight crew training and other training approved by the Authority.

(97) *Approved standard*—A manufacturing, design, maintenance, or quality standard approved by the Authority.

(98) *Approved training*—Training carried out under special curricula and supervision approved by the Authority.

(99) *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.

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

(101) *Aera Control Service*—Air traffic control service for controlled flights in control areas.

(102) *Area Navigation (RNAV)*—A method of navigation that permits aircraft operations on any desired flight path within the coverage of station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

(103) *Article*—Any item, including but not limited to, an aircraft, airframe, aircraft engine, propeller, appliance, accessory, assembly, subassembly, system, subsystem, component, unit, product, or part.

(104) *ATS or ATC route*—A specified route designed for channelling the flow of air traffic as necessary for the provision of air traffic services, defined by route specifications that include an ATS or ATC route designator, the track to or from significant points (way points), distance between significant points, reporting requirements, and as determined by the appropriate ATS or ATC authority, the lowest safe altitude.

(105) *Authorised instructor*—A person who—

(i) Holds a valid ground instructor certificate issued under Part 2 when conducting ground training ;

(ii) Holds a current flight instructor certificate issued under Part 2 when conducting ground training or flight training ; or

(iii) Is authorised by the Authority to provide ground training or flight training under Part 2 and Part 3 of these Regulations.

(106) *Authority*—The civil aviation authority responsible for the oversight of civil aviation in Nigeria.

(107) *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.

(108) *Base turn*—A turn executed by the aircraft during the initial approach between the end of the outbound track and the beginning of the intermediate or final approach track. The tracks are not reciprocal.

(109) *Becquerel (Bq)*—The activity of a radionuclide having one spontaneous nuclear transition per second.

(110) *Balloon*—A non-power-driven lighter-than-air aircraft.

(111) *Banner*—An advertising medium supported by a temporary framework attached externally to the aircraft and towed behind the aircraft.

(112) *Cabin Crew Member*—A crew member who performs, in the interest of safety of passengers, duties assigned by the operator or the pilot-in-command of the aircraft, but who shall not act as a flight crew member.

(113) *Calendar day*—The period of elapsed time, using Co-ordinated Universal Time or local time, that begins at midnight and ends 24 hours later in the next midnight.

(114) *Calendar month*—A period of a month beginning and ending with the dates that are conventionally accepted as marking the beginning and end of a numbered month (as January 1 through January 31 in the Gregorian calendar).

(115) *Calendar year*—A period of a year beginning and ending with the dates that are conventionally accepted as marking the beginning and end of a numbered year (as January 1 through December 31 in the Gregorian calendar).

(116) *Calibration*—A set of operations, performed in accordance with a definite documented procedure that compares the measurement performed by a measurement device or working standard with a recognised bureau of standards for the purpose of detecting and reporting or eliminating adjustment errors in the measurement device, working standard, or aeronautical product tested.

(117) *Cargo aircraft*—Any aircraft carrying goods or property but not passengers. In this context the following are not considered to be passengers :

(i) A crewmember.

(ii) An operator's employee permitted by, and carried in accordance with, the instructions contained in the Operations Manual.

(iii) An authorised representative of an Authority.

(iv) A person with duties in respect of a particular shipment on board.

(118) *Category One Operation (CAT I)*—A precision instrument approach and landing with a decision height not lower than 60 m (200 ft) and with either a visibility not less than 800 m or a runway visual range not less than 550 m.

(119) *Category Two Operation (CAT II)*—A precision instrument approach and landing with a decision height lower than 60 m (200ft) but no lower than 30 m (100 ft) and a visual range not less 350 m.

(120) *Category Three A (CAT IIIA) Operation*—A precision approach and landing with :

(a) A decision height lower than 30 m (100ft) or no decision height ; and

(b) A runway visual range not less than 200 m.

(121) *Category Three B (CAT IIIB) Operation*—A precision approach and landing with :

A decision height lower than 15 m (50 ft) or no decision height ; and

A runway visual range less than 200 m but not less than 50 m.

(122) *Category Three C (CAT IIIC) Operation*—A precision instrument approach and landing with no decision height and no runway visual range limitations.

(123) *Causes*—As relating to an aircraft accident or incident, actions, omissions, events, conditions, or a combination thereof which led to the accident or incident.

(124) *Candela (cd)*—The luminous intensity, in the perpendicular direction, of a surface of 1/600 000 square metre of black body at the temperature of freezing platinum under a pressure of 101 325 newtons per square metre.

(125) *Celsius temperature ( $t^{\circ}\text{C}$ )*—The Celsius temperature is equal to the difference  $t^{\circ}\text{C} = T - T_0$  between two thermodynamic temperatures T and  $T_0$  where  $T_0$  equals 273.15 kelvin.

(126) *Conference communications*—Communication facilities whereby direct speech conversation may be conducted between three or more locations simultaneously.

(127) *Configuration (as applied to the aeroplane)*—A particular combination of the positions of the moveable elements, such as wing flaps and landing gear, etc., that affect the aerodynamic characteristics of the aeroplane.

(128) *Coulomb (C)*—The quantity of electricity transported in 1 second by a current of 1 ampere.

(129) *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.

(130) *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.

(131) *Certify as airworthy*—The act of completing a maintenance release by a properly authorised person after the alteration, overhaul, repair or inspection of an aircraft or aeronautical product by which the aircraft or aeronautical part is cleared for

use in flight as meeting the requirements of the airworthiness certificate of Nigeria.

(132) *Certifying staff*—Those personnel who are authorised by the Approved Maintenance Organisation in accordance with a procedure acceptable to the Authority to certify aircraft or aircraft components for release to service.

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

(134) *Check airman (aeroplane)*—A person who is qualified, and permitted, to conduct an evaluation in an aeroplane, in a flight simulation training device for a particular type aeroplane, for a particular AOC holder.

(135) *Check airman (simulator)*—A person who is qualified to conduct an evaluation, but only in a flight simulation training device for a particular type aircraft, for a particular AOC holder.

(136) *Chicago Convention*—(“Convention”) The Convention on International Civil Aviation concluded in Chicago, U.S.A., in 1944, entered into force in 1947. The Articles of the Chicago Convention govern the actions of the contracting States in matters of international civil aviation safety directly and through the Annexes to the Convention, which set forth ICAO Standards and Recommended Practices.

(137) *Citizen of Nigeria*—This term refers to one of the following :

- (i) An individual who is a citizen of Nigeria ;
- (ii) A partnership of which each member is a citizen of Nigeria ; or
- (iii) A corporation or association created or organised and authorised under the laws of Nigeria.

(138) *Civil aircraft*—Any aircraft other than a military aircraft.

(139) *Civil aviation*—The operation of any civil aircraft for the purpose of general aviation operations, aerial work or commercial air transport operations.

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

(141) *Commercial air transport operation*—An aircraft operation involving the public transport of passengers, cargo or mail for remuneration or hire.

(142) *Commercial air transport*—An aircraft operation involving the public transport of passengers, cargo, or mail for remuneration or hire.

(143) *Common mark*—A mark assigned by the International Civil Aviation Organisation to the common mark registering authority registering aircraft of an international operating agency on other than a national basis.

(144) *Common mark registering authority*—The authority maintaining the non-national register or, where appropriate, the part thereof, in which aircraft of an international operating agency are registered.

(145) *Competency*—A combination of skills, knowledge and attitudes required to perform a task to the prescribed standard.

(146) *Competency element*—An action that constitutes a task that has a triggering event and a terminating event that clearly defines its limits, and an observable

outcome.

(147) *Competency unit*—A discrete function consisting of a number of competency elements.

(148) *Complex aeroplane*—An aeroplane that has retractable landing gear, flaps, and a controllable pitch propeller; or in the case of a seaplane, flaps and a controllable pitch propeller.

(149) *Composite*—Structural materials made of substances, including, but not limited to, wood, metal, ceramic, plastic, fiber-reinforced materials, graphite, boron, or epoxy, with built-in strengthening agents that may be in the form of filaments, foils, powders, or flakes, of a different material

(150) *Computer system*—Any electronic or automated system capable of receiving, storing, and processing external data, and transmitting and presenting such data in a usable form for the accomplishment of a specific function.

(151) *Configuration Deviation List (CDL)*—A list established by the organisation responsible for the type design with the approval of the State of Design which identifies any external parts of an aircraft type which may be missing at the commencement of a flight, and which contains, where necessary, any information on associated operating limitations and performance correction.

(152) *Congested area*—A city, town or settlement, or open air assembly of people.

(153) *Consignment*—One or more packages of dangerous goods accepted by an operator from one shipper at one time and at one address, receipted for in one lot and moving to one consignee at one destination address.

(154) *Contracting States*—All States that are signatories to the Convention on International Civil Aviation (Chicago Convention).

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

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

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

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

(159) *Controlled Flight into Terrain*—Occurs when an airworthy aircraft is flown, under the control of a qualified pilot, into terrain (water or obstacles) with inadequate awareness on the part of the pilot of the impending collision.

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

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

(162) *Conversion*—Conversion is the action taken by the Authority in issuing its own licence on the basis of a licence issued by another Contracting State for use

on aircraft registered in Nigeria.

(163) *Co-pilot*—A licenced pilot serving in any piloting capacity other than as pilot-incommand but excluding a pilot who is on board the aircraft for the sole purpose of receiving flight instruction. Co-pilot as here defined is synonymous with the term “second-incommand” or “SIC”.

(164) *Course*—A program of instruction to obtain an airman licence, rating, qualification, authorisation, or currency.

(165) *Courseware*—Instructional material developed for each course or curriculum, including lesson plans, flight event descriptions, computer software programs, audio-visual programs, workbooks, and handouts.

(166) *Credit*—Recognition of alternative means or prior qualifications.

(167) *Crew Member*—A person assigned by an operator to duty on an aircraft during a flight duty period.

(168) *Crew Resource Management*—A program designed to improve the safety of flight operations by optimising the safe, efficient, and effective use of human resources, hardware, and information through improved crew communication and co-ordination.

(169) *Critical engine*—The engine whose failure would most adversely affect the performance or handling qualities of an aircraft.

(170) *Critical phases of flight*—Those portions of operations involving taxiing, takeoff and landing, and all flight operations below 10,000 feet, except cruise flight.

(171) *Cross country*—A flight between a point of departure and a point of arrival following a pre-planned route using standard navigation procedures.

(172) *Cross-country time*—That time a pilot spends in flight in an aircraft which includes a landing at a point other than the point of departure and, for the purpose of meeting the cross-country time requirements for a private pilot licence (except with a rotorcraft rating), commercial pilot licence, or an instrument rating, includes a landing at an aerodrome which must be a straight-line distance of more than 50 nautical miles from the original point of departure.

(173) *Cruise climb*—An aeroplane cruising technique resulting in a net increase in altitude as the aeroplane mass decreases.

(174) *Cruise relief pilot*—A flight crew member who is assigned to perform pilot tasks during cruise flight to allow the PIC or co-pilot to obtain planned rest.

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

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

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

(178) *Dangerous goods*—Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the ICAO Technical Instructions (see definition below) or which are classified according to those Instruction

(179) *Declared capacity*—A measure of the ability of the ATC system or any of

its subsystems or operating positions to provide service to aircraft during normal activities. It is expressed as the number of aircraft entering a specified portion of airspace in a given period of time, taking due account of weather, ATC unit configuration, staff and equipment available, and any other factors that may affect the workload of the controller responsible for the airspace.

(180) *Decision altitude (DA) or decision height (DH)*—A specified altitude or height in the precision approach or approach with vertical guidance at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

(181) *Design landing mass*—The maximum mass of the aircraft at which, for structural design purposes, it is assumed that it will be planned to land

(182) *Design take-off mass*—The maximum mass at which the aircraft, for structural design purposes, is assumed to be planned to be at the start of the take-off run.

(183) *Design taxiing mass*—The maximum mass of the aircraft at which structural provision is made for load liable to occur during use of the aircraft on the ground prior to the start of take-off.

(184) *Designated Examiner (Designee)*—Any person authorised by the Authority to conduct a pilot proficiency test or a practical test for a flight crew licence or rating. The designee when so authorised is carrying out the assigned functions for the Authority and is not acting on his or her own behalf.

