

ADVISORY CIRCULAR 003

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To: All civil aviation service providers, licensed personnel, other stakeholders and members of the public

From: DIRECTOR GENERAL (NCAA)

Date: 2nd January 2020

Subject: NOTICE OF PROPOSED ORDER 003

The Nigerian Civil Aviation Authority proposes to issue an Order in conformity with recent amendments to Standards and Recommended Practices (Annexes) to the Convention on International Civil Aviation.

PREAMBLE:

1. **WHEREAS** the Nigeria Civil Aviation Regulations (Nig.CARs) was last amended on 7th December, 2015;
2. **WHEREAS** the Nig. CARs was promulgated to conform to the international civil aviation standards published by the International Civil Aviation Organisation (ICAO).
3. **WHEREAS** ICAO has amended the *Annexes* by adopting new Standards and Recommended Practices (SARPs) since December 2015;
4. **WHEREAS** there has been observed some gaps between the Nig. CARs and the new ICAO SARPs; and
5. **WHEREAS** there is a need to bring Nig. CARs up to date with operational realities in Nigeria especially with regard to Unmanned Aircraft Systems: and
6. **WHEREAS** there is an urgent need to bring the Nig. CARs up to date with the ICAO SARPs.

Pursuant to powers vested by section 30(5) and (7)(a) of the Civil Aviation Act 2006, the Director-General, Nigerian Civil Aviation Authority hereby makes the following Order:

1.1 INTRODUCTION

- (a) Part 1 of this Order sets forth the regulatory requirements for the certification, registration, operations, and surveillance of Remotely Piloted Aircraft Systems (RPAS/UAS) in Nigeria.

- (b) Part 1 incorporates relevant requirements governing the safe operation of RPAS/UAS as contained in the Annexes to the Chicago Convention and the principles of ICAO Docs 10019, 9668 and other relevant ICAO Documents.

1.1.1.1 General

- (a) This part prescribes the regulatory requirements for Civil Remotely Piloted Aircraft Systems.

1.1.1.2 Applicability

- (a) This Part prescribes the requirements of Nigeria regarding the operations or piloting of unmanned aircraft systems of any size, whether generically termed as aircraft, balloons, drones, vehicles or models.
- (b) This Part is applicable to all persons operating unmanned and/or remotely piloted unmanned aircraft systems of any size in the airspace of Nigeria over land or water.
- (c) This Part is specifically applicable to the following—
 - (1) Unmanned aircraft systems;
 - (2) Unmanned aerial vehicles;
 - (3) Drones;
 - (4) Unmanned balloons, whether tethered or free-flight;
 - (5) Radio controlled model aircraft;
 - (6) Free flight model aircraft (whether launched by hand, catapult or rocket cartridge);
 - (7) Control line model aircraft;
 - (8) Model rockets;
 - (9) Remotely controlled Kites;
 - (10) Small free flight model aircraft;
 - (11) Any other unmanned aircraft system that is not yet identified in this Order.

1.1.1.3 Definitions

- (a) For the purpose of this Part, in addition to the definitions set forth in Part 1 of Nig. CARs, the following definitions shall apply:
 - (1) **Accident:** An occurrence associated with the operation of any aircraft, including UAS, which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an

unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down, in which—

- (i) A person is fatally or seriously injured as a result of—
 - (A) Being in the aircraft, or
 - (B) Direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
 - (C) Direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

- (ii) The aircraft sustains damage or structural failure which—
 - (A) adversely affects the structural strength, performance or flight characteristics of the aircraft, and
 - (B) would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to single engine, including its cowlings or accessories, to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin, such as small dents or puncture holes, or for minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike (including holes in the radome); or

- (iii) the aircraft is missing or is completely inaccessible.

(2) 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.

(3) 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.

(4) Air traffic: All aircraft in flight or operating on the

manoeuvring area of an aerodrome (*note 1*)

- (5) **Air traffic control clearance:** Authorization for an aircraft to proceed under conditions specified by an air traffic control unit (*note 2*).
- (6) **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.
- (7) **Authority:** The Nigerian Civil Aviation Authority;
- (8) **Authorization:** The formal permission granted to an applicant, from the Authority, allowing particular operations with limitations commensurate with the combined operational and system risk.
- (9) **Automatic Dependent Surveillance – Broadcast (ADS-B):** One method by which aircraft, aerodrome vehicles and other objects can automatically transmit and/or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link.
- (10) **Basic operations:** Operations that are likely to fall under the lowest risk categories and likely require only registration of the UAS in addition to set restrictions for private use.
- (11) **Beyond visual line-of-sight (BVLOS) operation.** Unmanned aircraft operations in which the remote pilot does not have to keep the unmanned aircraft within visual-line-of-sight at all times.

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

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

- (12) **Beyond radio line-of-sight (BRLOS).** Any C2 Link configuration in which the transmitters and receivers are not in radio line of sight. BRLOS thus includes all satellite systems and possibly any system where an RPS communicates with one or more ground stations via a terrestrial network which cannot complete transmissions in a timeframe comparable to that of an RLOS system.
- (13) **Commercial operation of UAS:** Any UAS operations for hire, profit, gain, remuneration or earnings.

- (14) **Conspicuity:** Quality of an aircraft (e.g. lighting or paint scheme) allowing it to be easily seen or noticed by others (e.g. by pilots, ATCOs, aerodrome personnel).
- (15) **Continuing airworthiness:** The set of processes by which an aircraft, engine, propeller or part complies with the applicable airworthiness requirements and remains in a condition for safe operation throughout its operating life.
- (16) **Control area:** A controlled airspace extending upwards from a specified limit above the earth.
- (17) **Controlled airspace:** Airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification (*Note 3*).
- (18) **Controlled flight:** Any flight which is subject to an air traffic control clearance.
- (19) **Control zone:** Controlled airspace extending upwards from the surface of the earth to a specified upper limit.
Data link Communications: Form of communication intended for the exchange of messages via a data link.
- (20) **Categories of operation**
- (a) **Category A (low risk).** Provides operations that are conducted within defined limitations (e.g. Visual line-of-sight (VLOS) only, specifying distances from aerodromes and people, maximum height above ground level (AGL), etc.), flights can take place without the need for any authorization from the aviation authority.

Note 3. — Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D and E as described in ICAO Annex 11, 2.6.

- (b) **Category B (medium risk/regulated lower risk).** This category of operation requires an operational authorization from the Authority prior to the flight(s) taking place; appropriate limitations/restrictions would be applied based on the type of operation, complexity of the UAS and the specific qualifications and experience of operating personnel. Approval for the operation would be based on analysis of a safety risk assessment and any mitigations employed to reduce any risks to an acceptable level. This category encompasses operations where the

risk to persons being overflown is greater than what would be permitted in Category A, or involves sharing the airspace with other manned or unmanned aircraft, but is at a level below that where the 'classical aviation approach' would be warranted.

- (c) **Category C (manned aviation approach).** This category utilizes the *traditional* method of regulating manned aviation when the aviation risks increase to an equivalent level. Operator certification, flight crew licensing and remotely piloted aircraft (RPA) certification will be required due to the higher associated risk. Operations in this category are primarily considered to be flown beyond visual line-of-sight (BVLOS), however portions of the flight (e.g. launch and recovery) may operate within VLOS (Note 4).
- (21) **Combined vision system (CVS).** A system to display images from a combination of an enhanced vision system (EVS) and a synthetic vision system (SVS).
- (22) **C2 link.** The data link between the remotely piloted aircraft and the remote pilot station for the purpose of managing the flight.
- (23) **C2 Link Interruptions.** Temporary situations where the C2 Link is either unavailable, discontinuous, too slow, or lacks integrity; but where the Lost C2 Link Decision Time has not been exceeded such as to require the RPAS to enter the Lost C2 Link State.

Note 4:- Considering the broad range of operations and types of UAS, the Authority has established three (3) categories of operations covering the whole range of possible operations and associated regulatory regime as outlined above.

- (24) **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 Technical Instructions (Doc. 9284) or which are classified according to those Instructions.
- (25) **Detect and avoid.** The capability to see, sense or detect conflicting traffic or other hazards and take the appropriate action.
- (26) **Drones** are more formally known as **unmanned** aerial vehicles (UAVs) or **unmanned** aircraft systems (UAS).

Essentially, a **drone** is a flying robot that can be remotely controlled or fly autonomously through software-controlled flight plans in their embedded systems, working in conjunction with on-board sensors and GPS. Drones are for non-commercial activities.

- (27) **Extended Visual Line of Sight.** EVLOS operations are operations, either within or beyond 500m / 400 ft, where the Remote Pilot is still able to comply with his collision avoidance responsibilities, but the requirement for the Remote Pilot to maintain direct visual contact with the UA is addressed via other methods or procedures. It is important to note, however, that collision avoidance is still achieved through 'visual observation' (by the Remote Pilot and/or RPA Observers).
- (28) **Fatigue:** A physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase, or workload (mental or physical activity) that can impair a crew member's alertness and ability to safely operate an aircraft or perform safety- related duties.
- (29) **Flight plan:** Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.
- (30) **Flight recorder:** Any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation. In the case of unmanned aircraft system, it also includes any type of recorder installed in a remote pilot station for the purpose of complementing accident/incident investigation.
- (31) **Flight time:** The total time from the moment an aircraft first moves for the purpose of taking off until the moment it finally comes to rest at the end of the flight *(Note 5)*.

Note 5. — 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 first moves for the purpose of taking off until it finally stops at the end of the flight.

- (32) **Flight visibility:** The visibility forward from the cockpit of an aircraft in flight.
- (33) **Geographical limitation:** A restricted airspace volume defined through electronic map data.
- (34) **Flight termination system.** A system intended to terminate the flight and minimize the possibility of injury or damage to persons, property or other aircraft.
- (35) **Handover.** The act of passing piloting control from one

remote pilot station to another.

- (36) **Geofencing:** Automatic function to limit the access of the UA to airspace areas or volumes provided as geographical limitations based on the UA position and navigation data.
- (37) **Guidance Material (GM):** Non-binding material developed by the Authority that helps to illustrate the meaning of a requirement or specification and is used to support the interpretation of the Order, Standard Scenarios, and outlines additional Acceptable Means of Compliance.
- (38) **Highly automated aircraft:** An unmanned aircraft that does allow minimal pilot(s)' intervention in the management of the flight.
- (39) **Highly automated operation:** An operation during which an unmanned aircraft system is operating with minimal pilot intervention in the management of the flight.
- (40) **Human performance:** Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.
- (41) **Incident:** An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation (*Note 6*).
- (42) **Instrument Meteorological Conditions (IMC):** meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.
- (43) **Landing area:** That part of a movement area intended for the landing or take-off of aircraft.

Note 6. — The types of incidents which are of interest for safety-related studies include the incidents listed in Annex 13, Attachment C.

- (44) **Lost C2 Link.** A situation in which the RPA can no longer be controlled by the remote pilot due to the degradation or failure of the communication channel between the RPS and RPA.
- (45) **Lost C2 Link Decision Time.** The maximum length of time, pre-coordinated with ATS, that the pilot and/or RPAS is allowed to wait while the C2 Link performance is not sufficient to allow the remote pilot to actively intervene in the management of the flight in a safe and timely manner appropriate to the airspace and operational conditions before declaring a Lost C2 Link.

- (46) **Lost C2 Link Decision State.** The RPAS state in which the C2 Link performance is not sufficient to allow the pilot to actively intervene in the management of the flight in a safe and timely manner appropriate to the airspace and operational conditions but the remote pilot and/or RPAS have not initiated the Lost C2 Link state because not enough time (the amount of time is dependent on the operating scenario) has elapsed.
- (47) **Lost C2 Link State.** The RPAS state in which the remote pilot is no longer able to actively manage the flight in a safe and timely manner, appropriate to the airspace and operational conditions, and the RPA is performing pre-programmed, pre-coordinated and predictable manoeuvres.
- (48) **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 modification or repair.
- (49) **Maintenance organization's procedures manual:** A document which details the maintenance organization's structure and management responsibilities, scope of work, description of facilities, maintenance procedures, and quality assurance, or inspection systems. This document is normally endorsed by the head of the maintenance organization.
- (50) **Maintenance program:** A document which describes the specific scheduled maintenance tasks and their frequency of completion and related procedures, such as a reliability program, necessary for the safe operation of those aircraft to which it applies.
- (51) **Manoeuvring area:** That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.
- (52) **Movement area:** That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).
- (53) **Nominal C2 Link State.** The RPAS state when the C2 Link performance is sufficient to allow the pilot to actively manage the flight in a safe and timely manner appropriate to the airspace and operational conditions.