(185) *Degree Celsius (°C)*—The special name for the unit kelvin for use in stating values of Celsius temperature.

(186) *DETRESFA*—The code word used to designate a distress phase.

(187) *Downstream clearance*—A clearance issued to an aircraft by an air traffic control unit that is not the current controlling authority of that aircraft.

(188) *Dangerous goods accident*—An occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property damage.

(189) *Dangerous goods incident*—An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods, not necessarily occurring on board an aircraft, which results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardises an aircraft or its occupants is deemed to constitute a dangerous goods incident.

(190) *Dangerous goods transport document*—A document specified by the ICAO Technical Instructions for the Safe Transportation of Dangerous Goods by Air. It is completed by the person who offers dangerous goods for air transport and contains information about those dangerous goods. The document bears a signed declaration indicating that the dangerous goods are fully and accurately described by their proper shipping names and UN numbers (if assigned) and that they are correctly classified, packed, marked, labelled and in a proper condition for transport.

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

(192) *Deadhead Transportation*—Time spent in transportation on aircraft (at the insistence of the AOC holder) to or from a crew member's station.

(193) *Defined point after takeoff*—The point, within the takeoff and initial climb phase, before which the Class 2 helicopter's ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required.

(194) *Defined point before landing*—The point, within the approach and landing phase, after which the Class 2 helicopter's ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required.

(195) *Directly in Charge*—As applied to an Approved Maintenance Organisation in Part 6 - Means an appropriately licensed person having the responsibility for the work of an approved maintenance organisation that performs maintenance, preventive maintenance, alterations, or other functions affecting aircraft airworthiness. A person directly in charge does not need to physically observe and direct each worker constantly but must be available for consultation on matters requiring direct instruction or decision from higher authority.

(196) *Director General*—The Director General of the Nigeria Civil Aviation Authority appointed under section 8 of the Civil Aviation Act 2006.

(197) *Dry lease*—The lease of an aircraft without the crew.

(198) *Dual instruction time*—Flight time during which a person is receiving flight instruction from a properly authorised pilot on board the aircraft.

(199) *Duty period*—As related to an air operator, a period which starts when flight or cabin crew personnel are required by an operator to report for or to commence a duty and ends when that person is free from all duties.

(200) *Duty time*—The total time from the moment a person identified in these Regulations begins, immediately after a rest period, any work on behalf of the certificate holder until that person is free from all restraint associated with that work.

(201) *Economic poison*—Any substance or mixture of substances intended for—

(i) Preventing, destroying, repelling, or mitigating any insects, rodents, nematodes, fungi, weeds, and other forms of plant or animal life or viruses, except viruses on or in living human beings or other animals, which Nigeria may declare to be a pest, and

(ii) Use as a plant regulator, defoliant or desiccant.

(202) *Effective length of the runway*—The distance for landing from the point at which the obstruction clearance plane associated with the approach end of the runway intersects the centreline of the runway to the far end.

(203) *Emergency Locator Transmitter (ELT)*—A generic term describing equipment which broadcast distinctive signals on designated frequencies and, depending on application, may be automatically activated by impact or be manually activated. An ELT may be any of the following :

(i) *Automatic fixed ELT*—An automatically activated ELT which is permanently attached to an aircraft.

(ii) *Automatic portable ELT*—An automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft.

(iii) *Automatically deployable ELT*—An ELT which is rigidly attached to an aircraft and which is automatically deployed and activated by impact, and in some cases, also be hydrostatic sensors. Manual deployment is also provided.

(iv) *Survival ELT*—An ELT which is removable from an aircraft, stowed so as to facilitate its ready use in an emergency, and manually activated by survivors.

(204) *ELT battery expiration date*—The date of battery manufacture or recharge plus one half of its useful life.

(205) *ELT battery useful life*—The length of time after its date of manufacture or recharge that the battery or battery pack may be stored under normal environmental conditions without losing its ability to allow the ELT to meet the applicable performance standards.

(206) *Enhanced Ground Proximity Warning System (EGPWS)*—A forward looking warning system that uses the terrain data base for terrain avoidance.

(207) *Equivalent system of maintenance*—An AOC holder may conduct maintenance activities through an arrangement with an AMO or may conduct its own maintenance, preventive maintenance, or alterations, so long as the AOC holder's maintenance system is approved by the Authority and is equivalent to that of an AMO, except that the approval for return to service of an aircraft/aeronautical product shall be made by an appropriately licenced aviation maintenance engineer or aviation repair specialists in accordance with Part 2 of these Regulations, as appropriate.

(208) *Error*—As relates to the flight crew, an action or inaction by the flight crew that leads to deviations from organisational or flight crew intentions or expectations.

(209) *Error management*—The process of detecting and responding to errors with countermeasures that reduce or eliminate the consequences of errors, and mitigate the probability of errors or undesired aircraft state.

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

(211) *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 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.

(212) *Evaluator*—A person employed by a certified Approved Training Organisation who performs tests for licensing, added ratings, authorisations, and proficiency checks that are authorised by the certificate holder's training specification, and who is authorised by the Authority to administer such checks and tests.

(213) *Examiner*—Any person authorised by the Authority to conduct a pilot proficiency test, a practical test for an airman licence or rating, or a knowledge test under these Regulations.

(214) *Exception*—As it relates to dangerous goods in Part 9 - A provision in ICAO Annex 18 which excludes a specific item of dangerous goods from the requirements normally applicable to that item.

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

(216) *Extended overwater operation*—With respect to aircraft other than helicopters, an operation over water at a horizontal distance of more than 50 nm from the nearest shoreline ; and to helicopters, an operation over water at a horizontal distance of more than 50 nm from the nearest shoreline and more than 50 nm from an offshore heliport structure.

(217) *Facility*—As used in Part 6 of these Regulations, Approved Maintenance Organisations - A physical plant, including land, buildings, and equipment, which provide the means for the performance of maintenance, preventive maintenance, or alterations of any article.

(218) *Fatal injury*—As relates to an aircraft accident, any injury which results in death within 30 days of the accident.

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

(220) *Filed flight plan*—The flight plan as filed with an air traffic service unit by the pilot or a designated representative, without any subsequent changes.

(221) *Fireproof material*—A material capable of withstanding heat as well as or better than steel when the dimensions in both cases are appropriate for the specific purpose.

(222) *Flight(s)*—The period from takeoff to landing.

(223) *Flight crew member*—A licenced crew member charged with duties essential to the operation of an aircraft during flight time.

(224) *Flight duty period*—The total time from the moment a flight crew member commences duty, immediately subsequent to a rest period and prior to making a flight or a series of flights, to the moment the flight crew member is relieved of all duties having completed such flight or series of flights.

(225) *Flight information centre*—A unit established to provide flight information service and alerting service.

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

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

(228) *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 surfaces by specific pressure intervals.

(229) *Flight Recorder*—Any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation. A flight recorder could include the cockpit voice recorder (CVR) or flight data recorder (FDR).

(230) *Flight safety document system*—A set of inter-related documentation established by the operator, compiling and organising information necessary for flight and ground operations, and comprising, as a minimum, the operations manual and the operator's maintenance control manual.

(231) *Flight simulation training device*—Any one of the following three types of apparatus in which flight conditions are simulated on the ground :

(i) *A flight simulator*, which provides an accurate representation of the flight deck of a particular aircraft type to the extent that the engineeral, electrical, electronic, etc. aircraft systems control functions, the normal environment of flight crew members, and the performance and flight characteristics of that type of aircraft are realistically simulated.

(ii) *A flight procedures trainer*, which provides a realistic flight deck environment, and which simulates instrument responses, simple control functions of engineeral, electrical, electronic, etc. aircraft systems, and the performance and flight characteristics of aircraft of a particular class.

(iii) *A basic instrument flight trainer*, which is equipped with appropriate instruments and which simulates the flight deck environment of an aircraft in flight in instrument flight conditions.

(232) *Factor of safety*—A design factor used to provide for the possibility of loads greater than those assumed, and for uncertainties in design and fabrication.

(233) *Farad (F)*—The capacitance of a capacitor between the plates of which there appears a difference of potential of 1 volt when it is charged by a quantity of electricity equal to 1 coulomb.

(234) *Flight operations officer/flight dispatcher*—A person designated by the operator to engage in the control and supervision of flight operations, whether license or not, suitably qualified in accordance with Annex 1, who supports, briefs, and / or assist the pilot-incommand in safe conduct of the flight.

(235) *Flight Services Specialist*—A person assigned and trained to assist pilots in preflight planning, including pilot briefings, recorded data, flight plan filing/processing, and aircraft operational reservations; provide enroute service, including services to airborne aircraft, such as NAVAID monitoring and restoration, delivery of ATC clearances, advisories or requests, issuance of military flight advisory messages, NOTAM's, Search And Rescue communications searches, flight plan handling, transcribed or live broadcasts, weather observations, PIREP's, and pilot briefings; and handle emergency situations where life or property is in immediate danger, while performing their duties at a Flight Service Station.

(236) *Flight Data Analysis*—A process of analyzing recorded flight data in order to improve the safety of flight operations.

(237) *Flight manual*—A manual, associated with the certificate of airworthiness, containing limitations within which the aircraft is to be considered airworthy, and instructions and information necessary to the flight crew members for the safe operation of the aircraft.

(238) *Flight Release*—A flight preparation identifying the type of operation with the permitting weight limitations, fuel requirement, weather conditions at departure, en-rout destination and alternate airports for safe operation.

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

- (i) a landing can be made ; or
- (ii) a missed approach procedure is initiated.

(240) *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.

(241) *Foot (ft)*—The length equal to 0.304 8 metre exactly.

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

(243) *Frangible Object*—An object of low mass designed to break, distort, or yield on impact so as to present the minimum hazard to aircraft.

(244) *Flight status*—An indication of whether a given aircraft requires special handling by air traffic services units or not.

(245) *Flight time*—The period of time that the aircraft moves under its own power for the purpose of flight and ends when the aircraft comes to rest after it is parked, with engine(s) shut down if applicable. Flight time as here defined is synonymous with the term “block-to-block” time or “chock-to-chock” time in general usage, which is measured from the time an aircraft moves from the loading point until it stops at the unloading point.

(246) *Flight time-aeroplane*—The total time from the moment an aeroplane first moves for the purpose of taking off until the moment it finally comes to rest at the end of the flight.

(247) *Flight time-helicopter*—The total time from the moment a helicopter's rotor blades start turning until the moment the helicopter finally comes to rest at the end of the flight, and the rotor blades are stopped.

(248) *Flight time-glider*—The total time occupied in flight, whether being towed or not, from the moment the glider first moves for the purpose of taking off until the moment it comes to rest at the end of the flight.

(249) *Flight training*—Training, other than ground training, received from an authorised instructor in flight in an aircraft.

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

(251) *Foreign air operator*—Any operator, not being an air operator holding an Air Operator Certificate issued by Nigeria under the provisions of ICAO Annex 6, Part I or Part III, which undertakes, whether directly or indirectly or by lease or any other arrangement, to engage in commercial air transport operations within borders or airspace of Nigeria, whether on a scheduled or charter basis;

(252) *Foreign Authority*—The civil aviation authority that issues and oversees the Air Operator Certificate of the foreign operator.

(253) *Freight container*—See unit load device.

(254) *Freight container in the case of radioactive material transport*—An article of transport equipment designed to facilitate the transport of packaged goods, by one or more modes of transport without intermediate reloading. It must be of a permanent enclosed character, rigid and strong enough for repeated use, and must be fitted with devices facilitating its handling, particularly in transfer between aircraft and from one mode of transport to another. A small freight container is that which has either an overall outer dimension less than 1.5 m, or an internal volume of not more than 3m<sup>3</sup>. Any other freight container is considered to be a large freight container.

(255) *General aviation operation*—An aircraft operation of a civil aircraft for other than a commercial air transport operation or aerial work operation.

(256) *Glider*—A non-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.

(257) *Global Navigation Satellite System*—means a worldwide position and time determination system, which includes one or more satellite constellations, aircraft receivers and system integrity monitoring, augmented as necessary to support the required navigation performance for the actual phase of operation.

(258) *Ground handling*—Services necessary for an aircraft's arrival at, and departure from an airport, other than air traffic services.

(259) *Gray (Gy)*—The energy imparted by ionizing radiation to a mass of matter corresponding to 1 joule per kilogram.

(264) *Heliport Operating Minima*—The limits of usability of a heliport 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 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.

(260) *Ground Proximity Warning System (GPWS)*—A warning system that uses radar altimeters to alert the pilots of hazardous flight conditions.

(261) *Ground visibility*—The visibility at an aerodrome, as reported by an accredited observer.

(262) *Gyroplane*—A heavier-than-air aircraft supported in flight by the reactions of the air on one or more rotors which rotate freely on substantially vertical axes.

(263) *Handling agent*—An agency which performs on behalf of the operator some or all of the latter's functions including receiving, loading, unloading, transferring or other processing of passengers or cargo.

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

(266) *Heavier-than-air aircraft*—Any aircraft deriving its lift in flight chiefly from aerodynamic forces.

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

(268) *Helicopter*—A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axis.

(i) *Class 1 helicopter*—A helicopter with performance such that, in case of critical engine failure, it is able to land on the rejected takeoff area or safely continue the flight to an appropriate landing area, depending on when the failure occurs.

(ii) *Class 2 helicopter*—A helicopter with performance such that, in case of critical engine failure, it is able to safely continue the flight, except when the failure occurs prior to a defined point after takeoff or after a defined point before landing, in which case a forced landing may be required.

(iii) *Class 3 helicopter*—A helicopter with performance such that, in case of engine failure at any point in the flight profile, a forced landing must be performed.

(269) *Helicopter Load Combinations*—Configurations for external loads carried by helicopter—

(i) *Class A*—External load fixed to the helicopter, cannot be jettisoned, and does not extend below the landing gear, used to transport cargo.

(ii) *Class B*—External load suspended from the helicopter, which can be jettisoned, and is transported free of land or water during rotorcraft operations.

(iii) *Class C*—External load suspended from the helicopter, which can be jettisoned, but remains in contact with land or water during rotorcraft operation.

(iv) *Class D*—External load suspended from the helicopter for the carriage of persons.

(270) *Henry (H)*—The inductance of a closed circuit in which an electromotive force of 1 volt is produced when the electric current in the circuit varies uniformly at a rate of 1 ampere per second.

(271) *Hertz (Hz)*—The frequency of a periodic phenomenon of which the period is 1 second.

(272) *High-Performance Aeroplane*—An aeroplane with an engine of more than 200 horsepower

(273) *Helideck*—A heliport located on a floating or fixed offshore structure.

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

(275) *High Speed Aural Warning*—A speed warning that is required for turbine-engined airplanes and airplanes with a VMO/MMO greater than 0.80 VDF/MDF or VD/MD.

(276) *Holdover time*—The estimated time de-icing/anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of an aircraft. Holdover time begins when the final application of de-icing or anti-icing fluid commences and expires when the de-icing or anti-icing fluid applied to the aircraft loses its effectiveness.

(277) *Housing*—As it relates to Approved Maintenance Organisations in Part 6 of these Regulations, and other structures to accommodate the necessary equipment and materials of a maintenance organisation that—

(a) Provide working space for the performance of maintenance, preventive maintenance, or alterations for which the maintenance organisation is approved and rated ; and

(b) Provide structures for the proper protection of aircraft, airframes, aircraft engines, propellers, appliances, components, parts, and subassemblies thereof during disassembly, cleaning, inspection, repair, alteration, assembly, and testing ; and

(c) Provide for the proper storage, segregation, and protection of materials, parts, and supplies.

(278) *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.

(279) *Human performance*—Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

(280) *ICAO*—Where used in these Regulations, this is an abbreviation for the International Civil Aviation Organisation.

(281) *IFR*—The symbol used to designate the instrument flight rules.

(282) *INCERFA*—The code word used to designate an uncertainty phase.

(283) *Instrument Approach Chart*—An approach procedure prescribed by the Authority having jurisdiction over the aerodrome.

(284) *IFR flight*—A flight conducted in accordance with the instrument flight rules.

(285) *IMC*—The symbol used to designate instrument meteorological conditions.

(286) *Incident*—An occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.

(287) *Incompatible*—Describing dangerous goods, which if mixed, would be liable to cause a dangerous evolution of heat or gas or produce a corrosive substance.

(288) *Inspection*—The examination of an aircraft or aeronautical product to establish conformity with a standard approved by the Authority.

(289) *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.

(290) *Instrument flight time*—Time during which a pilot is piloting an aircraft solely by reference to instruments and without external reference points.

(291) *Instrument ground time*—Time during which a pilot is practising, on the ground, simulated instrument flight in a flight simulation training device approved by the Licencing Authority.

(292) *Instrument Meteorological Conditions*—Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.

(293) *Instrument time*—Time in which cockpit instruments are used as the sole means for navigation and control, which may be instrument flight time or instrument ground time.

(294) *Instrument training*—Training which is received from an authorised instructor under actual or simulated instrument meteorological conditions.

(295) *Interchange Agreement*—A leasing agreement which permits an air carrier to dry lease and take or relinquish operational control of an aircraft at an airport.

(296) *International commercial air transport*—The carriage by aircraft of persons or property for remuneration or hire or the carriage of mail between any two or more countries.

(297) *International operating agency*—An agency of the kind contemplated in Article 77 of the Convention on International Civil Aviation.

(298) *Investigation*—As relates to an aircraft accident or incident, a process conducted for the purpose of accident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of causes and, when appropriate, the making of safety recommendations.

(299) *Investigator-in-charge*—As relates to an aircraft accident or incident, a person charged, on the basis of his or her qualifications, with the responsibility for the organisation, conduct and control of an investigation.

(300) *Journey log*—A form signed by the PIC of each flight that records the aeroplane's registration, crew member names and duty assignments, the type of flight, and the date, place, and time of arrival and departure.

(301) *Joule (J)*—The work done when the point of application of a force of 1 newton is displaced a distance of 1 metre in the direction of the force.

(302) *Knowledge test*—A test on the aeronautical knowledge areas required for an airman licence or rating that can be administered in written form or by a computer.

(303) *Kelvin (K)*—A unit of thermodynamic temperature which is the fraction 1/273.16 of the thermodynamic temperature of the triple point of water.

(304) *Kilogram (kg)*—The unit of mass equal to the mass of the international prototype of the kilogram.

(305) *Knot (kt)*—The speed equal to 1 nautical mile per hour.

(306) *Landing area*—That part of a movement area intended for the landing or takeoff of an aircraft.

(307) *Landing decision point*. The point used in determining landing performance from which, an engine failure occurring at this point, the landing may be safely continued or a balked landing initiated.

(308) *Large aeroplane*—An aeroplane having a maximum certified takeoff mass of 5,700 kg. (12,500 lbs.), or more.

(309) *Landing surface*—That part of the surface of an aerodrome which the aerodrome authority has declared available for the normal ground or water run of aircraft landing in a particular direction.

(310) *Lighting System Reliability*—The probability that the complete lighting installation operates within the specified tolerances and that the system is operationally usable.

(311) *Likely*—In the context of the medical provisions in Part 2, likely means with a probability of occurring that is unacceptable to the medical assessor.

(312) *Limit loads*—The maximum loads assumed to occur in the anticipated operating conditions.

(313) *Litre (L)*—A unit of volume restricted to the measurement of liquids and gases which is equal to 1 cubic decimetre.

(314) *Line Oriented Flight Training (LOFT)*—Training in a simulator with a complete crew using representative flight segments which contain normal, abnormal and emergency procedures that may be expected in line operations.

Line-Oriented Simulation. Simulation conducted using operational-oriented flight scenarios that accurately replicate interaction among flight crew members and between flight crew members and dispatch facilities, other crewmembers, air traffic control and ground operations.

(315) *Load factor*—The ratio of a specified load to the weight of the aircraft, the former being expressed in terms of aerodynamic forces, inertia forces, or ground reactions.

(316) *Lumen (Lm)*—The luminous flux emitted in a solid angle of 1 steradian by a point source having a uniform intensity of 1 candela.

(317) *Lux (Lr)*—The illuminance produced by a luminous flux of 1 lumen uniformly distributed over a surface of 1 square metre.

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

(319) *Licensing Authority*—The Nigeria Civil Aviation Authority, which, under the Civil Aviation Act, is responsible for the licensing of personnel.

(320) *Life Limited Part*—Any part for which a mandatory replacement limit is specified in the type design, the Instructions for Continued Airworthiness, or the maintenance manual.

(321) *Lighter-than-air aircraft*—Any aircraft supported chiefly by its buoyancy in the air.

(322) *Line maintenance*—Any unscheduled maintenance resulting from unforeseen events, or scheduled checks that contain servicing and/or inspections that do not require specialised training, equipment or facilities.

(323) *Line operating flight time*—Flight time recorded by the PIC or Co-Pilot while in revenue service for an AOC holder.

(324) *Long Range Overwater Flights*—Routes on which an aeroplane may be over water and at more than a distance corresponding to 120 minutes at cruising speed or 740 km (400 NM), whichever is the lesser, away from land suitable for making an emergency landing.

(325) *Low Altitude Wind Shear Warning and Guidance System*—A system that will issue a warning of low altitude wind shear and in some cases provide the pilot with guidance information of the escape manoeuvre.

(326) *Mach Number Indicator*—An indicator that shows airspeed as a function of the Mach number.

(327) *Maintenance*—The performance of tasks required to ensure the continuing airworthiness of an aircraft, including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a alteration or repair.

(328) *Metre (m)*—The distance travelled by light in a vacuum during II299 792 458 of a second.

(329) *Minor*—A minor repair means a repair other than a major repair.

(330) *Maintenance programme*—A document which describes the specific scheduled maintenance tasks and their frequency of completion and related procedures, such as a reliability programme, necessary for the safe operation of those aircraft to which it applies.

(331) *Minimum descent altitude (MDA) or minimum descent height (MDH)*—A specified altitude or height in a non precision approach or circling approach below which descent must not be made without the required visual reference.

(332) *Medical Assessment*—The evidence issued by the Authority that the licence holder meets specific requirements of medical fitness.

(333) *Medical examiner*—A physician with training in aviation medicine and practical knowledge and experience of the aviation environment, who is designated by the Licensing Authority to conduct medical examinations of fitness of applicants for licences or ratings for which medical requirements are prescribed.

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

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

(336) *Mole (mol)*—The amount of substance of a system which contains as many elementary entities as there are atoms in 0.012 kilogram of carbon-12.

(337) *Marker*—An object displayed above ground level in order to indicate an obstacle or delineate a boundary.

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

(339) *Maintenance Control Manual*—A document that describes the operator's procedures necessary to ensure that all scheduled and unscheduled maintenance is performed on the operator's aircraft on time and in a controlled and satisfactory manner.

(340) *Maintenance Procedures Manual*—A document endorsed by the head of the maintenance organisation which details the maintenance organisation's structure and management responsibilities, scope of work, description of facilities, maintenance procedures and quality assurance or inspection systems.

(341) *Maintenance release*—A document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, either in accordance with the approved data and the procedures described in the maintenance organisation's procedures manual or under an equivalent system.

(342) *Major alteration*—Major alteration means an alteration not listed in the aircraft, aircraft engine, or propeller specifications ñ (1) that might appreciably affect weight, balance, structural strength, performance, powerplant, operations, flight characteristics, or other qualities affecting airworthiness ; or (2) that cannot be done by elementary operations.

(343) *Major repair*—Major repair means a repair: (1) that if improperly done might appreciably affect weight, balance, structural strength, performance, powerplant, operations, flight characteristics, or other qualities affecting airworthiness; or (2) that is not done according to accepted practices or cannot be done by elementary operations.

(344) *Manoeuvring area*—That part of an aerodrome to be used for the takeoff, landing and taxiing of aircraft, excluding aprons.

(345) *Master Minimum Equipment List (MMEL)*—A list established for a particular aircraft type by the organisation responsible for the type design with the approval of the State of Design containing items, , one or more of which is permitted to be unserviceable at the commencement of a flight. The MMEL may be associated with special operating conditions, limitations or procedures. The MMEL provides the basis for development, review, and approval by the Authority of an individual operator's MEL.

(346) *Maximum mass*—Maximum certificated take-off-mass.