- (54) **Radio Line of Sight (RLOS)** The situation in which the C2 Link transmitter(s) and receiver(s) are within mutual radio link coverage and thus able to communicate directly or through a ground network provided that the remote transmitter has RLOS to the RPA and transmissions are completed in a comparable timeframe.
- (55) **RLP** Generic term for Required end to end C2 Link Performance
- (56) **RLP availability (A)** The required probability that an operational communication transaction can be initiated when needed.
- (57) **RLP continuity (C)** The minimum proportion of operational communication transactions to be completed within the specified RLP transaction time, given that the service was available at the start of the transaction.
- (58) **RLP transaction time (TT)** The maximum time for the completion of a proportion of operational communication transactions after which the initiator should revert to an alternative procedure. Two values are specified:
- (i) **RLP nominal time (TT 95%).** The maximum nominal time within which 95% of operational communication transactions is required to be completed
 - (ii) **RLP expiration time (ET).** The maximum time for the completion of the operational communication transaction after which the initiator is required to revert to an alternative procedure.
- (59) **RLP integrity (I)** The required probability that an operational communication transaction is completed with no undetected errors.
- (60) **R-VLOS** Restricted visual line of sight. It means an operation within 500m of the RPA pilot and below the height of the highest obstacle within 300m of the RPA, in which the remote pilot maintains direct unaided.
- (61) **RLTPx** The maximum time allocated to the summed critical transit times for a C2 message, allocated to system X.
- (62) **RPL.** Remote Pilot License
- (63) **Remote flight crew member.** A licensed crew member charged with duties essential to the operation of a remotely

piloted aircraft system during a remote flight duty period.

- (64) **Remote flight duty period.** A period which commences when a remote flight crew member is required to report for duty that includes a flight or a series of flights and which finishes when the remote flight crew member's duty ends.
- (65) **Remote pilot.** A person charged by the operator with duties essential to the operation of a remotely piloted aircraft and who manipulates the flight controls, as appropriate, during flight time.
- (66) **Remote pilot-in-command (RPIC).** The remote pilot designated by the operator as being in command and charged with the safe conduct of a flight.
- (67) **Remote pilot station (RPS).** The component of the remotely piloted aircraft system containing the equipment used to pilot the remotely piloted aircraft.
- (68) **Remotely piloted aircraft (RPA).** An unmanned aircraft which is piloted from a remote pilot station.
- (69) **Remotely piloted aircraft system (RPAS).** A remotely piloted aircraft, its associated remote pilot station(s), the required command and control links and any other components as specified in the type design.
- (70) **Risk mitigation:** The process of incorporating defences or preventive controls to lower the severity and/or likelihood of a hazard's projected consequence in an effort to meet safety performance, "Target Levels of Safety," necessary for flight operations.
- (71) **Rotorcraft:** A power-driven heavier-than-air aircraft supported in flight by the reactions of the air on one or more rotors.
- (72) **RPAS crew member.** A person, other than a remote flight crew member, assigned by the operator, charged with duties regarded to the operation of a RPAS before, during and/or after a flight duty period.
- (73) **RPAS Flight Manual.** A manual, associated with the certificate of airworthiness, containing limitations within which RPA is to be considered airworthy, and instructions and information necessary to the remote flight crew members for the safe operation of the RPAS.
- (74) **RPAS operating manual.** A manual, acceptable to the State of the Operator, containing normal, abnormal and emergency procedures, checklists, limitations, performance information, details of the RPAS and other material relevant to the operation of

the RPAS.

- (75) **RPAS operator certificate (ROC).** A certificate authorizing an operator to carry out specified RPAS operations.
- (76) **RPAS operations specifications.** The authorizations, conditions and limitations associated with the operator certificate and subject to the conditions in the operations manual.
- (77) **RPAS recording system (RPAS RS).** The recording system installed in the remotely piloted aircraft system for the purpose of complementing accident/incident investigation. RPAS recording systems consists of the following:
 - (i) **RPA recording system (RPA RS).** Any type of recording system installed in the remotely piloted aircraft used to collect and record parameters that reflect the state and performance of an aircraft.
 - (ii) **RPS recording system (RPS RS).** Any type of recording system installed in the RPS for the purpose of recording the activity of a remote pilot station.
 - (iii) **Synthetic vision system (SVS).** A system to display data-derived synthetic images of the external scene from the perspective of the flight deck.
- (78) **Safety:** The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.
- (79) **Safety Management System (SMS):** systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.
- (80) **Safety performance indicator:** Data-based safety parameter used for monitoring and assessing safety performance.
- (81) **Safety risk:** The predicted probability and severity of the consequences or outcomes of a hazard.
- (82) **Segregated airspace:** Airspace of specified dimensions allocated for exclusive use to a specific user(s).
- (83) **Standard Scenario:** A description of a type of operation included in a certification specification issued by the Authority, for which an operational risk assessment has been conducted and mitigations

identified that can be applied to a variety of applicants in satisfying Target Levels of Safety for approval (Note 7).

- (84) **State of Design:** The State having jurisdiction over the organization responsible for the type design.
- (85) **State of Manufacture:** The State having jurisdiction over the organization responsible for the final assembly of the aircraft.
- (86) **State of Registry:** The State on whose register the aircraft is entered.
- (87) **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.
- (88) **Target Level of Safety (TLS):** A generic term representing the level of risk which is considered acceptable in particular circumstances.
- (89) **Testing Site:** A specific geographical location designated by the Authority for UAS testing and flight operations, managed by the Nigerian Government or delegated entity such as a UAS Club.
- (90) **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.

Note 8. – Many unmanned aircraft systems (UAS) do not have, and according to current standards, are not able to be certificated. It is up to the operator to provide the proper mitigations to risk that enable higher risk operations in lieu of more robust and reliable system certification and to use industry best practice standards when available to achieve Alternate Means of Compliance (AMOC).

- (91) **Unmanned free balloon:** Non-power-driven, unmanned, lighter-than-air aircraft in free flight.
- (92) **Unmanned Aircraft (UA) observer:** A trained and competent person designated by the operator who, by visual observation of the unmanned aircraft system, assists the remote pilot in the safe conduct of the flight. **Unmanned Aircraft System:** An aircraft and its associated elements which are operated with no pilot on board.
- (93) **VFR flight:** Flight conducted in accordance with the visual flight rules.
- (94) **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

recognized when observed against a bright background;

- (ii) The greatest distance at which lights in the vicinity of 1000 candelas can be seen and identified against an unlit background.

- (95) **Visual Line-of-Sight (VLOS) operation:** An operation in which the remote crew maintains direct unaided visual contact with the unmanned aircraft system to manage its flight
- (96) **Visual Meteorological Conditions (VMC):** Meteorological conditions expressed in terms of visibility, distance from clouds, and ceiling, equal to or better than specified minima.
- (97) **Unmanned Aerial Vehicle (UAV)** is a type of aircraft that operates without a human pilot on-board. Recent technologies have allowed for the development of many different kinds of advanced **unmanned** aerial vehicles used for various purposes. An **unmanned** aerial vehicle is also known as a drone.
- (98) **Unmanned Aircraft System (UAS)** means an unmanned aircraft and the equipment to control it remotely. Unmanned aircraft (UA) means any aircraft operating or designed to operate autonomously or to be piloted remotely without a pilot on board.
- (99) **Visual line-of-sight (VLOS) operation.** An operation in which the remote pilot or RPA observer maintains direct unaided visual contact with the remotely piloted aircraft.

1.1.1.4 Abbreviations and Acronyms

(a) The following abbreviations and acronyms are used in this Part.

(1)	ATC	Air Traffic Control
(2)	BRLOS	beyond radio line-of-sight
(3)	BVLOS	beyond visual line-of-sight
(4)	C2	command and control
(5)	CA	collision avoidance
(6)	CPA	closest point of approach
(7)	DAA	detect and avoid
(8)	FCC	flight control computer
(9)	FMS	flight management system
(10)	FRMS	fatigue risk management system
(11)	FSS	fixed satellite service
(12)	FSTD	flight simulation training device
(13)	HALE	high-altitude, long-endurance
(14)	HMI	human-machine interface
(15)	ICA	instructions for continuing airworthiness
(16)	IFR	instrument flight rules
(17)	IMC	instrument meteorological conditions
(18)	ITU/WRC	International Telecommunication Union/World Radio communication Conference
(19)	LIDAR	light detection and ranging
(20)	MA	manoeuvre advisories
(21)	MAC	mid-air collision
(22)	MAWS	minimum altitude warning system
(23)	MCM	maintenance control manual
(24)	METAR	aerodrome routine meteorological report
(25)	ACP	Aeronautical Communications Panel
(26)	ADS-B	automatic dependent surveillance — broadcast
(27)	AFIS	aerodrome flight information service
(28)	AGL	above ground level
(29)	ANC	Air Navigation Commission
(30)	ANSP	air navigation service provider
(31)	ATCO	air traffic control officer
(32)	ATPL	airline transport pilot licence
(33)	BRLOS	beyond radio line-of-sight
(34)	C2	command and control
(35)	CA	collision avoidance
(36)	C of A	certificate of airworthiness
(37)	CPA	closest point of approach
(38)	CPDLC	controller-pilot data link communications
(39)	DAA	detect and avoid
(40)	EM	electromagnetic
(41)	EFBs	Electronic Flight Bags
(42)	FCC	flight control computer
(43)	FMS	flight management system
(44)	FRMS	fatigue risk management system

(45)	FSS	fixed satellite service
(46)	FSTD	flight simulation training device
(47)	GM	Guidance Material
(48)	GPWS	ground proximity warning system
(49)	HALE	high-altitude, long-endurance
(50)	HF	high frequency
(51)	HMI	human-machine interface
(52)	ICA	instructions for continuing airworthiness
(53)	IFR	instrument flight rules
(54)	IMC	instrument meteorological conditions
(55)	ITU/WRC	International Telecommunication Union/World Radio communication Conference
(56)	LIDAR	light detection and ranging
(57)	MA	manoeuvr advisories
(58)	MAC	mid-air collision
(59)	MAWS	minimum altitude warning system
(60)	MMEL	master minimum equipment list
(61)	MOR	Meteorological Optical Range
(62)	NOTAM	notice to airmen
(63)	MPL	multi-crew pilot licence
(64)	MTOM	maximum take-off mass
(65)	NM	nautical mile
(66)	NextGen	next generation air transportation system
(67)	NMAC	near mid-air collision
(68)	PBN	performance-based navigation
(69)	PIC	pilot-in-command
(70)	PPL	private pilot licence
(71)	RCP	required communication performance
(72)	RF	radio frequency
(73)	RLOS	radio line-of-sight
(74)	RPL	Remote Pilot License
(75)	RLP	Generic term for Required end to end C2 Link Performance
(76)	ROC	RPAS operator certificate
(77)	RPA	remotely piloted aircraft
(78)	RPIA	Remote Pilot Instructors Authorisation
(79)	RPAS	remotely piloted aircraft system(s)
(80)	RPASP	Remotely Piloted Aircraft Systems Panel
(81)	RPASRS	Remotely Piloted Aircraft Recording systems
(82)	RPS	remote pilot station(s)
(83)	R-VLOS	Restricted visual line of sight.
(84)	RVSM	reduced vertical separation minimum
(85)	RWC	remain-well-clear
(86)	SARPs	Standards and Recommended Practices
(87)	SESAR	single European Sky ATM research
(88)	SATCOM	satellite communication
(89)	SIP	structural integrity programme
(90)	SLA	service level agreement
(91)	SLS	service level specifications

(92) SMS	safety management system
(93) SORA	specific operations risk assessment
(94) SPECI	aerodrome special meteorological report
(95) SSP	State Safety Programme
(96) SSR	secondary surveillance radar
(97) SWIM	system-wide information management
(98) TAWS	terrain awareness warning system
(99) TC	type certificate
(100) TCDS	type certificate data sheet
(101) TEM	threat and error management
(102) TLS	target level of safety
(103) Tsloss	time (sustained loss of link)
(104) TSO	technical standard order
(105) UAS	unmanned aircraft system
(106) UASSG	Unmanned Aircraft Systems Study Group
(107) UAV	unmanned aerial vehicle (<i>obsolete term</i>)
(108) VFR	visual flight rules
(109) VHF	very high frequency
(110) VLL	very low level
(111) VLOS	visual line-of-sight
(112) VMC	visual meteorological conditions
(113) VO	Visual Observer

1.1.1.5 Exemptions

- (a) Exemptions under this Part are granted in accordance with Part 1.4 of the Nig.CARs.

1.2 RPAS Identification and Classification

1.2.1.1 Applicability

- (a) This sub-part applies to the Identification and Classification of RPAS as illustrated in IS 1.2.1.1.

1.2.1.2 RPAS Identification

- (a) The operations manual shall contain the following details for identification purpose:
- (1) owner of the RPAS;
 - (2) operator of the RPAS;
 - (3) manufacturer and manufacturer's designation of RPAS;
 - (4) serial number of the RPAS;
 - (5) type or model of RPA, the RPS is capable of controlling;
and
 - (6) other relevant data as required by Authority.