(347) *Medical Certificate*—The evidence issued by the Authority that the licence holder meets specific requirements of medical fitness. It is issued following an evaluation by the Licensing Authority of the report submitted by the designated medical examiner who conducted the examination of the applicant for the licence.

(348) *Minimum Equipment List (MEL)*—A list approved by the Authority which provides for the operation of aircraft, subject to specified conditions, with particular equipment inoperative, prepared by an operator in conformity with, or more restrictive than, the Master Minimum Equipment List established for the aircraft type.

(349) *Movement area*—That part of an aerodrome to be used for takeoff, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).

(350) *Navigable airspace*—The airspace above the minimum altitudes of flight prescribed in Part 8 of these Regulations and includes airspace needed to insure safety in the takeoff and landing of aircraft.

(351) *Navigational Aids in Nigeria*—Systems/Facilities (ground or space based) which have the capability of radiating and receiving radio frequency waves or

signals in the airspace for aircraft in flight to utilise for monitoring flight progress, approach and landing.

(352) *Nautical mile (NM)*—The length equal to 1 852 metres exactly.

(353) *Newton (N)*—The force which when applied to a body having a mass of 1 kilogram gives it an acceleration of 1 metre per second squared.

(354) *Navigation of aircraft*—A function which includes the piloting of aircraft.

(355) *Night*—The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise. Civil twilight ends in the evening when the centre of the sun's disc is 6 degrees below the horizon and begins in the morning when the centre of the sun's disc is 6 degrees below the horizon.

(356) *Obstruction clearance plane*—A plane sloping upward from the runway at a slope of 1 : 20 to the horizontal, and tangent to or clearing all obstructions within a specified area surrounding the runway as shown in a profile view of that area. In the plane view, the centreline of the specified area coincides with the centreline of the runway, beginning at the point where the obstruction clearance plane intersects the centreline of the runway and proceeding to a point at least 1,500 feet from the beginning point. Thereafter, the centreline coincides with the takeoff path over the ground for the runway (in the case of takeoffs) or with the instrument approach counterpart (for landings), or where the applicable one of these paths has not been established, it proceeds consistent with turns of at least 4,000 foot radius until a point is reached beyond which the obstruction clearance plane clears all obstructions. This area extends laterally 200 feet on each side of the centreline at the point where the obstruction clearance plane intersects the runway and continues at this width to the end of the runway; then it increases uniformly to 500 feet on each side of the centreline at a point 1,500 feet from the intersection of the obstruction clearance plane with the runway; thereafter, it extends laterally 500 feet on each side of the centreline.

(357) *Ornithopter*—A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on planes to which a flapping motion is imparted.

(358) *Obstacle*—All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that are located on an area intended for the surface movement of aircraft or that extended above a defined surface intended to protect aircraft in flight.

(359) *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.

(360) *Obstacle Limitation Surfaces*—Series of surfaces that define the volume of airspace at and around an aerodrome to be kept free of obstacle in order to permit the intended aircraft operations to be conducted safely and to prevent the aerodrome from becoming unusable by the growth of obstacles around the aerodrome.

(361) *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.

(362) *Ohm ( $\Omega$ )*—The electric resistance between two points of a conductor when a constant difference of potential of 1 volt, applied between these two points, produces in this conductor a current of 1 ampere, this conductor not being the source of any electromotive force.

(363) *Operating Position*—An air traffic control function performed within or directly.

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

(365) *Operations Manual*—A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.

(366) *Operator*—A person, organisation or enterprise engaged in or offering to engage in an aircraft operation. Any person who causes or authorises the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft.

(367) *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.

(368) *Operations Specifications*—Part of an operator's certificate (air operator certificate, approved training organisation certificate, approved maintenance organisation certificate, etc.) that is used to administer safety standards and define the provisions and limitations within which the operator may conduct business operations. Operations specifications are issued by the Authority and considered a legal, contractual agreement between the Authority and the operator.

(369) *Overhaul*—The restoration of an aircraft/aeronautical product using methods, techniques, and practices acceptable to the Authority, including disassembly, cleaning, and inspection as permitted, repair as necessary, and reassembly; and tested in accordance with approved standards and technical data, or in accordance with current standards and technical data acceptable to the Authority, which have been developed and documented by the State of Design, holder of the type certificate, supplemental type certificate, or a material, part, process, or appliance approval under Parts Manufacturing Authorisation (PMA) or Technical Standard Order (TSO).

(370) *Overpack*—An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.

(371) *Package*—The complete product of the packing operation consisting of the packaging and its contents prepared for transport.

(372) *Packaging*—Receptacles and any other components or materials necessary for the receptacle to perform its containment.

(373) *Passenger aircraft*—An aircraft that carries any person other than a crew member, an operator's employee in an official capacity, an authorised representative of an appropriate national authority or a person accompanying a consignment or other cargo.

(374) *Passenger exit seats*—Those seats having direct access to an exit, and those seats in a row of seats through which passengers would have to pass to gain

access to an exit, from the first seat inboard of the exit to the first aisle inboard of the exit. A passenger seat having “direct access” means a seat from which a passenger can proceed directly to the exit without entering an aisle or passing around an obstruction.

(375) *Performance criteria*—A simple, evaluative statement on the required outcome of the competency element and a description of the criteria used to judge if the required level of performance has been achieved.

(376) *Person*—Any individual, firm, partnership, corporation, company, association, joint-stock association, or body politic, and includes any trustee, receiver, assignee, or other similar representative of these entities.

(377) *Pascal (Pa)*—The pressure or stress of 1 newton per square metre.

(378) *Power-unit*—A system of one or more engines and ancillary parts which are together necessary to provide thrust, independently of the continued operation of any other powerunit(s), but not including short period thrust-producing devices.

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

(380) *Printed communications*—Communications which automatically provide a permanent printed record at each terminal of a circuit of all messages which pass over such circuit.

(381) *Psychosis*—A mental disorder in which the individual has manifested delusions, hallucinations, grossly bizarre or disorganised behaviour, or other commonly accepted symptoms of this condition; or the individual may reasonably be expected to manifest delusions, hallucinations, grossly bizarre or disorganised behaviour, or other commonly accepted symptoms of this condition.

(382) *Pilot In Command*—The pilot responsible for the operation and safety of the aircraft during flight time. 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 the flight.

(383) *Pilot time*—That time a person—

- (a) Serves as a required pilot ;
- (b) Receives training from an authorised instructor in an aircraft, or an approved flight simulation training device ; or
- (c) Gives training as an authorised instructor in an aircraft, or an approved flight simulation training device.

(384) *Pilot (to)*—To manipulate the flight controls of an aircraft during flight time.

(385) *Pressure altitude*—An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere (as defined in Annex 8).

(386) *Primary Standard*—A standard defined and maintained by a State Authority and used to calibrate secondary standards.

(387) *Powered-lift*—A heavier-than-air aircraft capable of vertical takeoff, vertical landing, and low speed flight that depends principally on engine-driven lift devices

or engine thrust for lift during these flight regimes and on nonrotating airfoil(s) for lift during horizontal flight.

(388) *Powerplant*—An engine that is used or intended to be used for propelling aircraft. It includes turbo superchargers, appurtenances, and accessories necessary for its functioning, but does not include propellers.

(389) *Practical test*—See Skill test.

(390) *Pre-flight inspection*—The inspection carried out before flight to ensure that the aircraft is fit for the intended flight.

(391) *Pressurised aircraft*—For airman-licensing purposes, means an aircraft that has a service ceiling or maximum operating altitude, whichever is lower, above 25,000 feet MSL.

(392) *Preventive maintenance*—Simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

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

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

(ii) Causes or worsens an occupational, social, mental or physical problem or disorder.

(394) *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.

(395) *Propeller*—A device for propelling an aircraft that has blades on a powerplant-driven shaft and that, when rotated, produces by its action on the air, a thrust approximately perpendicular to its plane of rotation. It includes control components normally supplied by its manufacturer, but does not include main and auxiliary rotors or rotating airfoils of powerplants.

(396) *Proper shipping name*—The name to be used to describe a particular article or substance in all shipping documents and notifications and, where appropriate, on packaging.

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

(398) *Quality Assurance*—Quality assurance, as distinguished from quality control, involves activities in the business, systems, and technical audit areas. A set of predetermined, systematic actions which are required to provide adequate confidence that a product or service satisfies quality requirements.

(399) *Quality Control*—The regulatory inspection process through which actual performance is compared with standards, such as the maintenance of standards of manufactured aeronautical products, and any difference is acted upon.

(400) *Quality System*—Documented organisational procedures and policies; internal audit of those policies procedures; management review and recommendation for quality improvements.

(401) *Radiotelephony*—A form of radio communication primarily intended for the exchange of information in the form of speech.

(402) *Rated Air Traffic Controller*—An air traffic controller holding a licence and valid ratings appropriate to the privileges to be exercised.

(403) *Rating*—An authorisation entered on or associated with a licence or certificate and forming part thereof, stating special conditions, privileges or limitations pertaining to such licence or certificate.

(404) *Rebuild*—The restoration of an aircraft/aeronautical product by using methods, techniques, and practices acceptable to the Authority, when 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.

(405) *Reference Standard*—A standard that is used to maintain working standards.

(406) *Re-issue of a licence, rating, authorisation or certificate*—The administrative action taken after a licence, rating, authorisation or certificate has lapsed that re-issues the privileges of the licence, rating, authorisation or certificate for a further specified period consequent upon the fulfilment of specified requirements.

(407) *Renewal of licence, rating, authorisation or certificate*—The administrative action taken within the period of validity of a licence, rating, authorisation or certificate that allows the holder to continue to exercise the privileges of a licence, rating, authorisation or certificate for a further specified period consequent upon the fulfilment of specified requirements.

(408) *Radian (rad)*—The plane angle between two radii of a circle which cut off on the circumference an arc equal in length to the radius.

(409) *Rescue coordination centre*—A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

(410) *Register*—Means the register of Nigeria Civil Aircraft referred to in part 4 of these regulations.

(411) *RNP type*—A containment value expressed as a distance in nautical miles from the intended position within which flights would be for at least 95 per cent of the total flying time ;

Example—RNP 4 represents a navigation accuracy of plus or minus 7.4 km (4 NM) on a 95 per cent containment basis.

(412) *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.

(413) *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.

(414) *Repair*—

(i) The restoration of an aeronautical product to an airworthy condition as defined by the appropriate airworthiness requirements ;

(ii) The restoration of an aeronautical product to an airworthy condition to ensure that the aircraft continues to comply with the design aspects of the appropriate

airworthiness requirements used for the issuance of the type certificate for the respective aircraft type, after it has been damaged or subjected to wear.

(415) *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 ATC units.

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

(417) *Required Inspection Items*—As used in Part 5 of these Regulations, maintenance items and/or alterations that must be inspected by a person other than the one performing the work, and include at least those that could result in a failure, malfunction, or defect endangering the safe operation of the aircraft, if not properly performed or if improper parts or materials are used.

(418) *Required Navigation Performance (RNP)*—A statement of the navigation performance necessary for operations with a defined airspace.

(419) *Rest period*—A period free of all restraint, duty or responsibility for persons identified in these Regulations conducting commercial air transport operations or work under a certificate or approval from the Authority.

(420) *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.

(421) *Rotorcraft*—A power-driven heavier-than-air aircraft supported in flight by the reactions of the air on one or more rotors.

(422) *Rotorcraft Flight Manual*—A manual, associated with the certificate of airworthiness, containing limitations within which the rotorcraft is to be considered airworthy, and instructions and information necessary to the flight crew members of the safe operation of the rotorcraft.

(423) *Rotorcraft load combinations*—Configurations for external loads carried by rotorcraft—

(i) *Class A*—external load fixed to the rotorcraft, cannot be jettisoned, and does not extend below the landing gear, used to transport cargo.

(ii) *Class B*—external load suspended from the rotorcraft, which can be jettisoned, and is transported free of land or water during rotorcraft operations.

(iii) *Class C*—external load suspended from the rotorcraft, which can be jettisoned, but remains in contact with land or water during rotorcraft operation.

(iv) *Class D*—external load suspended from the rotorcraft for the carriage of persons.

(424) *Route sector*—A flight comprising take off, departure, cruise of not less than 15 minutes, arrival, approach and landing phases.

(425) *Runway*—A defined rectangular area on a land aerodrome prepared for the landing and takeoff of aircraft.

(426) *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 authorised by the aerodrome control tower.

(427) *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.

(428) *Safety Management System (SMS)*—A systematic approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures.

(429) *Safety recommendation*—A proposal of the accident investigation authority of the State conducting the investigation, based on information derived from the investigation made with the intention of preventing accidents or incidents.

(430) *Secondary Standards*—A standard maintained by comparison with a primary standard.

(431) *Serious incident*—An incident involving circumstances indicated that an accident nearly occurred.

(432) *Serious injury*—An injury which is sustained by a person in an accident and which :

(i) Requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received ; or

(ii) Results in a fracture of any bone (except simple fractures of fingers, toes or nose) ; or

(iii) Involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage ; or

(iv) Involves injury to any internal organ ; or

(v) Involves second or third degree burns, or any burns affecting more than 5% of the body surface ; or

(vi) Involves verified exposure to infectious substances or injurious radiation.

(433) *Safe Forced Landing*—Unavoidable landing or ditching with reasonable expectancy of no injuries to persons in the aircraft or on the surface.

(434) *Safety Programme*—An integrated set of regulations and activities aimed at improving safety.

(435) *Second (s)*—The duration of 9 192 631 770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium-133 atom.

(436) *Second-in-command (SIC)*—A licensed pilot serving in a piloting capacity other than as pilot-in-command, who is designated as second in command and who meets second in command requirements of Part 8 of these regulations.

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

(438) *Siemens (S)*—The electric conductance of a conductor in which a current of 1 ampere is produced by an electric potential difference of 1 volt.

(439) *Sieve (Sv)*—The unit of radiation dose equivalent corresponding to 1 joule per kilogram.

(440) *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

(441) *Significant*—In the context of the medical provisions in Part 2, significant means to a degree or of a nature that is likely to jeopardize flight safety.

(442) *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.

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

(444) *Standard atmosphere*—An atmosphere defined as follows :

(a) the air is a perfect dry gas ;

(b) the physical constants are :

Sea level mean molar mass:

$$M_0 = 28.964420 \times 10^{-3} \text{ kg mol}^{-1}$$

Sea level atmospheric pressure:  $P_0 = 1013.250 \text{ hPa}$

Sea level temperature:  $t_0 = 15^\circ\text{C}$

$$T_0 = 288.15 \text{ K}$$

Sea level atmospheric density :  $\rho_0 = 1.2250 \text{ kg m}^{-3}$

Temperature of the ice point :  $T_i = 273.15 \text{ K}$

Universal gas constant :  $R^* = 8.31432 \text{ JK}^{-1}\text{mol}^{-1}$

(c) the temperature gradients are :

Geopotential altitude

(km)

Temperature gradient

From

To

(Kelvin per standard  
geopotential kilometre)

-5.0

11.0

-6.5

11.0

20.0

0.0

20.0

32.0

+1.0

32.0

47.0

+2.8

47.0

51.0

0.0

51.0

71.0

-2.8

71.0

80.0

-2.0

(445) *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.

(446) *Steradian (sr)*—The solid angle which, having its vertex in the centre of a sphere, cuts off an area of the surface of the sphere equal to that of a square with sides of length equal to the radius of the sphere.

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

(448) *Signature*—An individual's unique identification used as a means of authenticating a record entry or record. A signature may be hand-written, electronic, or any other form acceptable to the Authority.

(449) *Skill test*—A competency test on the areas of operations for a licence, certificate, rating, or authorisation that is conducted by having the applicant respond to questions and demonstrate practical skills.

(450) *Small aeroplane*—An aeroplane having a maximum certified takeoff mass of less than 5,700 kg. (12,500 lbs.).

(451) *Solo flight*—Flight time during which a student pilot is the sole occupant of the aircraft, or that flight time during which the student acts as a PIC of a gas balloon or an airship requiring more than one flight crewmember.

(452) *Spare parts*—Any parts, appurtenances, and accessories of aircraft (other than aircraft engines and propellers), of aircraft engines (other than propellers), of propellers, and of appliances, maintained for installation or use in an aircraft, aircraft engine, propeller, or appliance, but which at the time are not installed therein or attached thereto.

(453) *Special aircraft jurisdiction of Nigeria*—This includes :

(i) Civil aircraft of Nigeria ; and

(ii) Any other aircraft within the jurisdiction of Nigeria, while the aircraft is in flight, which is from the moment when all external doors are closed following embarkation until the moment when one such door is opened for disembarkation or, in case of a forced landing, until the competent authorities take over the responsibility of the aircraft and the persons and property aboard.

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

(455) *Specialised maintenance*—Any maintenance not normally performed by an AMO (e.g. tire retreading, plating, etc.)

(456) *Standard*—An object, artifact, tool, test equipment, system, or experiment that stores, embodies, or otherwise provides a physical quantity, which serves as the basis for measurement of the quantity. It also includes a document describing the operations and process that must be performed in order for a particular end to be achieved.

(457) *State of Design*—The State having jurisdiction over the organisation responsible for the type design.

(458) *State of Manufacture*—The State having jurisdiction over the organisation responsible for the final assembly of the aircraft.

(459) *State of Occurrence*—The State in the territory of which an accident or incident occurs.

(460) *State of the Operator*—The State in which the operator's principal place of business is located, or, if there is no such place of business, the operator's permanent residence.

(461) *State of Origin*—As relating to dangerous goods, the State in which dangerous goods were first loaded on an aircraft.

(462) *State of Registry*—The State on whose register an aircraft is entered.

(463) *Substantial damage*—Damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered “substantial damage” for the purpose of this substantial damage relating to an aircraft accident.

(464) *Synthetic flight trainer*—See Flight simulation training device.

(465) *Taxiing*—Movement of an aircraft on the surface of an aerodrome under its own power, excluding takeoff and landing.

(466) *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 minimising runway occupancy times.

(467) *Technical log*—A document carried on an aircraft that contains information to meet ICAO requirements ; a technical log contains two independent sections: a journey record section and an aircraft maintenance record section.

(468) *Take off and initial climb phase*—That part of the flight from the start of take-off to 300m (1000ft) above the elevation of the FATO, if the flight is planned to exceed this height, or to the end of the climb in the other cases.

(469) *Take-off surface*—That part of the surface of an aerodrome which the aerodrome authority has declared available for the normal ground or water run of aircraft taking off in a particular direction.

(470) *Target level of safety (TLS)*—A generic term representing the level of risk which is considered acceptable in particular circumstances.

(471) *Tesh (T)*—The magnetic flux density given by a magnetic flux of 1 weber per square metre

(472) *Tonne (t)*—The mass equal to 1 000 kilograms.

(473) *Total vertical error (TVE)*—The vertical geometric difference between the actual pressure altitude flown by an aircraft and its assigned pressure altitude (flight level).

(474) *Transfer of control point*—A defined point located along the flight path of an aircraft, at which the responsibility for providing air traffic control service to the aircraft is transferred from one control unit or control position to the next.

(475) *Takeoff decision point*—The point used in determining takeoff performance of a Class 1 helicopter from which, an engine failure occurring at this point, either a rejected takeoff may be made or a takeoff safely continued.

(476) *Technical Instructions*—The latest effective edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc. 9284-AN/905), including the supplement and any addendum, approved and published by decision of the Council of the ICAO.

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

(478) *Terrain Awareness Warning System*—A system that provides the flight crew with sufficient information and alerting to detect a potentially hazardous terrain situation and so the flight crew may take effective action to prevent a controlled flight into terrain (CFIT) event.

(479) *Threat*—As relating to flight, events or errors that occur beyond the influence of the flight crew, increase operational complexity and which must be managed to maintain the margin of safety.

(480) *Threat Management*—The process of detecting and responding to the threats with countermeasures that reduce or eliminate the consequences of threats, and mitigate the probability of errors or undesired aircraft.

(481) *Total estimated elapsed time*—For IFR flights, the estimated time required from takeoff 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 takeoff to arrive over the destination aerodrome.

(482) *Traceability*—A characteristic of a calibration, analogous to a pedigree. A traceable calibration is achieved when each Measurement Device and Working Standard, in a hierarchy stretching back to the National Standard, was itself properly calibrated, and the results properly documented. The documentation provides the information needed to show that all calibrations in the chain of calibrations were properly performed.

(483) *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).

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

(485) *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.

(486) *Training manual*—A manual containing the training goals, objectives, standards syllabi, and curriculum for each phase of the approved training course.

(487) *Training procedures manual*—A manual containing procedures, instructions and guidance for use by personnel of an Approved Training Organisation in the execution of their duties in meeting the requirements of the certificate.

(488) *Training Specifications*—A document issued to an Approved Training Organisation certificate holder by the Authority that specifies training program requirements and authorises the conduct of training, checking, and testing with any limitations thereof.

(489) *Training program*—Program that consists of courses, courseware, facilities, flight training equipment, and personnel necessary to accomplish a specific training objective. It may include a core curriculum and / or a specialty curriculum.

(490) *Transfer Standard*—Any standard that is used to compare a measurement process, system, or device at one location or level with another measurement process, system or device at another location or level.

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

(492) *Training time*—The time spent receiving from an authorised instructor flight training, ground training, or simulated flight training in an approved flight simulation training device.

(493) *Training to proficiency*—The process of the check airman administering each prescribed manoeuvre and procedure to a pilot as necessary until it is performed successfully during the training period.

(494) *Type Certificate*—A document issued by a Contracting State to define the design of an aircraft type and to certify that this design meets the appropriate airworthiness requirements of that State.

(495) *Undesired aircraft state*—Occurs when the flight crew places the aircraft in a situation of unnecessary risk.

(496) *UN number*—The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods to identify a substance or a particular group of substances.

(497) *Unit load device*—Any type of freight container, aircraft container, aircraft pallet with a net, or aircraft pallet with a net over an igloo.

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

(499) *Ultimate load*—The limit load multiplied by the appropriate factor of safety.

(500) *Unserviceable Area*—A part of the movement area that is unfit and unavailable for use by aircraft.

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

(502) *Validation*—The action taken by Nigeria as an alternative to issuing its own licence, in accepting a licence issued by another Contracting State as the equivalent of its own licence for use on aircraft registered in Nigeria.

(503) *Validation of a Certificate of Airworthiness*—The action taken by the Authority, as an alternative to issuing its own Certificate of Airworthiness, in accepting a Certificate of Airworthiness issued by any other Contracting State as the equivalent of its own Certificate of Airworthiness.

(504) *VFR*—The symbol used to designate the visual flight rules.

(505) *VFR flight*—A flight conducted in accordance with the visual flight rules.

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

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

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

(507) *Visual Meteorological Conditions*—Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima.

(508) *VMC*—The symbol used to designate visual meteorological conditions.

(509) *Wet Lease*—The lease of an aircraft with crew and other back-up.

(510) *Watt (W)*—The power which gives rise to the production of energy at the rate of 1 joule per second.

(511) *Waypoint*—A specified geographical location used to define an area navigation.

#### **1.6** LANGUAGE OF THESE REGULATIONS

(a) The English Language shall be the Language of these Regulations.

(b) Manuals, Certificates or Licences being submitted to the Authority must be in English language.

(c) If the Original Manual is in a Language other than English, a Certified English Translation must be submitted.

(d) When a Certificate or Licence is issued in a Language other than English, it shall include a certified English translation.

#### **1.7** PROCEDURES FOR MAKING AND AMENDING REGULATIONS

(1) There shall be established by the Director General of the Authority, A Regulations Committee (hereinafter referred to as “The Committee”).

Procedures for Making and Amending Regulations.

(2) The Committee shall be a Standing Committee within the Authority.

(3) The Committee shall be responsible for :

(a) Monitoring amendments to the Standards and Recommended Practices contained in the Annexes to the Convention on International Civil Aviation ;

(b) Incorporating the amendments into these Regulations ;

(c) Consideration of proposals for amendment to these Regulations made by stakeholders and other members of the Public ;

(d) Proposing on its motion, amendments to the Regulations ;

(e) Notification of and filing with ICAO of differences and Compliance with the SARP's.

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(4) (a) The Committee shall send Notice of Proposed Amendments (NPA) to operators and other stakeholders and request their comments thereto within a period of 30 days.