1.2.1.3 Classifications of RPAS/UAS

- (a) The following categories shall apply:
- (1) Category A – Basic Operations: A category of RPAS/UAS operation that, considering the risk involved, does not require a prior Authorization by the Authority before the operation takes place however requires notification to the authority prior to operation.
 - (i) Operational requirements fitting the Basic Operation category are identified in IS 1.2.1.3 “Basic Operations” (Private use) of this Order.
 - (ii) These are considered the lowest risk operations for UAS/Drone and will not be considered for any commercial UAS/Drone flights. A basic risk assessment shall be conducted and submitted to the Authority for approval.
 - (iii) Operations conducted in private property only with appropriate property owner’s authorization.
 - (2) Category B – Specific Operations: A category of RPAS/UAS operation that, considering the risk involved, requires an Authorization by the Authority before the operation takes place and takes into account the mitigation measures identified by an operational risk assessment, except for certain standard scenarios where a declaration by the operator is sufficient.
 - (i) Operational requirements for this category can be found in 1.2.1.5 “Specific Operations” (recreation and sports) of this Order.
 - (ii) These operations are considered acceptable only upon approval of a risk assessment and risk mitigation plan as described in the issued Authorization granted by the Authority.
 - (iii) Specific categories fit RPAS operations that are not for commercial RPAS operations and limited in risk exposure on the ground or in the air, or larger more complex aircraft for private testing and flight operations. This category requires the remote pilot to have a remote license issued the Authority.
 - (3) Category C – Complex Operations: A category of UAS operation that, considering the risks involved requires extensive performance review and reliability testing, a licensed remote pilot, a RPAS operator certificate (ROC);

and approval by the Authority (Authorization) with specifically required risk mitigations to operate as described.

- (i) This category of operation may also require additional system certification such as type certifications.
- (ii) Operational requirements for this category can be found in 1.2.1.6 “Complex Operations” of this Order.
- (iii) Complex Operations categorization provides the opportunity for highly robust RPAS to operate in Authority controlled airspace where other operations would not be allowed for lack of system performance, reliability and certification.

Note 1: A classification of RPAS/UAS separate from their intended operations (activity) is impossible without clear certification and airworthiness standards, and therefore until such time that these become available, RPAS/UAS classification must consider both the intended operation and proposed system. In addition to the three general classifications mentioned above, the Authority reserves the right to require additional mitigations commensurate with the perceived risk to air traffic, ground infrastructure and populations in the interest of safety and/or security.

Note 2: It is recommended that an applicant identifies what elements of the operation do not meet with the “Basic Category.”

Note 3: These identified operational differences will be the focus of the risk assessment processes to be considered in the Specific or Complex categories.

Note 4: As an applicant’s intended operation is characterized by higher risk elements, more significant training, licensing, permissions, system reliability, and equipage will be required.

Note 5: Therefore, An applicant seeking operations beyond those limitations identified in IS 1.2.1.3 “Basic Operations” must provide operational risk assessment as prescribed by the Authority in support of an authorization. As risk increases, the complexity of the assessment will include operational considerations identified in IS 1.2.1.3 “Specific Operations” and IS 1.2.1.3 “Complex Operations”.

1.2.1.4 Basic Operations of UAS/Drone for Private, Sport and Recreation

(a) Private UAS/Drone Operations

- (1) A person operates UAS/Drone for private purposes only after registering the UAS/Drone with the Authority, and is subject to the conditions contained in 1.2.1.4

(b) Training for Private UAS/Drone Operations

- (1) The UAS/Drone pilots will be trained in accordance with training requirements provided and approved by the Authority.

(c) Recreational and Sports UAS/Drone Operations

- (1) UAS/Drone operations for recreation and sports purposes shall be conducted within registered clubs which are approved by the Authority as set out in IS 1.2.1.4(c)(1) of this Order. Such approval shall be valid for five (5) years.
- (2) The Authority shall develop a system for approval of clubs including requirements for composition, documentation and club rules and Order from time to time.
- (3) The clubs referred to in 1.2.1.4(c) shall provide the Authority with details of their operation areas and times for approval.
- (4) UAS/Drone operators shall comply with requirements to operate within the designated airspaces as determined by the appropriate authorities.

(d) Training Requirements for Recreational and Sports UAS/Drone Operations

- (i) Clubs referred to in 1.2.1.4 herein shall prescribe minimum training requirements for UAS/Drone operation under the club.
- (ii) Training requirements referred to in 1.2.1.4 (d) above shall be documented and submitted to the Authority for acceptance.

1.2.1.5 Specific Operations Requirements

(a) Flight Plan

- (1) All RPAS flights flown under Specific and Complex shall file flight plans as specified in the conditions here under—
 - (i) Flights in controlled airspace shall file flight plans as prescribed for in the Aeronautical Information Publication (AIP).
 - (ii) Flights in uncontrolled air space shall file flight plans as follows —
 - (A) Operations within 5 km out of launch area to notify the nearest ATC and fulfil the requirements of IS 1.2.1.5(a)(1), (2), (3), (4), (5), (6), (7), (8), (9), (10);
 - (B) Operations beyond 5 km out of launch shall

file flight plans as stipulated in 1.2.1.5 (a) above and fulfil the requirements of IS 1.2.1.5(a) (1), (3), (4), (5), (6), (7), (8), (9), (10);

(iii) While filing a flight plan, RPAS operator shall abide by the appropriate Order.

(2) The RPAS/UAS operator shall share any RPAS/UAS flight data with the Authority when required.

(3) Data related to RPAS/UAS flight shall be recorded, stored and retrievable as and when required by the Authority for investigation.

(b) Operation near Aircraft; Right-of way Rules

(1) A remote pilot shall maintain awareness so as to see and avoid other aircraft and vehicles and must yield the right-of-way to all aircraft and vehicles;

(i) In order to maintain awareness so as to see other aircraft and vehicles, the remote pilot shall maintain visual contact with his/her RPAS in case of Visual Line-Of-Site (VLOS) operations or ensure continuous real time tracking of RPAS in case of Beyond Visual Line-Of-Site (BVLOS) operations.

(ii) Yielding the right-of-way means that the unmanned aircraft system must give way to the aircraft or vehicle and may not pass over, under, or ahead of it unless well clear.

(2) No person shall operate an unmanned aircraft system so close to another aircraft as to create a collision hazard.

(c) Operation in Congested areas and over people

(1) A person shall not operate a RPAS/UAS at lateral distance of less than 328 feet [100 meters] from any person or an open-air assembly/crowd of persons, building structure, vehicle, vessel or animal not associated with the operations of RPAS/UAS unless otherwise authorized by the Authority.

(2) Subject to paragraph (a) above vertical limits shall be less than 100 feet [30 meters] AGL except when approved by the Authority.

(3) Subject to Order 1.2.1.5(c)(1) a person shall not operate RPAS/UAS in a reckless manner.

(d) Operation in controlled airspace

- (1) An unmanned aircraft system shall not operate in a controlled airspace unless the operator has prior authorization from the appropriate authority to operate in such airspace;
- (2) An unmanned aircraft system must only operate outside any aerodrome control zone (CTR) unless otherwise authorized by the Authority;
- (3) Any person conducting unmanned aircraft system operations shall ensure that the appropriate air traffic service unit(s) is advised immediately anytime the flight of an unmanned aircraft system inadvertently enters into controlled airspace

(e) Operations at an Aerodrome

- (1) The Authority may upon approval of RPAS/UAS operation at an aerodrome—
 - (i) Impose operating restrictions on the approval in the interest of safety;
 - (ii) Publish details of the approval in the appropriate element of the Aeronautical Information Publication (AIP);
 - (iii) Revoke or change the conditions that apply to such approval and publish details of any revocation or change in conditions in the appropriate element of the AIP.

1.2.1.6 Complex Operations

(a) ROC Compliance

- (1) No operator shall engage in commercial RPAS operations unless the operator holds a valid RPAS Operator's Certificate (ROC) issued by the Authority.
- (2) No operator shall conduct RPAS/UAS operations except in accordance with the conditions and limitations attached to the ROC.
- (3) The Authority may issue an ROC if the RPAS/UAS operator demonstrates:

- i. an adequate organization,
- ii. a method of control and supervision of flight operations,
- iii. a training program, as well as ground handling and maintenance arrangements consistent with the nature and extent of the operations specified and commensurate with the size, structure and complexity of the organization and
- iv. abide by 1.6.1.17 and IS 1.6.1.17 of this Order.

(b) RPAS Operator Certificate (ROC)

- (1) Application for ROC shall be sent to the Authority—
 - (i) In a form and manner prescribed by the Authority; and
 - (ii) Containing any other information the Authority requires the applicant to submit.
 - (iii) Accompanied by proof of payment of relevant fees for ROC as determined by the Authority from time to time.
- (2) The Authority may issue an ROC if, after investigation, the Authority finds that the applicant—
 - (i) Is a citizen of Nigeria;
 - (ii) Has its principal place of business and its registered office, if any, located in Nigeria
 - (iii) Meets the applicable rules and standards for the holder of an ROC;
 - (iv) Is properly and adequately equipped for safe operations in complex operation and maintenance of the RPAS; and
- (3) The Authority may deny application for an ROC if the Authority finds that—
 - (i) The applicant is not properly or adequately equipped or is not able to conduct safe operations.
 - (ii) The applicant has no qualified remote pilots to safely operate the RPAS/UAS; and

- (4) The ROC shall contain at least the following—
 - (i) The issuing authority;
 - (ii) The ROC number and its expiration date;
 - (iii) The RPAS/UAS operator's name, trading name (if different) and address of the principal place of business;
 - (iv) The date of issue and the name, signature and title of the Authority's representative;
 - (v) The location where the contact details of operational management can be found;
 - (vi) The description of the types of operations authorized;
 - (vii) The type(s) or model(s) of the remotely piloted aircraft system authorized for use; and
 - (viii) The authorized areas of operation.
- (5) An ROC shall be valid for a period of 24 months unless otherwise approved by the Authority
- (6) The continued validity of ROC shall depend upon the RPAS/UAS operator maintaining the requirements of 1.2.1.6(2) & (3) under the supervision of the Authority.

(c) Issuance of ROC

- (1) The Authority may issue RPAS Operator Certificate (ROC) to an applicant if that applicant—
 - (i) Meets the requirements of ownership stipulated in 1.2.1.6 (b);
 - (ii) Meets the applicable rules and standards for the holder of a ROC;
 - (iii) Is properly qualified and adequately staffed and equipped to conduct safe operations in complex operations of the RPAS;

(d) Validity and Renewal of RPAS Operator Certificate (ROC)

- (1) An ROC issued by the Authority shall be valid for 24 months from the date of issue or renewal unless—
 - (i) A shorter period is specified by the Authority;
 - (ii) The Authority amends, suspends, or revokes the certificate;
 - (iii) An ROC holder surrenders it to the Authority;
 - (iv) The ROC holder notifies the Authority of the suspension of operations.
- (2) An ROC which is suspended or revoked shall be returned to the Authority.

(e) Amendments of RPAS Operator Certificate

- (1) The Authority may amend a RPAS operator certificate (ROC) if the—
 - (i) Authority determines that the amendment is necessary for the safety of commercial RPAS operations.
 - (ii) ROC holder applies for an amendment and the Authority determines whether the amendment is necessary.
 - (iii) The amendment is in the interests of national security.
- (2) The ROC holder shall operate in accordance with the amendment unless it is subsequently withdrawn.

(f) Conducting Surveillance, Tests and Inspections

- (1) The Authority shall conduct surveillance, inspections and tests on the RPAS operator certificate (ROC) holder to ensure continued eligibility to hold an ROC and associated approvals.

(g) Personnel Required for RPAS Complex Operations

- (1) RPAS operator shall have an Accountable manager acceptable to the Authority, with corporate authority for ensuring that all necessary resources are available to support activities as mentioned in the ROC specifications.

- (2) The Accountable manager shall have sufficient qualified and competent personnel for the planned tasks and activities to be performed in accordance with the applicable requirements.
- (3) A RPAS operator shall establish initial and recurrent training to ensure continuing competence of its personnel.

(h) Authorization for Complex RPAS Operations

- (1) No ROC holder shall undertake any operations of RPAS except with authorization.
- (2) Authorization referred to above shall be specific to particular operations.

1.3 Licencing of RPAS Personnel

1.3.1.1 General

- (a) No person shall act either as remote PIC or as a remote co-pilot of an RPA unless that person is the holder of a remote pilot licence, containing the ratings suitable for the purpose of executing the operation.
- (b) No person shall act as an RPA observer unless that person has undergone a competency-based training on visual observer duties concerning RPA VLOS operations.

1.3.1.2 Applicability

- (a) This part prescribes the requirements for licensing, privileges and ratings of RPAS personnel.

1.3.1.3 Licences

- (a) The Authority may issue the following licences under this Part to an applicant who satisfactorily accomplishes the requirements in this sub-part for the licence or authorisation sought.
 - (1) Student Remote Pilot Authorisation
 - (2) Remote Pilot Licence
 - (3) Remote Pilot Instructors Rating/Authorisation
 - (4) Designated Remote Pilot Examiner
 - (5) RPAS Maintenance Engineer (RME)

1.3.1.4 Class and type ratings

- (a) General Licensing Specification

No person shall act either as remote pilot-in-command or as a remote pilot of an RPAS in any of the following RPA categories unless that person is the holder of a remote pilot licence issued in accordance with the provision of this sub-part -

- (1) Aeroplane
 - (2) Helicopter
 - (3) Airship
 - (4) Multi-rotor
- (b) The RPA category shall be endorsed as a rating on the remote pilot licence.
- (c) Where applicable, RPAS Pilot shall hold an appropriate rating for the type of operations they will perform, including—
- (1) Type rating;
 - (2) Instrument rating;
 - (3) BVLOS
 - (3) Night rating;
- (d) An applicant shall before being issued with any remote pilot licence or rating, meet such requirements in respect of age, experience, flight instruction, competencies and medical fitness, as are specified by the Authority from time to time.
- (d) An applicant for any remote pilot licence or rating shall demonstrate knowledge and skill in a manner determined by the Authority.
- (e) Validity of Licence and ratings—
- (1) The validity period of a licence shall be five (5) years.
 - (2) Class 3 medical is required for licence and authorisation under this part. The requirements for Class 3 medical are as further provided in IS 1.3.1.4 (e)
 - (4) The validity of a class 3 medical certificate under this part shall be 48 months.
 - (5) The RPAS pilot's license shall be valid subject to validity of the holder's medical certificate.
 - (6) No person shall act as an RPA PIC for BVLOS operations unless the person has CPL and Instrument Rating as well

as RPL and BVLOS Rating.

1.3.1.5 Student Remote Pilots Authorisation

- (a) General Requirements
 - (1) *Age* - The applicant for a SRP authorisation shall be not less than 16 years of age.
 - (2) *Knowledge*.—The applicant for a student remote pilot authorisation shall receive and log ground training from an authorised instructor on the following subjects:
 - (i) Airspace rules and procedures for the aerodrome where the student will perform solo flight;
 - (ii) Flight characteristics and operation limitations for the make and model of aircraft to be flown; and
 - (iii) As determined by the Authority from time to time.
- (b) A student pilot shall meet the requirements prescribed by the Authority. The Authority shall ensure that the privileges granted shall not permit student pilots to constitute a hazard to air navigation.

1.3.1.6 Remote Pilot Licence.

- (a) General requirements for the issue of the licence appropriate to the aeroplane, airship, helicopter and powered-lift categories.
 - (1) *Age*: The applicant for a RPL shall be not less than 16 years of age.
 - (2) *Medical Fitness*.— The applicant for a RPL shall hold a current Class 3 Medical Certificate issued under this Part.
 - (3) *Knowledge Areas*.— The applicant shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of a remote pilot licence and appropriate to the category of RPA, in at least the following subjects:
 - (i) Air law
 - (A) Rules and standards relevant to the holder of a remote pilot licence, rules of the air, appropriate air traffic services practices and procedures;
 - (ii) RPA general knowledge for aeroplane, airships, helicopters and multi-rotor.

- (A) Principles of operation and functioning of engines, systems and instruments;
 - (B) Operating limitations of the relevant category of aircraft and engines, relevant operational information from the flight manual or other appropriate document;
 - (C) Use and serviceability checks of equipment and systems of appropriate aircraft;
 - (D) Maintenance procedures for airframes, systems and engines of appropriate aircraft;
 - (E) For helicopters and powered-lifts, transmission (power trains) where applicable; and
 - (F) For airships, physical properties and practical application of gases;
- (iii) Flight performance, planning and loading.
- (A) Effects of loading and mass distribution on aircraft handling, flight characteristics and performance, mass and balance calculations;
 - (B) Use and practical application of take-off, landing and other performance data;
 - (C) Pre-flight and en-route flight planning appropriate to RPL operations under VFR, preparation and filing of air traffic services flight plans, appropriate air traffic services procedures and altimeter setting procedures; and
 - (D) In the case of airships, helicopters and powered-lifts, effects of external loading on handling;
- (4) Human performance.
- (i) Human performance including principles of threats and error management.
- (5) Meteorology.
- (i) Interpretation and application of aeronautical meteorological reports, charts and forecasts, use of, and procedures for obtaining meteorological information, pre-flight and in-flight altimetry;
 - (ii) Aeronautical meteorology, climatology of relevant areas in respect of the elements having an effect upon aviation, the movement of pressure systems, the structure of fronts, and the origin and

- characteristics of significant weather phenomena which affect take-off, en-route and landing conditions; and
- (iii) Causes, recognition and effects of icing, frontal zone penetration procedures and hazardous weather avoidance.
- (6) Navigation.
- (i) Air navigation, including the use of aeronautical charts, instruments and navigational aids, an understanding of the principles and characteristics of appropriate navigational systems and operation of airborne equipment;
 - (ii) In the case of airships, use limitation and serviceability of avionics and instruments necessary for control and navigation;
 - (iii) Use, accuracy and reliability of navigational systems used in departure, en-route, approach and landing phases of flight, identification of radio navigational aids;
 - (iv) Principles and characteristics of self-contained and external referenced navigational systems and operation of airborne equipment.
- (7) Operational procedures.
- (i) Application of threat and error management to operational performance;
 - (ii) Use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations;
 - (iii) Altimeter setting procedures;
 - (iv) Appropriate precautionary and emergency procedures;
 - (v) Operational procedures for carriage of freight and potential hazards associated with dangerous goods.
- (8) Principles of flight.
- (i) Principles of flight to the appropriate category of aircraft.
- (9) Radiotelephony.
- (i) Communication procedures and phraseology as applied to VFR operations, action to be taken in case of communication failure.
- (10) Knowledge Testing.—The applicant for the RPL shall:

- (i) Have received an endorsement for the knowledge test from an authorised instructor who:
 - (A) Conducted the training on the knowledge subjects; and
 - (B) Certifies that the person is prepared for the required knowledge test.
 - (ii) Pass the required knowledge test on the knowledge subjects listed above and in IS 1.3.1.6.(a)(10)
- (11) *Experience and Flight Instruction*— An applicant for a RPL shall have completed the experience and flight instruction requirements appropriate to the aircraft category as specified in this Part.
- (12) *Skill*.—The applicant for a RPL shall:
- (i) Have received an endorsement from an authorised instructor who certifies that the person is prepared for the required skill test.
 - (ii) Have demonstrated by passing a skill test the ability to perform as PIC of an RPA, the areas of operation as listed below with a degree of competency appropriate to the privileges granted to the holder of a RPL, and to.
 - (A) Operate the RPA within its limitations;
 - (B) Complete all maneuvers with smoothness and accuracy;
 - (C) Exercise good judgment and airmanship;
 - (D) Apply aeronautical knowledge;
 - (E) Maintain control of the aeroplane at all times in a manner such that the successful outcome of a procedure or maneuver is assured; and
 - (F) Recognize and manage threats and errors.
- (13) *Privileges*.—Subject to compliance with the requirements specified in this Part, the privileges of the holder of a RPL shall be:
- (i) To exercise all the privileges of the holder of a RPL, within the appropriate category;
 - (ii) To act as PIC in an RPA within the appropriate RPA category.
 - (iii) To act as co-pilot in RPA within the appropriate category required to be operated with a co-pilot; and

- (iv) For the airship category, to pilot an airship under IFR.
- (14) *Validity.*—Subject to compliance with the requirements specified in this Part, the validity period of the licence is 5 years.
 - (i) *Renewal.*—A remote pilot licence that has not expired may be renewed for an additional five years if the holder presents to the Authority satisfactory evidence that the licence, medical certificate, and recency of experience are current.
- (15) *Reissue.*—If the remote pilot licence has expired, the applicant shall have received refresher training acceptable to the Authority.

1.3.1.7 RPAS Instructor Authorisation

- (a) General
 - (1) Prior to the issuance of an RPAS instructor authorization by the Authority, an RPAS instructor applicant shall:
 - (i) hold a remote pilot licence with appropriate category, class and type rating(s) for which the privilege to instruct is being sought;
 - (ii) have sufficient training and experience to attain the required level of proficiency in all of the required tasks, manoeuvres, operations and principles, and methods of instruction; and
 - (iii) be entitled to act as remote PIC of the RPAS during such RPAS instruction.
- (b) Requirements
 - (1) Knowledge
 - (i) RPAS instructors shall demonstrate their ability to effectively assess trainees against the adapted competency model used in the approved training programme in order to improve the performance of remote pilots and shall recommend additional training where necessary.
 - (ii) RPAS instructors shall successfully complete their training and meet the qualifications of an approved

training organization appropriate to the delivery of competency-based training programmes. The training organization shall provide the framework for existing RPL instructors to develop their competence to undertake competency-based training and assessment.

(iii) The RPAS instructor training programme shall focus on the development of competence in the following specific areas:

(A) the adapted competency model of the remote pilot training programme, in particular, the assessment of performance criteria observed according to the defined grading system used by the RPAS operator or approved training organization;

(B) in accordance with the assessment and grading system of the RPAS operator or approved training organization, making assessments by observing behaviours; gathering objective evidence regarding the observable behaviours of the adapted competency model used;

(C) correlating between observed behaviours and potential outcome in training situations;

(D) recognising and highlighting performance that meets competency standards;

(E) determining root causes for deviations below the expected standards of performance; and

(F) identifying situations that could result in unacceptable reductions in safety margins.

(iv) The applicant shall have met the competency requirements for the issue of a remote pilot licence as appropriate to the category of RPA and associated RPS. In addition, the applicant shall have demonstrated a level of competency appropriate to the privileges granted to the holder of an RPL instructor rating, in at least the following areas:

(A) techniques of applied instruction;

(B) assessment of student performance in those subjects in which ground instruction is given;

- (C) the learning process;
- (D) elements of effective teaching;
- (E) competency-based training principles, including student assessments;
- (F) training programme development;
- (G) lesson planning;
- (H) classroom instructional techniques;
- (I) use of training aids, including flight simulation training devices as appropriate;
- (J) analysis and correction of student errors;
- (K) human performance relevant to RPAS and instrument flight, including principles of threat and error management and RPAS instruction; and
- (L) hazards involved in simulating system failures and malfunctions in the aircraft.

(2) Skill

- (i) The applicant shall have successfully performed a formal competency assessment, prior to conducting instruction and assessment within a competency-based training programme.
- (ii) The competency assessment shall be conducted during a practical training session in the category of RPA and associated RPS for which RPAS instructor privileges are sought, including preflight, post-flight and ground instruction as appropriate.
- (iii) The competency assessment shall be conducted by a person authorized by the Licensing Authority.

(3) Experience

- (i) The applicant shall have met the requirements for the issue of a remote pilot licence, shall maintain competencies and meet the recent experience requirements for the licence.
- (ii) The applicant shall have sufficient training and experience to attain the required level of proficiency in all of the required tasks, maneuvers, operations and principles, and methods of instruction relevant to 1.4.1.7(b)(2).
- (iv) *RPAS instruction.* The applicant shall, under the supervision of an RPAS instructor authorized by the Authority for that purpose:

- (A) have received training in RPAS instructional techniques including demonstration, student practices, recognition and correction of common student errors; and
- (B) have practiced instructional techniques in those flight maneuvers and procedures in which it is intended to provide RPAS instruction.

(c) Privileges

- (1) Privileges of the holder of the rating and the conditions to be observed in exercising such privileges shall be:
 - (i) to supervise flights by student remote pilots; and
 - (ii) to carry out RPAS instruction for the issue of a remote pilot licence and an RPAS instructor rating provided that the RPAS instructor:
 - (A) holds at least the remote pilot licence and rating for which instruction is being given, in the appropriate RPA category and associated RPS;
 - (B) holds the remote pilot licence and rating necessary to act as the remote pilot-in-command of the RPA category and associated RPS on which the instruction is given; and
 - (C) has the RPAS instructor privileges granted endorsed on the remote pilot licence.
 - (iii) The applicant, in order to carry out RPA instruction for the remote pilot licence in a multi-crew operational environment, shall have also met all the instructor qualification requirements.
 - (iv) The applicant for RPAS Instructor, shall hold an appropriate rating for the type of operations they will perform including—
 - (i) Type rating;
 - (ii) Instrument rating;
 - (iii) BVLOS
 - (iv) Night flying rating;
 - (v) Instructor rating.