(b) Upon receipt of comments, the Committee may consider and Incorporate same into the Regulations.

(c) The Committee shall keep a record of such comments and its deliberations thereon.

Submission of Proposal.

(5) (a) Any interested person may submit to the Regulations Committee, a proposal on the introduction, amendment or withdrawal of a regulation or technical standard ;

(b) The proposal shall be in writing and shall :

(i) state the name and address of the proposer ;

(ii) state the contents of the regulation, technical standard or amendment proposed or specify the regulation or technical standard which the proposer wishes to be withdrawn ;

(iii) explain the interests of the proposer ; and

(iv) contain any information, views or arguments supporting the proposal.

(6) All amendments to these Regulations shall be signed and Published by the Director General of the Authority.

**1.8 REPEALS AND SAVINGS PROVISIONS**

Repeals and Savings Provisions.

(a) The following parts of the Nigerian Civil Aviation Regulations (Nigerian CARs) 2006 are hereby repealed: Parts 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 ,11.

(b) Parts 12, 14,15,16,17 and 18 shall continue to have the force of law in Nigeria until they are amended to bring them into conformity with the provisions of these Regulations.

(c) Notwithstanding (b) above the provision of Part 18 on offences relating to violations of Parts 1 - 11 of the Nigerian CARs 2006 shall cease to have the force of law upon coming into effect of these Regulations.

(d) These Regulations shall be cited as the Nigeria Civil Aviation Regulations 2009 (hereinafter referred to as “Nig. CARs”).

SI Unit of Measurement.

**1.9. SI UNIT OF MEASUREMENT**

(1) The International System of Units developed and maintained by the General Conference of Weight and Measures (CGPM) shall, subject to the provision of subsection (2)(a) & (b) below, be used as the standard system of units of measurement for all aspects of civil aviation air and ground operations in Nigeria.

(a) The prefixes and symbols of listed in table 2.1 of IS 1.9 to these Regulations shall be used to form names and symbols of the decimal multiples and sub-multiples of SI units.

(b) The non-SI units listed in table 2.2 of IS 1.9 to these Regulations shall be used either in lieu of, or in addition to SI units as primary units of measurement but only as specified in table 2.3.

(c) The non-SI units listed in table 2.3 of IS 1.9 to these Regulations shall be permitted for temporary use as alternative units of measurement but only for those specific quantities listed in table 2.4 of IS 1.9 to these Regulations.

(d) The application of units of measurement for certain quantities used in civil aviation air and ground operations shall be in accordance with table 2.4.

(e) All persons involved in civil aviation air and grounds operations shall ensure that means and provisions for design, procedures and training are established for operations in environment involving the use of standard and non-SI alternatives of specific units of measurements, or the transition between environments using different units, with due consideration to human performance.

(f) The use in International Civil Aviation Operations of the alternative non-SI units listed in table 2.3 shall be terminated on the dates to be specified by ICAO.

PART 1—IMPLEMENTING STANDARDS

**IS 1.2.1.8.**—(a) The following are deemed to be psychoactive substances :

List of Psychoactive Substances.

- (1) Alcohol.
- (2) Opioids.
- (3) Cannabinoids.
- (4) Sedatives and hypnotics.
- (5) Cocaine and other stimulants (except caffeine).
- (6) Hallucinogens.
- (7) Volatile solvents.

**SI 1.3.3.**—(a) These sanction guidance tables provide a recommended approach to assessment of sanctions for violations of these Regulations.

Legal Enforcement Actions.

(b) These tables describe civil penalties as minimum, moderate, or maximum for a single violation of a particular Regulation, in accordance with the Civil Aviation Act and these Regulations. These terms are defined as in the following tables.

TABLE 1. RANGE OF CIVIL PENALTIES

<i>Party committing violation</i>	<i>Amount of Civil Penalty</i>
Air Carriers	Maximum : [N5,000,000.00] Moderate : [N2,000,000.00] Minimum : [N500,000.00]
Aerodrome Operators	Maximum : [N10,000,000.00] Moderate : [N5,000,000.00] Minimum : [N2,500,000.00]
Air Navigation Services Providers	Maximum: [N10,000,000.00] Moderate: [N5,000,000.00] Minimum: [N1,000,000.00]
Air Carrier Personnel	Maximum: [N200,000.00] Moderate: [N100,000.00] Minimum: [N50,000.00]

TABLE 1. RANGE OF CIVIL PENALTIES—*contd.*

<i>Party committing violation</i>	<i>Amount of Civil Penalty</i>
General Aviation Owners, Operators, Aircraft Maintenance Engineers, other licenced and nonlicenced persons	Maximum : [N1,000,000.00] Moderate : [N500,000.00] Minimum : [N50,000.00]
Approved Maintenance Organisations	Maximum : [N2,500,000.00] Moderate : [N1,500,000.00] Minimum : [N500,000.00]
Approved Training Organisations	Maximum : [N2,500,000.00] Moderate : [N1,500,000.00] Minimum : [N500,000.00]

TABLE 2. RECCOMENDED SANCTIONS

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
<b>I. AIR OPERATORS AND AIRPORT OPERATORS</b>	
1. Maintenance Manual	
(a) Failure to maintain current manual	Suspend until manuals are current to 7 day suspension and thereafter until manuals are made current
(b) Failure to provide adequate instructions & procedures in manual	Moderate to maximum civil penalty
(c) Failure to distribute manual to appropriate personnel	Moderate civil penalty
(d) Release of aircraft without required equipment	Maximum civil penalty to 7-day suspension
2. Failure to comply with Airworthiness Directives	Moderate to maximum civil penalty
3. Operations Specifications	
(a) Failure to comply with inspection and overhaul time limitations	Maximum civil penalty to 7-day suspension
(b) Operations contrary to operations specifications	Maximum civil penalty
4. Failure to provide adequately for proper servicing, maintenance, repair, and inspection of facilities and equipment.	Maximum civil penalty to suspension until proper servicing maintenance, repair, and inspection of facilities and equipment is provided.

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
5. Failure to provide or maintain a maintenance & inspection organisation	Maximum civil penalty to suspension until appropriate maintenance and inspection organisation is provided.
6. Training Program	
(a) Failure to have or maintain an effective training program	Maximum civil penalty to suspension until compliance is demonstrated
(b) Failure to train specific personnel adequately	Moderate to maximum civil penalty
7. Failure to insure that maintenance release is completed and signed	Moderate to maximum civil penalty
8. Performance of maintenance by unauthorised persons	Maximum civil penalty
9. Failure to perform or improper performance of maintenance	Maximum civil penalty
10. Failure to revise aircraft data after repair	Moderate to maximum civil penalty
11. Records and Reports	
(a) Failure to make accurate engineer interruption summary report	Moderate to maximum civil penalty
(b) Failure to make available reports of major alterations or repairs	Moderate to maximum civil penalty
(c) Failure to make accurate engineer reliability reports	Moderate to maximum civil penalty
(d) Failure to keep maintenance records	Maximum civil penalty to 7-day suspension and thereafter until aircraft is in airworthy conditions
(e) Failure to make required entry in aircraft log	Moderate to maximum civil penalty
(f) Failure to make available pilot records	Moderate to maximum civil penalty
(g) Failure to make available load manifests	Moderate to maximum civil penalty
12. Operation of an unairworthy aircraft	
(a) Technical non-conformity to type certificate, but no likely effect (potential or actual) on safe operation	Minimum civil penalty
(b) Non-conformity which may have an adverse effect on safety of operation	Moderate civil penalty

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(c) Non-conformity which has an adverse effect (actual or potential) on safe operation	Maximum civil penalty
13. Serving alcoholic beverages to or boarding a person who appears to be intoxicated	Maximum civil penalty
14. Failure to make available a seat on the flight deck for Authority inspectors conducting an en route inspection	Maximum civil penalty
15. Using an unqualified crewmember	Maximum civil penalty
16. Improperly returning an aircraft to service	Maximum civil penalty
17. Illegal carriage of controlled substance with knowledge of carrier, i.e., knowledge of management personnel	Revocation
18. Security Violations	
(a) Failure to properly screen baggage or each passenger	Maximum civil penalty
(b) Unauthorised access to airport operations area	Maximum civil penalty
(c) Failure to comply with air carrier security program, including failure to detect weapons, incendiary and other dangerous devices	Maximum civil penalty
(d) Management personnel coerce, condone, or encourage falsification of records/reports	Revocation
(e) Deliberate failure to maintain employee records	Maximum civil penalty
(f) Failure to challenge	Moderate civil penalty
(g) Failure to test screeners or test equipment	Moderate civil penalty
(h) Failure to properly train	Moderate civil penalty
(i) Unintentional failure to maintain screener test records	Minimum to moderate civil penalty
(j) Improper use of dosimeters	Minimum civil penalty
(k) Failure to display identification	Minimum to moderate civil penalty

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(l) Failure to manage/control identification system	Maximum civil penalty
(m) Failure to conduct background check	Minimum to moderate civil penalty
(n) Failure to detect test objects	Maximum civil penalty
(o) Failure to comply with approved or current security program	Maximum civil penalty
(p) Failure of the law enforcement officer to respond in a timely manner	Maximum civil penalty
<b>II. PERSONNEL OF AIR CARRIERS</b>	
1. Maintenance performed by unauthorised personnel	
(a) Without a licence	Maximum civil penalty
(b) Exceeding limitations	30 to 45 day suspension
2. Failure to properly perform maintenance	30 to 120 day suspension
3. Inspection personnel	
(a) Failure to make required inspection	30 to 60 day suspension
(b) Making improper inspection	30 to 120 day suspension
(c) Improperly releasing an aircraft to service	30 to 60 day suspension
4. Records and reports	
(a) Failure to make entries in aircraft log	15 to 60 day suspension
(b) Failure to make entries in worksheets	15 to 30 day suspension
(d) Failure to sign off work or inspection performed	15 to 30 day suspension
(e) Failure to complete and sign maintenance release	15 to 30 day suspension
(f) Falsification of records or reports	Revocation
5. Releasing aircraft for service without required equipment	30 to 60 day suspension
6. Pre-flight	
(a) Failure to use pre-flight cockpit checklist	15 to 30 day suspension
(b) Failure to check aircraft logs, flight manifests, weather, etc.	30 to 90 day suspension

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
7. Taxiing	
(a) Failure to adhere to taxi clearance or instruction	30 to 60 day suspension
(b) Collision while taxiing	30 to 120 day suspension
(c) Jet blast	30 to 180 day suspension
(d) Taxiing with passenger standing	30 to 60 day suspension
8. Takeoff	
(a) Takeoff against instruction or clearance	60 to 120 day suspension
(b) Takeoff below weather minima	60 to 120 day suspension
(c) Takeoff in overloaded aircraft	60 to 120 day suspension
9. Enroute	
(a) Deviation from clearance or instruction	30 to 90 day suspension
(b) Operating VFR within clouds	90 day suspension to revocation
(c) Operation of unairworthy aircraft	30 to 180 day suspension
(d) Unauthorised departure from flight desk	15 to 30 day suspension
(e) Operating within restricted or prohibited area, or within positive control area with clearance	30 to 90 day suspension
(f) Operating without required equipment	15 to 120 day suspension
(g) Fuel mismanagement/exhaustion	30 to 150 day suspension
10. Approach to landing	
(a) Deviation from clearance or instruction in terminal area	30 to 90 day suspension
(b) Approach below weather minimums	45 to 90 day suspension
(c) Exceeding speed limitation in airport traffic areas	30 to 60 day suspension
11. Landing	
(a) Landing at wrong airport	90 to 180 day suspension
(b) Deviation from instrument approach procedure	30 to 90 day suspension
(c) Overweight landing	30 to 90 day suspension
(d) Hard landing	15 to 60 day suspension