1.3.1.8 Designated RPL Examiner qualifications

- (a) Designated RPL examiners shall have at least the following:
 - (1) The requirements for a commercial examiner or a commercial instrument rating examiner designation, as appropriate for the category and class of RPAS pertinent to the Flight Instructor Examiner (FIE) designation sought; and.
 - (2) Have held a Commercial Examiner or Commercial and Instrument Rating Examiner designation for at least a year prior to designation as a FIE.
 - (3) Hold the qualifications to provide instruction for RPL training.
- (b) All designated RPL examiners shall receive refresher training and be authorized or re-authorized using a documented process acceptable to the Authority implemented by an approved training organization at intervals established by the Authority.

1.3.1.9 Approval of persons to supply reports.

- (a) In relation to any of its functions under any of the provisions of this Order the Authority may approve a person as qualified to supply reports to it and may accept such reports.
- (b) The Authority may delegate some of its functions to an organisation that is established to assess the competence of people flying small unmanned aircraft and make appropriate recommendations, as part of the Authority's process, in approving operating permissions.

1.3.1.10 RPAS Training Requirements for Personnel

- (a) General
 - (1) No person may serve nor may any ROC holder use a person as a RPAS crewmember or flight operations officer unless he or she has completed the initial ground training, flight training and specialized operation training, approved by the Authority for the RPAS type.
 - (2) Initial RPAS ground training for flight crewmembers shall include the pertinent portions of the Operations Manual relating to aircraft-specific performance, mass and balance, operational policies, systems, limitations, normal,

abnormal and emergency procedures on the aircraft type to be used.

- (3) Initial flight training shall focus on the maneuvering and safe operation of the RPAS in accordance with ROC holder's normal, abnormal and emergency procedures. An ROC holder may have separate initial flight training curricula, which recognise the experience levels of flight crewmembers, approved by the Authority.
 - (4) Specialized operations for which initial training curricula shall be developed include—
 - (i) BVLOS;
 - (ii) Extended range operations;
 - (iii) Specialized navigation
 - (v) Congested/confined areas of operation
 - (vi) Night operations
- (b) Reliance on Training and testing in another contracting state
- (1) The Authority may rely on the training and/or testing system administered by another Contracting State as the basis for its own approved training curriculum, including the administration of written and/or skill test requirements for airman licences provided that the Authority has an agreement with the other Contracting State whose training and/or testing system is used.
 - (2) The applicant shall apply for and receive written approval from the Authority prior to receiving training and/or testing in a system administered by another Contracting State.
- (c) Dangerous good, security & crew resource management,
- (1) No ROC holder shall use operational personnel unless he or she has completed the appropriate initial dangerous goods, security and crew resource management curriculum approved by the Authority.
 - (2) Specific course curriculum requirements are contained in Part 15 of Nig. CARs.
- (d) Emergency equipment drills, human factors
- (1) No ROC holder shall use a person as a RPA crewmember unless that person has completed the appropriate initial emergency equipment curriculum and drills for the crewmember position approved by the Authority for the emergency equipment available on the RPAS to be operated.

- (2) Course curriculum requirements are contained in Part 8 of Nig. CARs.
- (e) Suspension/Revocation of a License/Certificate or Rating —
 - (1) The suspension and revocation of licence/certificate, rating, and authorisation of any RPAS personnel shall be in accordance with the relevant Parts of Nig.CARs.
- (f) Use of psychoactive substances
 - (1) Holders of licenses provided for in this Part shall not exercise the privileges of their licenses and related ratings while under the influence of any psychoactive substance which might render them unable to safely and properly exercise these privileges in accordance with Part 1.2.1.8 of Nig. CARs.

1.3.1.11 RPAS Operation Beyond Visual Line-Of-Sight (BVLOS)

- (a) To conduct BVLOS operations, the operator shall obtain Authorization from the Authority after conducting operation safety risk assessment.
- (c) Prior to conducting a controlled BVLOS operation, coordination shall be effected with the ATC unit involved regarding—
 - (1) Any operational performance limitations or restrictions unique to the RPAS (e.g. unable to perform standard rate turns);
 - (2) Any pre-programmed lost C2 link flight profile or flight termination procedures; and
 - (3) Direct telephone communication between the Remote Pilot Station (RPS) and the ATC unit for contingency use, unless otherwise approved by the ATC unit(s) involved.
- (d) Communication between the Remote Pilot Station (RPS) and the ATC unit(s) shall be as required for the class of airspace in which operations occur and should utilize standard ATC communications equipment and procedures, unless otherwise approved by the ATC unit involved.
- (e) C2 link transaction time should be minimized so as not to inhibit the remote pilot's ability to interface with the RPAS compared to that of a manned aircraft.
- (f) RPAS operating BVLOS shall only operate within Radio line of sight (RLOS). Operation beyond Radio line of sight shall require

special Authorization from the Authority after indicating all operational control functions and safety measures associated to the type of operation.

- (g) Remote Pilot Station for RPAS operations BVLOS will be designed in such way to match the performance of the type of C2 link (BRLOS/RLOS) with which they will be used.
- (h) BVLOS operations shall be conducted only when the following conditions are met—
 - (1) The State of the Operator and the State in whose airspace operation occurs have approved the operation;
 - (2) The PIC has a BVLOS qualification from a recognised training organisation.
 - (3) The RPAS/UAS remains in VMC throughout the flight; and.
 - (4) A Detect And Avoid (DAA) capability or other mitigation is used to assure the RPA remains well clear of all other traffic; or
 - (5) The area is void of other traffic; or
 - (6) The operation occurs in specifically delimited or segregated airspace.
- (i) Operations BVLOS over heavily populated areas or over open air assemblies of people shall require special considerations such as the following—
 - (1) Altitudes for safe operation;
 - (2) Consequences of uncontrolled landing;
 - (3) Obstructions;
 - (4) Proximity to airports/emergency landing fields;
 - (5) Local restrictions regarding RPAS operations over heavily populated areas; and
 - (6) The emergency termination of a RPA flight.
- (j) Take-off/launch of RPAS BVLOS shall be operated from established aerodromes/RPAS ports or from any other location depending on operational requirements and system configuration, design and performance.
- (k) Take-off/launch from aerodromes for BVLOS operations from established aerodromes may be approved after ensuring that the

safety of manned aircraft operations is not jeopardized, the remote pilot shall consider the following—

- (1) Rules pertaining to RPAS operations on or near an aerodrome;
- (2) Complexity and density of air traffic;
- (3) Ground operations (e.g. taxiway width, condition, other ground traffic);
- (4) C2 link continuity;
- (5) Payload considerations;
- (6) Wake turbulence;
- (7) Performance and capability related to take-off distance/run available and minimum obstruction climb requirements, departure procedures and any flight restricting conditions associated with operations to or from the aerodrome; and
- (8) Availability of emergency recovery areas.

1.4 IMPORT AND EXPORT OF RPAS/UAS

- (a) No person shall import a RPAS/UAS or a component thereof without an End User Certificate (EUC) issued by the competent security agency(ies).

1.4.1.1 Manufacture, Assembly & Testing Of RPAS/UAS

- (a) Any person intending to manufacture, assemble or test a RPAS/UAS, or a component thereof, shall request for authorization and be subjected to necessary security clearance by the competent security agency(ies)..
- (b) Any person intending to test a RPAS/UAS or component thereof, shall register the aircraft or component with the Authority and issue notification to the Authority prior to any flight.
- (c) Areas of operation may be designated by the Authority as “Testing Sites” where any person manufacturing, assembling, or testing a RPAS/UAS, or a component thereof, may fly any registered aircraft or component without an authorization.

1.4.1.2 Application for Registration

- (a) An applicant for the registration of RPAS shall submit an application in a form and manner acceptable to the Authority and shall provide the following information:
 - (1) the individual or corporate owner of the RPA;
 - (2) the RPA manufacturer and manufacturer's designation of RPA;
 - (3) the serial number of the RPA; and
 - (4) other relevant data as required by applicable legislation.

1.4.1.3 Registration Requirement.

- (a) All RPAS/UAS in Nigeria shall be registered in a manner to be specified by the Authority upon from time to time.
- (b) The certificate of aircraft registration shall be in English language.
- (c) Certificate of Registration will be issued by the Authority in accordance with IS 1.4.1.3

1.4.1.4 RPA Markings

- (a) RPA shall have affixed to it a durable form of identification with appropriate marks to identify ownership and unique identification number of the particular RPA or any other condition as may be approved by the Authority.
- (b) The size and type of marking for the RPA is as determined by the Authority from time to time.
- (c) If, because of the RPA configuration, it is not possible to mark the RPA in accordance with this Part, the owner may apply to the Authority for a different procedure.

1.4.1.5 RPAS/UAS Registration Data Base

- (a) The Authority may establish and maintain a RPAS/UAS register containing the following particulars-
 - (1) The number of the certificate;
 - (2) The registration mark assigned to unmanned aircraft system by the Authority;
 - (3) The name of the manufacturer and the manufacturer's designation of the unmanned aircraft system;
 - (4) The serial number of the unmanned aircraft system;

- 5) The name and address of the owner
- (6) The use or conditions with regard to which unmanned aircraft system is registered.
- (7) Entry date,
- (8) Registration/deregistration date

1.4.1.6 DE-Registration of RPAS

- (a) The Authority may de-register or cancel the registration of a RPAS/UAS under the following circumstances—
 - (1) Upon application of the RPAS owner for purposes of registering the RPAS/UAS with another Authority;
 - (2) Upon destruction of the RPAS or its permanent withdrawal from use; or
 - (3) In the interest of National Security

1.5 RPAS Instrument and Equipment

1.5.1.1 General

- (a) No person shall operate an RPAS unless it is equipped with required instrument and navigation equipment appropriate to the type of operation conducted and the route flown. The Authority shall prescribe instrument requirements for RPAS operators for specific operations depending on—
 - (1) The category of the RPAS
 - (2) Type of operations
 - (3) Special authorizations sought
- (b) RPAS shall meet the performance and equipment carriage requirements for the specific airspace in which the flight is to operate.

1.5.1.2 C2 Link

- (a) RPAS shall have C2 Link equipment that connects the RPS and the RPA and shall support the following communication tasks:

- (1) data commands to modify the flight profile and the configuration of the RPA;
 - (2) telemetry data regarding the position, configuration and status of the RPA;
 - (3) data for communications with external entities, if applicable;
 - (4) data required for detect and avoid capability;
 - (5) flight data recording requirements, if applicable;
 - (6) data to support RPS handover, if applicable; and
 - (7) link health monitoring functions
- (b) The C2 Link shall comply with performance requirements as contained in IS 1.5.1.2

1.5.1.3 ATC communication

- (a) ATC communication capabilities shall meet the required communication performance (RCP), if an RCP is specified for the airspace in which the RPA is operating.
- (b) RPAS/UAS pilots shall ensure that ATC is made aware of any operation that shall take place in areas which are likely to affect manned and controlled air traffic.

1.5.1.4 Detect And Avoid (DAA)

- (a) DAA Operational Requirements
 - (1) Any RPAS operated in accordance with instrument flight rules shall have a DAA capability which enables the remote flight crew to avoid conflicting traffic and other hazards.
 - (2) DAA shall provide the remote flight crew with the capability of exercising vigilance for the purpose of detecting and avoiding potential collisions with other aircraft. The remote flight crew shall exercise vigilance even when air traffic services are provided.
 - (3) When DAA is used to avoid hazards other than conflicting traffic, its use shall cause no undue hazard to other aircraft or persons or property on the surface.
 - (4) DAA shall provide the flight crew with the capability of ensuring appropriate action is taken when different

hazards are present at the same time, irrespective of whether DAA is provided by one system or different systems.

- (5) The remote pilot shall be able to intervene in the management of automated hazard avoidance maneuvers except when the C2 link to the RPA is not available.
- (6) RPAS controls, displays and alerting shall be appropriate to enable the remote pilot to recognise when an action may be necessary to override the automated hazard avoidance maneuver.
- (7) The remote pilot should only override the automated DAA maneuver if continued maneuver execution is considered to be a greater danger to the safety of other traffic or persons and property on the surface than the alternate flight path the RPAS pilot plans to execute.

(b) DAA equipment

- (1) In approving the operational use of DAA equipment:
 - (i) The Authority shall ensure that the DAA equipment meets the appropriate airworthiness requirements.
 - (ii) The Authority shall ensure that the operator has carried out a safety risk assessment of the operations supported by the DAA equipment, including RPAS controls, displays and alerting related to DAA as noted above.
 - (iii) The Authority shall ensure that the operator has established and documented the operational limitations, procedures for the use of, and training requirements for, the DAA equipment.

(c) Automated Collision Avoidance

- (1) The RPA shall be equipped with a DAA system that is capable of performing automated collision avoidance maneuvers, except where the collision avoidance responsibilities of the remote pilot can be adequately exercised otherwise.
- (2) Notwithstanding the provisions in 1.5.1.4.(b), the Authority may approve RPAS operations without automated collision avoidance, based on the results of a specific safety risk assessment conducted by the operator which demonstrates how an equivalent level of safety will be

maintained. The specific safety risk assessment shall include at least the:

- (i) reliability of the C2 Link;
- (ii) diversity of multiple links, if installed; and
- (iii) reliability of other systems that are required to allow the remote pilot to exercise control of the RPA flight trajectory

1.5.1.5 Navigation Equipment

- (a) An RPAS shall be provided with navigation equipment which will enable it to operate in accordance with the airspace requirements.
- (b) For operations where a navigation specification for performance-based navigation (PBN) has been prescribed, an RPAS shall, in addition to the requirements specified in 1.5.1.5 (a):
 - (1) be provided with navigation equipment which will enable it to operate in accordance with the prescribed navigation specification(s);
 - (2) have information relevant to the RPAS navigation specification capabilities listed in the flight manual or other RPAS documentation approved by the State of Design or State of Registry; and
 - (3) where the RPAS is operated in accordance with a MEL, have information relevant to the RPAS navigation specification capabilities included in the MEL.
- (c) For flights in defined portions of airspace where, based on Regional Air Navigation Agreement, a reduced vertical separation minimum (RVSM) of 300m (1000ft) is applied, an RPAS shall:
 - (1) be provided with equipment which is capable of:
 - (i) indicating to the remote pilot the flight level being flown;
 - (ii) automatically maintaining a selected flight level;
 - (iii) providing an alert to the remote pilot when a deviation occurs from the selected flight level. The threshold for the alert shall not exceed ± 90 m (300ft); and
 - (iv) automatically reporting pressure-altitude;
 - (2) be authorized by the Authority for operation in the airspace; and

- (3) demonstrate a vertical navigation performance in accordance with Nig. CARs Part 7.4.1.3.
- (d) Prior to granting the RVSM approval required in accordance with 1.5.1.5 (d) (2), the Authority will be satisfied that:
 - (1) the vertical navigation performance capability of the RPAS satisfies the requirements specified in Nig. CARs Part 7.4.1.3.
 - (2) the operator has instituted appropriate procedures in respect of continued airworthiness (maintenance and repair) practices and programmes; and
 - (3) the operator has instituted appropriate remote flight crew procedures for operations in RVSM airspace.
- (e) The Authority, in consultation with the State of Registry if appropriate, will ensure that, in respect of those RPAS mentioned in 1.6.1.5, adequate provisions exist for:
 - (1) receiving the reports of height-keeping performance issued by the monitoring agencies established in accordance with Annex 11, 3.3.5.1; and
 - (2) taking immediate corrective action for individual RPAS, or type of RPAS, identified in such reports as not complying with the height-keeping requirements for operation in airspace where RVSM is applied.
- (f) The Authority, in consultation with the State of Registry if appropriate, that has issued an RVSM approval to an operator will establish a requirement which ensures that a minimum of two type of RPAS grouping of the operator have their height keeping performance monitored, at least once every two years or within intervals of 1,000 flight hours per RPAS, whichever period is longer. If an operator RPAS type grouping consists of a single RPAS, monitoring of that RPAS shall be accomplished within the specified period.
- (g) No Operator shall operate an RPA in RVSM airspace without a valid RVSM approval.
- (h) The operator shall ensure that the RPAS is sufficiently provided with navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment will enable the RPAS to navigate in accordance with 1.6.1.5 (a) and where applicable 1.6.1.5.(b) and 1.5.1.5 (c).

- (i) On flights in which it is intended to execute an instrument approach and landing, an RPAS shall be provided with a navigation capability providing sufficient performance and functionality to guide the RPA to landing or to allow the remote pilot to conduct a landing under VLOS or through indirect observation utilizing appropriately certified visual surveillance system or methodology.
- (j) This capability shall be available at each aerodrome at which it is intended to execute an instrument approach and landing, including at any designated alternate aerodromes.
- (k) The operator shall ensure that the RPA is provided with a navigation capability providing sufficient performance and functionality to guide the RPA to a designated point on the movement area, when the RPA is capable of conducting automated taxiing.
- (l) Electronic Navigation Data Management
- (m) The operator shall not employ electronic navigation data products that have been processed for application in the air and on the ground unless the State of Operator has approved the operator's procedures for ensuring that the process applied and the products delivered have met acceptable standards of integrity and that the products are compatible with the intended function of the equipment that will use them. The State of Operator shall ensure that the operator continues to monitor both process and products.
- (n) The operator shall implement procedures that ensure the timely distribution and insertion of current and unaltered electronic navigation data to all RPAS that require it.

1.5.1.6 ATIS Surveillance Equipment

- (a) An RPAS shall be provided with surveillance equipment which will enable it to operate in accordance with the requirements of air traffic services.
- (b) All RPAS operating in BVLOS shall be equipped with a Mode S pressure-altitude reporting transponder which operates in accordance with the relevant provisions of Annex 10, Volume IV.

1.6 Remote Pilot Station

- (a) General
 - (1) The operator shall ensure that at any given time, only one RPS shall control an RPA

- (2) The RPS shall be equipped with controls and displays which will enable the remote pilot(s) to monitor and control the operation of the RPA on the ground and in the air.
 - (3) The RPS shall enable the remote pilot(s) to carry out any required maneuvers and deal with emergencies while observing the operating limitations in the expected operating conditions.
 - (4) The RPS shall provide the means for the remote pilot(s) to communicate with ATS and other airspace users as appropriate.
 - (5) The RPS shall provide the relevant information, alerts and warnings pertaining to the operation.
- (b) RPS work environment
- (1) The operator shall ensure that the RPS is located in an environment which:
 - (i) allows the remote pilot(s) to concentrate on his/her tasks
 - (ii) minimizes distractions
 - (2) The operator shall ensure that the working environment for the remote crew is appropriate for the intended operation.

Note: Considerations related to the working environment may include appropriate space, lighting, air conditioning, ergonomic furniture and required information or tools for the operation to be readily available.
 - (3) The display(s) shall be so arranged as to permit the remote pilot(s) to see their indications readily from his or her station.
 - (4) RPAS with speed limitations expressed in terms of Mach number shall be equipped with a means of displaying Mach number.
 - (5) A means of measuring and displaying time in hours, minutes and seconds shall be available to the remote crew.

(c) Visual Operations

(1) When operating visually, the following minimum information shall be measured by the RPA and displayed at the RPS to the remote pilot(s):

- (i) magnetic heading;
- (ii) barometric altitude;
- (iii) indicated airspeed; or
- (iv) such additional instruments or equipment as may be prescribed by the Authority.

(d) IFR flights

(1) When operated in accordance with instrument flight rules, or when the RPA cannot be maintained in a desired attitude without reference to one or more displays, the following information shall be measured by the RPA and displayed at the RPS to the pilot(s), as a minimum:

- (i) magnetic heading;
- (ii) barometric altitude;
- (iii) indicated airspeed;
- (iv) aircraft attitude;
- (v) the outside air temperature;
- (vi) rate-of-climb and descent; and
- (vii) failures of an altitude, attitude or airspeed system.

(2) RPAS shall be equipped with such additional instruments and equipment as prescribed by the Authority.

(e) ATC Communication equipment

(1) For the intended operation, the RPAS communication equipment readily available to the remote pilot shall be capable of:

- (i) conducting two-way communication for aerodrome control purposes;
- (ii) receiving meteorological information at any time during flight; and
- (iii) conducting two-way communication at any time during flight with at least one aeronautical station and with such other aeronautical stations and on such frequencies as may be prescribed by the Authority.

- (2) When compliance with 1.6(e) requires that more than one communication equipment unit be provided, each shall be independent of the other or others to the extent that a failure in any one will not result in failure of any other.
- (3) The radio communication equipment shall provide for communication on the aeronautical emergency frequency 121.5 MHz.
- (4) For operations where communication equipment is required to meet RCP specification for performance-based communication (PBC), the RPAS shall:
 - (i) be provided with communication equipment which will enable it to operate in accordance with the prescribed RCP specification(s).
 - (ii) have information relevant to the RPAS RCP specification capabilities listed in the flight manual or other RPAS documentation approved by the State of Design or State of Registry; and
 - (iii) have information relevant to the RPAS RCP specification capabilities included in the MEL.

1.6.1.1 Electronic Flight Bag Equipment

- (a) Where portable EFBs are used, the operator shall ensure that they do not affect the performance of the RPAS systems, equipment or the ability to operate the RPAS.
- (b) EFB functions
 - (1) Where EFBs are used, the operator shall:
 - (i) assess the safety risk(s) associated with each EFB function;
 - (ii) establish and document the procedures for the use of, and training requirements for, the device and each EFB function; and
 - (iii) ensure that, in the event of an EFB failure, sufficient information is readily available to the remote flight crew for the flight to be conducted safely.
 - (2) The Authority will establish criteria for the operational use of EFB functions to be used for the safe operation of RPAs.
- (c) EFB operational criteria

- (1) In establishing operational criteria for the use of EFBs, the Authority will ensure that:
 - (i) the EFB equipment and its associated installation hardware, including interaction with the RPAS if applicable, meet the appropriate airworthiness certification requirements;
 - (ii) the operator has assessed the risks associated with the operations supported by the EFB function(s);
 - (iii) the operator has established requirements for redundancy of the information (if appropriate) contained in and displayed by the EFB function(s);
 - (iv) the operator has established and documented procedures for the management of the EFB function(s) including any databases it may use; and
 - (v) the operator has established and documented the procedures for the use of, and training requirements for, the EFB function(s).

1.6.1.2 Contingency plans

- (a) The operator shall provide RPAS crew with capability to contact and coordinate with ATS in the event of an evacuation of the RPS
- (b) The remote flight crew shall contact and coordinate with ATS in the event of an evacuation of the RPS
- (c) The operator shall develop contingency plans to provide alternative RPS facilities when assigned facilities are temporarily not available.
- (d) Contingency arrangements are temporary in nature and shall remain in effect only until the designated RPS facilities are reactivated, alternative RPS facilities activated, or the RPA flight is concluded.
- (e) Contingency plans should cover but not be limited to:
 - (1) provisions for alternative facilities and services and develop, promulgate and implement appropriate contingency plans.
 - (2) Detailed agreements among the parties concerned before the occurrence of the event requiring contingency action,

including the manner and timing of promulgating such arrangements.

- (3) acceptability to providers and users of contingency services alike, i.e. in terms of the ability of the providers to discharge the functions assigned to them and in terms of safety of RPAS operations provided by the plan in the circumstances.
- (4) Details regarding alternative RPS, infrastructure and in the case of a widespread capability loss, alternative pilots/RPS.

1.6.1.3 Emergency power supply

- (a) The RPS shall be fitted with an emergency power supply, independent of the main electrical generating system that is capable of providing power for a duration that is sufficient to implement contingency actions or transfer control of the RPA to an alternate RPS.
- (b) The emergency power supply shall be automatically operative after the total failure of the main electrical generating system and clear indication shall be given that the RPS is being operated by emergency power.
- (c) When operating under emergency power supply, the RPS shall provide the remote pilot with the essential flight information for safe recovery.

1.6.1.4 Other RPAS components

- (a) Lighting
 - (1) The RPA shall comply with the general characteristics of lights specified in Nig. CARs Part 7.5 as applicable.

1.6.1.5 RPAS Recording System

- (a) RPA Recording System
- (b) All RPA shall be equipped with a RPA RS recording on-board the data associated with the functions defined in IS 1.6.1.5.

(1) RPA RS Crash Protection

All RPA performing BVLOS operations shall be equipped with a RPA RS with a data storage unit which is crashworthy and fire protected as appropriate. The crash

and fire protection shall be based on the analysis of potential damages to the data storage unit.

(2) RPA RS Operation

The RPA RS shall record continuously whilst the RPA is powered

(3) RPA RS Duration

All RPA RS shall be capable of retaining the information recorded during at least the complete flight of the RPA or the last 25 hours, whichever is shorter

(4) RPA RS Documentation

(i) The documentation necessary to convert the recorded data shall be retained by the operator and provided upon request by the competent investigation authorities.

(ii) The documentation necessary to convert the recorded data shall be provided in electronic format.

(c) RPS Recording System

(d) All RPS shall record on a RPS RS the data associated with the functions defined in 1.6.1.5

(1) RPS RS crash protection

If the RPS is in a mobile platform consideration should be given to providing crash protection of the RS data storage unit.

(2) RPS RS operation

The RPS RS shall record continuously whilst the RPA is powered

(3) Duration

All RPS RS shall be capable of retaining the information recorded during the complete flight of the RPA or the last 25 hours, whichever is longer.

(4) RPS RS Documentation

(i) The documentation necessary to convert the recorded data shall be retained by the operator and

provided upon request by the competent investigation authorities.

- (ii) The documentation necessary to convert the recorded data shall be provided in electronic format.

(e) Preservation of Data

- (1) In the case of an accident or incident occurred during a flight, the data recorded by the RPA RS and RPS RS shall be preserved for investigation purposes.
- (2) The RPAS shall be deactivated whenever possible upon completion of the flight and shall not be reactivated before the disposition of the recorders is determined in accordance with Annex 13.