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(e) Short or long landing	30 to 180 day suspension
(f) Wheels up landing	30 to 180 day suspension
(g) Failure to comply with preferential runway system	Maximum civil penalty to 15 day suspension
12. Unauthorised admission to flight deck	30 to 90 day suspension
13. Failure to close and lock cockpit door	Maximum civil penalty to 30 day suspension
14. Acting as flight crewmember while under the influence of liquor or other psychoactive substances, or alcoholic beverage consumption within 8 hours	Emergency revocation
15. Denial of authorised entry to flight deck	30 to 60 day suspension
16. Flight and duty time limitations	15 to 90 day suspension
17. Operation without required licence, certificate or rating	
(a) Medical certificate	15 to 60 day suspension
(b) Lack of type rating	180 day suspension to revocation
(c) Missed proficiency check	30 to 90 day suspension
(d) Lack of current experience	30 to 90 day suspension
(e) Failure to have current certificate or licence in possession	Moderate civil penalty to 7 day suspension
18. Operation with known physical disability	Revocation
<b>III. INDIVIDUALS AND GENERAL AVIATION-OWNERS, PILOTS, MAINTENANCE PERSONNEL, APPROVED MAINTENANCE ORGANISATIONS, APPROVED TRAINING ORGANISATIONS</b>	
1. Owners and operators other than required crewmembers	
(a) Failure to comply with airworthiness directives	Moderate to maximum civil penalty
(b) Failure to perform or improper performance of maintenance, including required maintenance	Moderate to maximum civil penalty

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(c) Failure to make proper entries in aircraft logs	Minimum to moderate civil penalties
(d) Operation of aircraft beyond annual, 100-hour, or progressive inspection	Minimum to moderate civil penalty
(e) Operation of unairworthy aircraft	Moderate to maximum civil penalty
(f) Falsification of any record	Revocation
2. Approved Maintenance Organisations	
(a) Failure to provide adequately for proper servicing, maintenance repairs, and inspection	Moderate to maximum civil penalty
(b) Failure to provide adequate personnel who can perform, supervise, and inspect work for which the station is rated	Maximum civil penalty to 7-day suspension and thereafter until adequate personnel are provided
(c) Failure to have enough qualified personnel to keep up with the volume of work	Maximum civil penalty to 7-day suspension and thereafter until certificate holder has enough qualified personnel
(d) Failure to maintain records of supervisory and inspection personnel	Moderate to maximum civil penalty
(e) Failure to maintain performance records and reports	Moderate to maximum civil penalty
(f) Failure to ensure correct calibration of all inspection and test equipment is accomplished at prescribed intervals	Minimum to maximum civil penalty
(g) Failure to set forth adequate description of work performed	Minimum to maximum civil penalty
(h) Failure of engineer to make log entries, records, or reports	Moderate to maximum civil penalty
(i) Failure to sign or complete maintenance release	Minimum to moderate civil penalty
(j) Inspection of work performed and approval for return to service by other than a qualified inspector	Maximum civil penalty to 30 day suspension
(k) Failure to have an adequate inspection system that produces satisfactory quality control	Moderate civil penalty to 30 day suspension and thereafter until an adequate inspection system is attained.

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(l) Maintaining or altering an article for which it is rated, without using required technical data, equipment, or facilities	Maximum civil penalty to 30 day suspension
(m) Failure to perform or properly perform maintenance, repairs, alterations, and required inspections	Moderate civil penalty to 30 day suspension
(n) Maintaining or altering an airframe, powerplant, propeller, instrument, radio, or accessory for which it is not rated.	Maximum civil penalty to revocation
(o) Failure to report defects or unairworthy conditions to the Authority in a timely manner.	Moderate to maximum civil penalty
(p) Failure to satisfy housing and facility requirements	Moderate civil penalty to suspension until housing and facility requirements are satisfied
(q) Change of location, housing, or facilities without advance written approval	Moderate civil penalty to suspension until approval is given
(r) Operating as a certificated repair station without a repair station certificate	Maximum civil penalty
(s) Failure to permit Authority to inspect	Maximum civil penalty to suspension until Authority is permitted to inspect.
3. General Aviation Maintenance Personnel	
(a) Failure to revise aircraft data after major repairs or alterations	30 to 60 day suspension
(b) Failure to perform or improper performance of maintenance	30 to 120 day suspension
(c) Failure of engineer to properly accomplish inspection	30 to 60 day suspension
(d) Failure of engineer to record inspection	Minimum civil penalty to 30 day suspension
(e) Failure of Inspection Authorisation holder to properly accomplish inspection	60 to 180 day suspension of Inspection Authorisation
(f) Failure of Inspection Authorisation holder to record inspection	Moderate civil penalty to 30 day suspension of Inspection Authorisation

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(g) Maintenance performed by person without a certificate	Moderate to maximum civil penalty
(h) Maintenance performed by person who exceeded certificate limitations	15 to 60 day suspension
(i) Improper approval for return to service	Moderate civil penalty to 60 day suspension
(j) Failure to make maintenance record entries	Moderate civil penalty to 60 day suspension
(k) Failure to set forth adequate description of work performed	Minimum civil penalty to 30 day suspension
(l) Falsification of maintenance records	Revocation
4. Student Operations	
(a) Carrying passengers	Revocation
(b) Solo flight without endorsement	45 to 90 day suspension
(c) Operation on international flight	60 to 90 day suspension
(d) Use of aircraft in business	90 to 120 day suspension
(e) Operation for compensation or hire	Revocation
5. Flight instructors	
(a) False endorsement of student pilot certificate	Revocation
(b) Exceeding flight time limitations	30 to 90 day suspension
(c) Instruction in aircraft for which he/she is not rated	30 to 90 day suspension
6. Operational violations	
(a) Operation without valid airworthiness or registration certificate	30 to 90 day suspension
(b) Failure to close flight plan or file arrival notice	Administrative action to minimum civil penalty
(c) Operation without valid pilot certificate (no certificate)	Maximum civil penalty
(d) Operation while pilot certificate is suspended	Emergency revocation
(e) Operation without pilot or medical certificate in personal possession	Administrative action to 15 day suspension
(f) Operation without valid medical certificate	30 to 180 day suspension
(g) Operation for compensation or hire without commercial pilot certificate	180 day suspension to revocation

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(h) Operation without type or class rating	60 to 120 day suspension
(i) Failure to comply with special conditions of medical certificate	90 day suspension to revocation
(j) Operation with known physical deficiency	90 day suspension to revocation
(k) Failure to obtain preflight information	30 to 90 day suspension
(l) Deviation from ATC instruction or clearance	30 to 90 day suspension
(m) Taxiing, takeoff, or landing without a clearance where ATC tower is in operation	30 to 90 day suspension
(n) Failure to maintain radio communications in airport traffic area	30 to 60 day suspension
(o) Failure to comply with airport traffic pattern	30 to 60 day suspension
(p) Operation in terminal control area without or contrary to a clearance	60 to 90 day suspension
(q) Failure to maintain altitude in airport traffic area	30 to 60 day suspension
(r) Exceeding speed limitations in traffic area	30 to 60 day suspension
(s) Operation of unairworthy aircraft	30 to 180 day suspension
(t) Failure to comply with Airworthiness directives	30 to 180 day suspension
(u) Operation without required instruments and/or equipment	30 to 90 day suspension
(v) Exceeding operating limitations	30 to 90 day suspension
(w) Operation within prohibited or restricted area, or within positive control area	30 to 90 day suspension
(x) Failure to adhere to right of way rules	30 to 90 day suspension
(y) Failure to comply with VFR cruising altitudes	30 to 90 day suspension

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(z) Failure to maintain required minimum altitudes over structures, persons, or vehicles over :	
(i) Congested area	60 to 180 day suspension
(ii) Sparsely populated area	30 to 120 day suspension
(aa) Failure to maintain radio watch while under IFR	30 to 60 day suspension
(bb) Failure to report at compulsory reporting points	30 to 60 day suspension
(cc) Failure to display position lights	30 to 60 day suspension
(dd) Failure to maintain proper altimeter settings	30 to 60 day suspension
(ee) Weather operations :	
(i) Failure to comply with visibility minimums in controlled airspace	60 to 180 day suspension
(ii) Failure to comply with visibility minimums outside controlled airspace	30 to 120 day suspension
(iii) Failure to comply with distance from clouds requirements in controlled airspace	60 to 180 day suspension
(iv) Failure to comply with distance from clouds requirements outside of controlled airspace	30 to 120 day suspension
(ff) Failure to comply with IFR landing minimums	45 to 180 day suspension
(gg) Failure to comply with instrument approach procedures	45 to 180 day suspension
(hh) Careless or reckless operations :	
(i) Fuel mismanagement/exhaustion	30 to 150 day suspension
(ii) Wheels up landing	30 to 60 day suspension
(iii) Short or long landing	30 to 90 day suspension
(iv) Landing on or taking off from closed runway	30 to 60 day suspension
(v) Landing or taking off from ramps or other improper areas	30 to 120 day suspension
(vi) Taxiing collision	30 to 90 day suspension
(vii) Leaving aircraft unattended with motor running	30 to 90 day suspension

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(viii) Propping aircraft without a qualified person at controls	30 to 90 day suspension
(ii) Passenger operations	
(i) Operation without approved seat belts	30 to 60 day suspension
(ii) Carrying passengers who are under the influence of psychoactive substances	60 to 120 day suspension
(iii) Performing acrobatics when all passengers are not equipped with approved parachutes	60 to 90 day suspension
<b>IV. SECURITY VIOLATIONS BY INDIVIDUALS</b>	
1. Checked baggage	
(a) Failure to declare unloaded firearm	Minimum civil penalty
(b) Loaded firearm	Moderate to maximum civil penalty
(c) Incendiary/explosive	Up to maximum civil penalty and/or criminal referral
2. Non-passengers : No intent to board	
(a) Possession of firearm (unloaded, unloaded with ammunition accessible, or loaded) or other dangerous or deadly weapon (including stun guns) :	
(i) At screening point with no aggravating circumstances	Minimum civil penalty
(ii) At screening point with aggravating circumstances	Moderate to maximum civil penalty
(iii) In sterile area with no aggravating circumstances	Minimum to moderate civil penalty
(iv) In sterile area with aggravating circumstance	Moderate to maximum civil penalty
(b) Possession of incendiary/explosive at screening point or in sterile area with no intent to board a flight	Moderate to maximum civil penalty and/or criminal referral
(c) Artful concealment of firearm (loaded or unloaded), other dangerous or deadly weapon (including stun guns), or incendiary/explosive at screening point or in sterile area.	Maximum civil penalty and/or criminal referral

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
3. Passengers : Intent to board	
(a) Possession of dangerous or deadly weapon (including stun guns, mace, etc., but excluding firearms and incendiary/explosives) that would be accessible in flight in air transportation :	
(i) At screening point with no aggravating circumstances	Minimum civil penalty
(ii) At screening pint with aggravating circumstances	Moderate to maximum civil penalty
(iii) In sterile area or aboard aircraft with no aggravating circumstances	Minimum to moderate civil penalty
(iv) In sterile area or aboard aircraft with aggravating circumstances	Moderate to maximum civil penalty
(b) Possession of firearm that would be accessible in flight in air transportation with firearm unloaded, without accessible ammunition :	
(i) At screening point with no aggravating circumstances	Minimum to moderate civil penalty
(ii) At screening pint with aggravating circumstances	Maximum civil penalty
(iii) In sterile area or aboard aircraft with no aggravating circumstances	Moderate civil penalty
(iv) In sterile area or aboard aircraft with aggravating circumstances	Maximum civil penalty
(c) Possession of firearm that would be accessible in flight in air transportation with firearm loaded, or with accessible ammunition :	
(i) At screening point with no aggravating circumstances	Moderate to maximum civil penalty
(ii) At screening point with aggravating circumstances	Maximum civil penalty
(iii) In sterile area or aboard aircraft with no aggravating circumstances	Moderate to maximum civil penalty

TABLE 2. RECOMMENDED SANCTIONS—*contd.*

<i>Violation</i>	<i>Recommended Sanction per Violation</i>
(iv) In sterile area or aboard aircraft with aggravating circumstances	Maximum civil penalty
(d) Artful concealment of dangerous or deadly weapon (including stun guns, but excluding firearms and incendiary/explosives) at screening point, in sterile area, or aboard aircraft.	Maximum civil penalty and/or criminal referral
(e) Possession of incendiary/explosive at screening point, in sterile area, or aboard aircraft that would be accessible in flight in air transportation.	Maximum civil penalty and/or criminal referral
(f) Artful concealment of firearm or incendiary/explosive at screening point, in sterile area, or aboard aircraft.	Maximum civil penalty and/or criminal referral
<b>4. OTHER ACTS</b>	
(a) Entering sterile area after failing to submit to screening — non-aggravated	Minimum civil penalty
(b) Entering sterile area after failing to submit to screening aggravated	Moderate to maximum civil penalty
(c) Imparting or conveying false information concerning an attempt to do an act that would be a crime prohibited by the Civil Aviation Act	Maximum civil penalty
(d) Threatening overt act or other intent to use or dangerously display firearm, incendiary/explosive, or other deadly or dangerous weapon (including stun guns)	Maximum civil penalty and/or criminal referral
(e) Violation of Sections 54, 55, 56, 57, 59, 60 and 74 of the Civil Aviation Act 2006.	Criminal referral

**IS 1.9. SI UNIT OF MEASUREMENT**

Si Unit of Measurement.