(f) Data Encryption.

- (1) If data encryption is used the operator shall provide decryption tools upon request by the competent investigation authorities

(g) Continued Serviceability

- (1) Operational checks and evaluations of recordings from the RPAS RS shall be conducted to ensure the continued serviceability of the RPAS RS.
- (2) The operator shall maintain a record of each RPS that has controlled an RPA during each flight.

1.7 RPAS Operation Requirements

1.7.1.1 General

(a) Requirements

- (1) No person shall operate an RPA in Nigeria without appropriate authorisation from the Authority.
- (2) An operator shall ensure that a flight will not be commenced unless it has been ascertained by every reasonable means available that the ground and/or water facilities including communication facilities and navigation aids available and directly required on such flight, for the safe operation of the RPAS, are adequate for the type of operation under which the flight is to be conducted and are adequately operated for this purpose.

- (3) An operator shall ensure that any inadequacy of facilities observed in the course of operations is reported to the authority responsible for the facilities, including to the concerned ATS provider, if applicable, without undue delay.
- (b) Applicability
 - (1) This sub part prescribes the requirements for:
 - (i) Operations conducted by an RPAS flight crewmember certified in Nigeria while operating RPAS registered in Nigeria.
 - (ii) Operations of foreign RPAS registered in another State by Nigerian ROC holders.
 - (iii) Operations of RPAS within Nigeria by RPAS flight crew or ROC holders of another State.
 - (2) For operations outside of Nigeria, all Nigerian RPAS pilots and operators shall comply with these requirements unless compliance would result in a violation of the laws of the State in which the operation is conducted.

1.7.1.2 RPAS Requirements

- (a) No person shall operate a Nigerian RPAS unless it displays a proper marking as prescribed in section 1.8.1.3 of this Order.
- (b) No person shall operate an RPAS unless it is in an airworthy condition.
- (c) Each remote PIC shall determine whether an RPAS is in a condition for safe flight.
- (d) The remote PIC shall discontinue a flight as soon as practicable when an un-airworthy mechanical, electrical, or structural condition occurs.

1.7.1.3 RPAS Flight Manual, Markings and Placard Requirements.

- (a) No person may operate a Nigeria-registered civil aircraft unless there is available:
 - (1) A current RPAS flight manual; or
 - (2) If no Flight Manual exists, approved manual material, markings and placards, or any combination thereof, which provide the PIC with the necessary limitations for safe operation.

- (b) No person may operate an RPAS within or over Nigeria without complying with the operating limitations specified in the RPAS Flight Manual, markings and placards, or as otherwise prescribed by the Authority.
- (c) Each RPAS Flight Manual shall be updated by implementing changes made mandatory by the Authority from time to time.
- (d) Each operator shall display all placards, listings, instrument markings or combination thereof, containing those operating limitations prescribed by the Authority, for visual presentation.

1.7.1.4 Required RPAS and equipment inspections

- (a) Unless otherwise authorised by the Authority, no person may operate an RPAS unless it has had the appropriate inspections as contained in the User Manual.

1.7.1.5 Documents for operations (Manuals, Charts and Information)

- (a) The remote pilot shall have readily available at the RPS the following manuals, charts and information:
 - (1) the flight manual for the RPAS, or other documents containing performance data, and any other information necessary for the operation of the RPAS within the terms of its certificate of airworthiness if applicable, unless these data are available in the operations manual;
 - (2) current and suitable charts for the route of the proposed flight and all routes along which it is reasonable to expect that the flight may be diverted;
 - (3) procedures, as prescribed in Nig. CARs Part 8.8.1.28, for pilots-in-command of intercepted aircraft;
 - (4) visual signals for use by intercepting and intercepted aircraft, as contained in Nig. CARs Part 8.8.1.28;
 - (5) the appropriate licence for each crew member;
 - (6) the operations manual or those parts of it that pertain to flight operations;
 - (7) all checklists necessary for the operation
 - (8) any information and procedure identified as relevant in the safety assessment performed by the operator including emergency and contingency procedures.

1.7.1.6 Compliance with Local Rules

- (a) The operator shall ensure that all employees know that they must comply with the laws, rules and procedures of those States in which operations are conducted.
- (b) The operator shall ensure that all remote pilots are familiar with the laws, rules and procedures, pertinent to the performance of their duties, prescribed for the areas to be traversed, the aerodromes and all other operating locations to be used and the air navigation facilities relating thereto.
- (c) The operator shall ensure that other members of the remote flight crew are familiar with such of these laws, rules and procedures as are pertinent to the performance of their respective duties in the operation of the RPAS.
- (d) Negligent or reckless operations of the RPAS
 - (1) No person shall—
 - (i) operate an unmanned aircraft system in a careless or reckless manner so as to unduly endanger the life or property of another; or
 - (ii) allow an object to be dropped from an unmanned aircraft system if such action would endanger the life or property of another.
- (e) Compliance with checklists
 - (1) The PIC shall ensure that the flight-crew follows the approved checklist procedures when operating the aircraft.
- (f) Search and rescue information
 - (1) Search and rescue information as provided in Part 8.5.1.10 of Nig.CARs.
- (g) Technical Log
 - (1) Each ROC holder shall have and complete an RPAS technical log that contains a journey records section and an RPAS maintenance record section for every flight.

Note: The technical log may be computerised. The journey records section and the maintenance record section may be combined.

- (2) Each ROC holder shall use an RPAS technical log containing a journey records section which includes the following information for each flight.
 - (i) RPAS nationality and registration;
 - (ii) Date;
 - (iii) Names of crewmembers;
 - (iv) Duty assignments of crewmembers;
 - (v) Place of departure;
 - (vi) Place of arrival;
 - (vii) Time of departure;
 - (viii) Time of arrival;
 - (ix) Hours of flight;
 - (x) Nature of flight;
 - (xi) Incidents, observations, if any; and
 - (xii) Signature of person in charge.
- (3) Entries in the journey logbook shall be made currently and in ink or indelible pencil.
- (4) Completed journey log books shall be retained to provide a continuous record of the last 2 years operations.
- (5) Each ROC holder shall use an RPAS technical log which includes an RPAS maintenance record section containing the following information for each RPAS:
 - (i) Information about each previous flight necessary to ensure continued flight safety.
 - (ii) The current RPAS maintenance release and/or an airworthiness release.
 - (iii) The current inspection status of the aircraft, to include inspections due to be performed on an established schedule and inspections that are due to be performed that are not on an established schedule, except that the Authority may agree to the maintenance statement being kept elsewhere.
 - (iv) The current maintenance status of the RPAS, to include maintenance due to be performed on an established schedule and maintenance that is due to be performed that is not on an established schedule except that the Authority may agree to the maintenance statement being kept elsewhere.
 - (v) All deferred defects that affect the operation of the RPAS.

- (6) The RPAS technical log and any subsequent amendment shall be approved by the Authority.
 - (7) Each person who takes action in the case of a reported or observed failure or malfunction of an aircraft / aeronautical product, that is critical to the safety of flight shall make, or have made, a record of that action in the maintenance section of the RPAS technical log.
 - (8) Each ROC holder shall have a procedure for keeping adequate copies of required records to be carried aboard, in a place readily accessible to each flight crewmember and shall put that procedure in the ROC holder's operations manual.
- (h) Reporting of incidents
- (1) The remote pilot-in-command shall be responsible for:
 - (i) notifying the Authority by the quickest available means of any incident involving RPAS.
 - (ii) submitting a report in a form and manner acceptable to the Authority within 72 hours from the time of incident.
 - (2) Air traffic incident report. The PIC shall submit, without delay, an air traffic incident report whenever an aircraft in flight has been endangered by-
 - (i) A near collision with another RPAS, aircraft or object;
 - (ii) Faulty air traffic procedures or lack of compliance with applicable procedures by ATC or by the flight crew; or
 - (iii) A failure of ATC facilities.
 - (3) Birds. In the event a bird constitutes an in-flight hazard or an actual bird strike occurs, the PIC shall, without delay—
 - (i) Inform the appropriate ground station whenever a potential bird hazard is observed; and
 - (ii) Submit a written bird strike report after landing.
 - (4) Dangerous Goods. The PIC shall inform the appropriate ATC facility, if the situation permits, when an in-flight emergency occurs involving dangerous goods on board.

- (5) Unlawful Interference. The PIC shall submit a report to the local authorities and to the Authority, without delay, following an act of unlawful interference.
- (i) Accident notification –
 - (1) If an emergency situation which endangers the safety of the RPA or persons necessitates the taking of action which involves a violation of local rules or procedures, the Remote PIC shall—
 - (i) Notify the appropriate local Authority without delay;
 - (ii) Submit a report of the circumstances, if required by the State in which the incident occurs; and
 - (iii) Submit a copy of this report to the Authority.
 - (2) Each Remote PIC shall submit reports specified in paragraph (1) above to the Authority within 10 days in the form prescribed.
 - (3) The Remote PIC shall notify the appropriate Authority, by the quickest available means, of any accident involving his or her RPAS that results in serious injury or death of any person, or substantial damage to the RPAS or property.

1.7.1.7 Temporary Authorization of RPAS/UAS Activities

- (a) The Authority may grant upon application a temporary Authorization(s) to person(s) intending to operate RPAS/UAS not registered in Nigeria—
 - (1) For a period of fourteen (14) days' renewable once when the reason for renewal is genuine;
 - (2) Such application shall be submitted to the Authority and processed within four (4) weeks.

1.7.1.8 Pre-flight Familiarization, Inspection and Actions for RPAS/UAS Operation

- (a) Prior to flight, the remote pilot must—
 - (1) assess the operating environment, considering risks to persons and property in the immediate vicinity, both on the surface and in the air. This assessment must include—
 - (i) Local weather conditions;

- (ii) Local airspace and any flight restrictions;
 - (iii) The location of persons and property on the surface; and
 - (iv) Other ground hazards.
- (2) ensure that all persons involved in the operation of the remotely piloted aircraft system receive a briefing that includes operating conditions, emergency procedures, contingency procedures, roles and responsibilities, and potential hazards;
 - (3) ensure that all links between ground station and the remotely piloted aircraft system are working properly; and
 - (4) ensure that there is enough available power for the remotely piloted aircraft (RPA) to operate for the intended operational time and to operate after that for at least five minutes.
- (b) Each person involved in the operation must perform the duties assigned by the remote pilot.

1.7.1.9 Operation in the Vicinity of Aerodromes

- (a) Except with written permission of the operator of an aerodrome, NAMA and approval from the Authority; a person shall not operate a—
 - (1) RPAS/UAS within ten (10) Km of an aerodrome reference point;
 - (2) RPAS/UAS on approach and take-off paths;
 - (3) RPAS/UAS within the vicinity of navigation aids;
 - (4) RPAS/UAS within the aerodrome traffic zone;
 - (5) RPAS/UAS within terminal traffic holding patterns.

1.7.1.10 Operation of RPAS/UAS in Prohibited or Restricted Areas

- (a) No person shall operate a RPAS/UAS —
 - (1) In or around a prohibited or a restricted area or “no fly zone” which has been duly published in the Nigeria Aeronautical Information Publication or any other relevant

document, except in accordance with approved published restrictions or by permission granted by the Authority;

- (1) In or around Strategic Installations, Radar Sites, high tension cables and Communication Masts, highways, stadiums, Prisons, Police Stations, Military barracks, Courts of Law, Scenes of Crime, except in accordance with approved published restrictions or by permission granted by the Authority.

1.7.1.11 Highly Automated RPAS Operations

- (a) Any person wishing to conduct a highly automated RPAS operation shall require extensive performance review, risk assessment, and testing.
- (b) An Operator conducting the automated remotely piloted aircraft operations is responsible for oversight of the operations, including unmanned aircraft airworthiness and any operational requirements imposed by the Authority;
- (c) Automated remotely piloted aircraft operations must comply with rules of air, as applicable to all aircraft in the Nigerian Airspace;
- (d) Approval of highly automated RPAS operations must be done in consultation with the Office of the National Security Adviser (ONSA) who will issue a Security Clearance and End-User Certificates for a specific period of time that permits an operator to conduct an automated aircraft, in a particular area;
- (e) The ONSA shall prescribe security conditions and limitations for highly automated unmanned aircraft operations to ensure they do not jeopardize national security.

1.7.1.12 Operation in controlled airspace

- (a) No person shall operate in a controlled airspace unless the operator has prior authorization from the appropriate agency(ies);
- (b) Any person conducting unmanned aircraft operations shall ensure that the appropriate air traffic service unit(s) is advised immediately anytime the flight inadvertently enters into controlled airspace.

1.7.1.13 RPAS operating and performance limitations

- (a) No person may operate a RPAS/UAS that:
 - (1) Exceeds its designed performance limitations for any operation, as established by the State of Registry;
 - (2) Exceeds the operating limitations contained in the RPAS/UAS flight manual, or its equivalent;
 - (3) Exceeds the mass limitations, if applicable.