1. Table 2.1. SI Unit Prefix

<i>Multiplication factor</i>	<i>Prefix</i>	<i>Symbol</i>			
1 000 000 000 000 000 000	=	10 <sup>18</sup>	exa	E	
1000 000 000 000 000	=	10 <sup>15</sup>	peta	P	
1000 000 000 000	=	10 <sup>12</sup>	tera	T	
1000 000 000	=	10 <sup>9</sup>	giga	G	
1000 000	=	10 <sup>6</sup>	mega	M	
1 000	=	10 <sup>3</sup>	kilo	k	
100	=	10 <sup>2</sup>	hecto	H	
10	=	10 <sup>1</sup>	deca	a	
0.1	=	10 <sup>-1</sup>	deci	d	
0.01	=	10 <sup>-2</sup>	centi	c	
0.001	=	10 <sup>-3</sup>	milli	m	
0.000 001	=	10 <sup>-6</sup>	micro	μ	
0.000 000 001	=	10 <sup>-9</sup>	nano	n	
0.000 000 000 001	=	10 <sup>-12</sup>	pico	p	
0.000 000 000 000 001	=	10 <sup>-15</sup>	femto	f	
0.000 000 000 000 000 001	=	10 <sup>-18</sup>	atto	a	

2. Table 2.2 NON-SI Units for use with the SI

<i>Specific quantities In Table 3-4 Related to</i>	<i>Unit</i>	<i>Symbol</i>	<i>Definition (in terms of SI units)</i>
Mass	tonne	t	1 t = 10 <sup>3</sup> kg
plane angle	degree	o	1° = (0/180) rad
	minute	‘	1’ = (1/60)0 = (0/10 800) rad
	second	“	1” = (1/60)” = (0/648 000)rad
temperature	degree Celsius	°C	1 unit °C = 1 unit K <sup>a</sup> )
time	minute	min	1 min = 60s
	hour	h	1 h = 60 min = 3 600 s
	day	d	1 d = 24 h = 86 400 s
	week, month, year	-	
Volume	Litre	L	1 L = 1 dm <sup>3</sup> = 10 <sup>-3</sup> m <sup>3</sup>

(a) See Table 2.5 for conversion.

## 3. TABLE 2.3 NON-SI Alternative Units permitted for temporary use with the SI.

*Specific quantities**In Table 3-4*

<i>Related to</i>	<i>Unit</i>	<i>Symbol</i>	<i>Definition (in terms of SI units)</i>
Distance (long)	nautical mile	NM	1 NM = 1852 m
Distance (vertical) <sup>a)</sup>	foot	ft	1 ft = 0.3048m
Speed	knot	kt	1 kt = 0.514 444 m/s

a) altitude, elevation, height, vertical speed

## 4. TABLE 2.4 Standard application of specific units of measurement

<i>Ref. No</i>	<i>Primary unit</i>	<i>Non-SI Alternative units (symbol)</i>	<i>Quantity (Symbol)</i>
<b>1. Direction/Space/Time</b>			
1.1	altitude	m	ft
1.2	area	m <sup>2</sup>	
1.3	distance (long) <sup>a)</sup>	km	NM
1.4	distance (short)	m	
1.5	elevation	m	ft
1.6	endurance	h and min	
1.7	height	m	ft
1.8	latitude	°t"	
1.9	length	m	
1.10	longitude	°' "	
1.11	plane angle (when required, decimal subdivisions of the degree shall be used)	°	
1.12	runway length	m	
1.13	runway visual range	m	
1.14	tank capacities (aircraft) <sup>b)</sup>	T	
1.15	time	s min h d week month year	
1.16	visibility <sup>c)</sup>	km	
1.17	volume	m <sup>3</sup>	
1.18	wind direction (wind directions other than for a landing and take-off shall be expressed in degrees true; for landing and take-off wind directions shall be expressed in degrees magnetic)	°	

4. TABLE 2.4 Standard application of specific units of measurement-*contd.*

<i>Ref. No</i>	<i>Primary unit</i>	<i>Non-SI Alternative units (symbol)</i>	<i>Quantity (Symbol)</i>
<b>2. Mass-related</b>			
2.1	air density	kg/m <sup>3</sup>	
2.2	area density	kg/m <sup>2</sup>	
2.3	cargo capacity	kg	
2.4	cargo density	kg/m <sup>3</sup>	
2.5	density (mass density)	kg/m <sup>3</sup>	
2.6	fuel capacity (gravimetric)	kg	
2.7	gas density	kg/m <sup>3</sup>	
2.8	gross mass or payload	kg	
2.9	hoisting provisions	kg	
2.10	linear density	Wm	
2.11	liquid density	kg/m <sup>3</sup>	
2.12	mass	kg	
2.13	moment of inertia	kg*m <sup>2</sup>	
2.14	moment of momentum	kg.m <sup>2</sup> /s	
2.15	momentum	kg.m/s	
<b>3. force-related</b>			
3.1	air pressure (general)	kPa	
3.2	altimeter settin	hPa	
3.3	gatmospheric pressure	hPa	
3.4	bending moment	kN*m	
3.5	force	N	
3.6	fuel supply pressure	kPa	
3.7	hydraulic pressure	kPa	
3.8	modulus of elasticity	MPa	
3.9	pressure	kPa	
3.10	stress	MPa	
3.11	surface tension	mN/m	
3.12	thrust	kN	
3.13	torque	N*m	
3.14	vacuum	Pa	
<b>4. Mechanics</b>			
4.1	airspeed <sup>d)</sup>	km/h	
4.2	angular acceleration	rad/s <sup>2</sup>	
4.3	angular velocity	rad/s	
4.4	energy or work	J	
4.5	equivalent shaft power	kW	
4.6	frequency	HZ	
4.7	ground speed	Km/h	
4.8	impact	J/m <sup>o</sup>	
4.9	kinetic energy absorbed by brakes	MJ	

4. TABLE 2.4 Standard application of specific units of measurement-*contd.*

Ref. No	Primary unit	Non-SI	
		Alternative units (symbol)	Quantity (Symbol)
4.10	linear acceleration	m/s <sup>2</sup>	
4.11	power	kW	
4.12	rate of trim	°/s	
4.13	shaft power	kW	
4.14	velocity	m/s	
4.15	vertical speed	m/s	Ft/min
4.16	wind speed	km/h	kt
<b>5. Flow</b>			
5.1	engine airflow		
5.2	engine waterflow	kg/s	
5.3	fuel consumption (specific)	kg/h	
	piston engines	kg/(kW <sup>o</sup> h)	
	turbo-shaft engines	kg/(kW <sup>o</sup> h)	
	jet engines	kg/(kN <sup>o</sup> h)	
5.4	fuel flow	kg/h	
5.5	fuel tank filling rate (gravimetric)	kg/min	
5.6	gas flow	kg/s	
5.7	liquid flow (gravimetric)	g/s	
5.8	liquid flow (volumetric)	L/s	
5.9	mass flow	Kg/s	
5.10	oil consumption		
	gas turbine	Kg/h	
	piston engines (specific)	g/(kW <sup>o</sup> h)	
5.11	oil flow	g/S	
5.12	pump capacity	L/min	
5.13	ventilation airflow	m <sup>3</sup> /min	
5.14	viscosity (dynamic)	Pa + s	
5.15	viscosity (kinematic)	m <sup>2</sup> /s	
<b>6. Thermodynamics</b>			
6.1	coefficient of heat transfer	W/(m <sup>2</sup> . K)	
6.2	heat flow per unit area	J/m <sup>2</sup>	
6.3	heat flow rate	W	
6.4	humidity (absolute)	g/kg	
6.5	coefficient of linear expansion	°C-1	
6.6	quantity of heat	J	
6.7	temperature	°C	
<b>7. Electricity and magnetism</b>			
7.1	capacitance	F	
7.2	conductance	S	

4. TABLE 2.4 Standard application of specific units of measurement-*contd.*

<i>Ref. No</i>	<i>Primary unit</i>	<i>Non-SI Alternative units (symbol)</i>	<i>Quantity (Symbol)</i>
7.3	conductivity	S/m	
7.4	current density	A/m <sup>2</sup>	
7.5	electric current	A	
7.6	electric field strength	C/m <sup>2</sup>	
7.7	electric potential	V	
7.8	electromotive force	V	
7.9	magnetic field strength	A/m	
7.10	magnetic flux	Wb	
7.11	magnetic flux density	T	
7.12	power	W	
7.13	quantity of electricity	C	
7.14	resistance	Ω	
<b>8.</b>	<b><i>Light and related electromagnetic radiations</i></b>		
8.1	Illuminance	lx	
8.2	luminance	cd/m <sup>2</sup>	
8.3	luminous exitance	Mm <sup>2</sup>	
8.4	luminous flux	lm	
8.5	luminous intensity	cd	
8.6	quantity of light	Im- s	
8.7	radiant energy	J	
8.8	wavelength	m	
<b>9.</b>	<b><i>Acoustics</i></b>		
9.1	frequency	Hz	
9.2	mass density	kg/m <sup>3</sup>	
9.3	noise level	dB <sup>e)</sup>	
9.4	period, periodic time	S	
9.5	sound intensity	W/m <sup>2</sup>	
9.6	sound power	W	
9.7	sound pressure	Pa	
9.8	sound level	D B <sup>e)</sup>	
9.9	static pressure (instantaneous)	Pa	
9.10	velocity of sound	m/S	
9.11	volume velocity (instantaneous)	m <sup>3</sup> /s	
9.12	wavelength	m	
<b>10.</b>	<b><i>Nuclear physics and ionizing radiation</i></b>		
10.1	absorbed dose	Gy	
10.2	absorbed dose rate	Gy/s	
10.3	activity of radionuclides	Bq	
10.4	dose equivalent	Sv	
10.5	radiation exposure	C&z	
10.6	exposure rate	C/kg* s	

- (a) As used in navigation, generally in excess of 4 000 m.
- (b) Such as aircraft fuel, hydraulic fluids, water, oil and high pressure oxygen vessels.
- (c) Visibility of less than 5 km may be given in m.
- (d) Airspeed is sometimes reported in flight operations in terms of the ratio MACH number.
- (e) The decibel (dB) is a ratio which may be used as a unit for expressing sound pressure level and sound power level. When used, the reference level must be specified.

Table 2.5 Temperature Conversion formulae

<i>To convert from</i>	<i>to</i>	<i>Use formula</i>
Celsius temperature ( $t^{\circ}\text{C}$ )	Kelvin temperature ( $t^{\text{K}}$ )	$t^{\text{K}} = t^{\circ}\text{C} + 273.15$
Fahrenheit temperature ( $t^{\circ}\text{F}$ )	Celsius temperature ( $t^{\circ}\text{C}$ )	$t^{\circ}\text{C} = (t^{\circ}\text{F} - 32)/1.8$
Fahrenheit temperature ( $t^{\circ}\text{F}$ )	Kelvin temperature ( $t^{\text{K}}$ )	$t^{\text{K}} = (t^{\circ}\text{F} + 459.67)/1.8$
Kelvin temperature ( $t^{\text{K}}$ )	Celsius temperature ( $t^{\circ}\text{C}$ )	$t^{\circ}\text{C} = t^{\text{K}} - 273.15$
Rankine temperature ( $t^{\circ}\text{R}$ )	Kelvin temperature ( $t^{\text{K}}$ )	$t^{\text{K}} = t^{\circ}\text{R}/1.8$