1.7.1.14 Flight rules

- (a) Flight rules of RPAS is as provided below:

(1) VLOS operations

- (i) During VLOS operations, the remote pilot or RPA observer shall maintain direct unaided visual contact with the remotely piloted aircraft.
- (ii) In determining the extent of the range, consideration shall be given to the remote pilot and RPA observer capabilities, the meteorological conditions, the size and conspicuity of the RPA and any other relevant factors.
- (iii) VLOS operations can be performed in:
 - (A) A larger horizontal range when one or more RPA observer supports the pilot in keeping the RPA clear of other traffic and obstacles.
 - (B) The Vertical range and may also be increased depending on the location of the RPA observer (e.g. on board another aircraft).

(2) BVLOS Operations

- (i) For BVLOS operations, the operator shall:
 - (A) have minimum equipment requirements to support its operations
 - (B) ensure the robustness of the C2 link.

- (C) have the ability to detect conflicting traffic or obstacles and take appropriate action to avoid them.
- (D) ensure aircraft aids to observation;
- (E) ensure meteorological conditions and visibility, including background conditions (cloud / blue sky) are met.

(3) EVLOS Operations

EVLOS operations are operations, either within or beyond 500m / 400 ft, where:

- (i) the Remote Pilot is still able to comply with his collision avoidance responsibilities, but the requirement for the Remote Pilot to maintain direct visual contact with the UA is addressed via other methods or procedures. It is important to note, however, that collision avoidance is still achieved through 'visual observation' (by the Remote Pilot and/or RPA Observers).
- (ii) The operator must submit a safety case including a risk assessment for the operation. Factors taken into consideration must include:
 - (A) the procedures for avoiding collisions;
 - (B) RPA size;
 - (C) RPA colour and markings;
 - (D) RPA aids to observation;
 - (E) meteorological conditions and visibility, including background conditions (cloud / blue sky);
 - (F) the use of deployed observers; and
 - (G) operating range limits - suitable radio equipment must be fitted in order to be able to effect positive control over the RPAs at all times.

(4) RLOS Operations

- (i) RLOS operations are operations in which the C2 Link transmitter(s) and receiver(s) are within mutual radio link coverage and thus able to communicate directly or through a ground network provided that the remote transmitter has RLOS to the RPA and transmissions are completed in a comparable timeframe.
- (ii) The operator must submit a safety case including a risk assessment for the operation. Factors taken into consideration must include:
 - (A) the procedures for avoiding collisions;
 - (B) RPA size;
 - (C) RPA colour and markings;
 - (D) RPA aids to observation;
 - (E) meteorological conditions and visibility, including background conditions (cloud / blue sky);
 - (F) the use of deployed observers; and
 - (G) operating range limits - suitable radio equipment must be fitted in order to be able to effect positive control over the RPAs at all times.

1.7.1.15 Fatigue Management

- (a) Fatigue management is as provided for in Part 8.11 of Nig. CARs as applicable.

1.7.1.16 Flight duty Limitations

- (a) Fatigue management is as provided for in Part 8.12 of Nig. CARs as applicable.

1.7.1.17 RPAS Maintenance and Inspection requirements

- (a) A registered owner or operator of an RPAS is responsible for maintaining of the RPAS in an airworthy condition.
- (b) No person may operate an RPAS for the purpose of performing a flight unless a maintenance pre-flight check is carried out.

- (c) No person may perform any maintenance, preventive maintenance or alteration on an RPAS without proper authorisation from Authority.
- (d) No person may operate an RPAS for which a manufacturer's maintenance manual or instructions for continued airworthiness has been issued unless the mandatory replacement times, inspection intervals and related procedures are set forth in the Conditions and Limitations approved by the Authority under this Part for ROC holders.

1.7.1.18 ROC Inspection requirements

- (a) The ROC Holder shall ensure that no flight takes place unless:
 - (1) the RPA is maintained in an airworthy condition;
 - (2) the RPS is maintained and serviceable;
 - (3) the serviceability of the C2 Link has been verified;
 - (4) all the other necessary RPAS components are serviceable;
 - (5) any operational and emergency equipment fitted is correctly installed and serviceable or clearly identified as unserviceable; and
 - (6) the maintenance of the RPA and RPS are performed in accordance with manufacturer data.
- (b) For each RPA type, the ROC holder shall establish and implement a maintenance programme in accordance with the manufacturer's manuals and considering the results of the operational risk assessment.
- (c) The operator shall not operate an RPAS unless it is maintained and released to service by an approved maintenance organization or under an equivalent system, either of which should be acceptable to the Authority. When the Authority accepts an equivalent system, the person signing the maintenance release should be licensed in accordance with Part 1.4 of this Order.
- (d) Any persons signing a maintenance release shall be authorized in accordance with the Maintenance Control Manual of the ROC holder.

- (e) For each RPA and for each RPS, the operator shall maintain a Technical Log including records of operating hours / cycles as relevant to the type of RPA and RPS.

1.7.1.19 Airworthiness of RPAS/UAS

- (a) A RPAS operator shall ensure that all its components are in working order and in accordance with the manufacturers' user manual.
- (b) For the "Specific" and "Complex" risk categories of RPAS operation, the Authority shall require RPAS operations meet a standards level of performance to be determined by the Authority, commensurate with the risk of the operation.
- (c) The RPAS operator shall ensure that the maintenance of the RPAS is performed in accordance with the manufacturers' user manual.
- (d) No airworthiness type certification shall be required for unmanned aircraft system operations that are subject to this Order;
- (e) The remote pilot must discontinue the flight when he/she knows or has reason to know that continuing the flight would pose a hazard to other aircraft, people, or property.

1.7.1.20 Authority to perform and approve maintenance, preventive maintenance and modifications

- (a) An ROC holder which is not approved as an AMO may perform and approve maintenance, preventive maintenance, or modifications of any RPA, airframe, RPA engine, propeller, appliance, or component, or a part thereof for return to service, if approved in the operations specifications, as provided in its maintenance programme and maintenance control manual.
- (b) An ROC holder may make arrangements with an AMO (appropriately rated) for the performance of maintenance, preventive maintenance, or modifications of any RPA, airframe, RPA engine, propeller, appliance, or component, or part thereof as provided in its maintenance programme and maintenance control manual.
- (c) An ROC holder which is not approved as an AMO shall use an appropriately licensed and rated individual in accordance with Part 2 of Nig.CARs, as appropriate, to approve maintenance, preventive maintenance, or modifications of any RPA, airframe, RPA engine, propeller, or appliance for return to service after performing or supervising in accordance with technical data approved by the Authority.

1.8 RPAS Operators Certificate

1.8.1.1 Applicability

- (a) The ROC shall consist of two documents – the Certificate and the Conditions and Limitations.
- (b) This sub section of the Order prescribes requirements for the original certification and continued validity of Remotely Piloted Aircraft Systems (RPAS) issued by Nigeria for commercial operations.
- (c) Compliance with a RPAS Operator's Certificate
 - (1) No operator may operate an RPAS in commercial operation unless that operator holds an ROC for the operations being conducted.
 - (2) No person may operate an RPAS in commercial operations which are not authorised by the terms and conditions of its ROC.
 - (3) Each ROC holder shall carry a certified true copy of the ROC and a copy of the Conditions and Limitation relevant to the RPA type, issued in conjunction with the certificate.
 - (4) Each ROC holder shall, at all times, continue in compliance with the ROC terms, conditions of issuance, and maintenance requirements in order to hold that certificate.
- (d) Contents of the ROC
 - (1) The ROC should contain at least the following in accordance with IS 1.9.1.1(d).
 - (i) the State of the Operator and issuing authority;
 - (ii) the ROC number and its expiration date;
 - (iii) the RPAS operator name, trading name (if different) and address of the principle place of business;
 - (iv) the date of issue and the name, signature and title of the authority representative;
 - (v) the description of the types of operations authorized;
 - (vi) the location, in a controlled document which shall

be easily accessible, where the contact details of operational management can be found.

- (2) The Conditions and Limitations shall contain the RPAS make, model and series with the following list of authorisations and details:
 - (i) Issuing authority contact details;
 - (ii) Operator name and ROC number;
 - (iii) Date of issue and signature of the Authority representative;
 - (iv) RPAS model;
 - (v) Types and areas of operations, and
 - (vi) Special limitations and authorisations.
- (3) Each ROC holder shall apply to the Authority for an amendment to its Conditions and Limitations in advance of any intended change of RPAS.
- (4) RPAS of another certificate holder operated under an interchange agreement shall be incorporated to the Conditions and Limitations as required by paragraph (d) (2) above.
- (5) No person may operate additional or replacement RPAS of a type for which it is currently authorised unless it can show that each RPAS has completed an evaluation process for inclusion in the ROC holder's fleet.

(e) Duration of an ROC

- (1) An ROC, or any portion of the ROC, issued by the Authority is effective and valid for twenty four (24) months unless—
 - (i) The Authority amends, suspends, revokes or otherwise terminates the certificate;
 - (ii) The ROC holder surrenders it to the Authority; or
 - (iii) The ROC holder does not conduct any kind of operation for more than One Hundred and Eighty (180) days, and fails to follow the procedures of IS 1.9.1.1 (e) upon resuming that kind of operation.
- (2) An ROC holder shall make application for renewal of an ROC at least 90 days before the end of the existing period of validity.

(f) Amendment of an ROC

- (1) The Authority may amend any ROC if—

- (i) The Authority determines that safety in commercial operations and the public interest require the amendment; or.
 - (ii) The ROC holder applies for an amendment, and the Authority determines that safety in commercial operations and the public interest allows the amendment.
 - (2) If the Authority stipulates in writing that an emergency exists requiring immediate amendment in the public interest with respect to safety in commercial operations, such an amendment is effective without stay on the date the ROC holder receives notice.
 - (3) An ROC holder may appeal the amendment, but shall operate in accordance with it, unless it is subsequently withdrawn.
 - (4) Amendments proposed by the Authority, other than emergency amendments, become effective 30 days after notice to the ROC holder, unless the ROC holder appeals the proposal in writing prior to the effective date. The filing of an appeal stays the effective date until the appeal process is completed.
 - (5) Amendments proposed by the ROC holder shall be made at least 30 days prior to the intended date of any operation under that amendment.
 - (6) No person may perform a commercial operation for which an ROC amendment is required, unless it has received notice of the approval from the Authority.
- (g) Access for inspection
- (1) To determine continued compliance with the applicable rules, the ROC holder shall—
 - (i) Grant the Authority access to and co-operation with any of its organisations, facilities and aircraft;
 - (ii) Ensure that the Authority is granted access to and co-operation with any organisation or facilities that it has contracted for services associated with commercial operations and maintenance for services; and

- (iii) Grant the Authority free and uninterrupted access to the ground control station of the RPAS during flight operations.
- (h) Conducting tests and inspection:-
 - (1) The Authority will conduct on-going validation of the ROC holder's continued eligibility to hold its ROC and associated approvals.
 - (2) The ROC holder shall allow the Authority to conduct tests and inspections, at any time or place, to determine whether an ROC holder is complying with the applicable laws, rules and ROC terms and conditions.
 - (3) The ROC holder shall make available at its principal base of operations:-
 - (i) All portions of its current RPAS Operator Certificate;
 - (ii) All portions of its Operations and Maintenance Manuals; and
 - (iii) A current listing that includes the location and individual positions responsible for each record, document and report required to be kept by the ROC holder under the applicable aviation law, rules or standards.
 - (4) Failure by any ROC holder to make available to the Authority upon request, all portions of the ROC, Operations and Maintenance Manuals and any required record, document or report is grounds for suspension of all or part of the ROC.

1.8.1.2 RPAS Operator Certification and continued validity

- (a) Administration
 - (1) Base of Operation
 - (i) An ROC holder shall establish a main operations base and a main maintenance base, as approved by the Authority. This may be at the same location or at separate locations.
 - (ii) Each ROC holder shall provide written notification of intent to the Authority at least 30 days before it proposes to establish or change the location of either base.

(b) Management Personnel

- (1) Each ROC holder shall have an accountable manager, acceptable to the Authority, who has corporate authority for ensuring that all flight operations and maintenance activities can be financed and carried out to the highest degree of safety standards required by the Authority.
 - (i) The management personnel of an ROC holder shall report directly to the Accountable Manager that is acceptable to the Authority.
- (2) When conducting commercial operations, the ROC holder shall have qualified personnel, with proven competency, available and serving full-time in the following positions or their equivalent:
 - (i) Director of Operations
 - (ii) Chief RPAS Pilot
 - (iii) Director of Maintenance
- (3) The Authority may approve positions or numbers of positions, other than those listed, if the ROC holder is able to show that it can perform the operation with the highest degree of safety under the direction of fewer or different categories of management personnel due to the —
 - (i) The kind of operations involved;
 - (ii) The number of RPAS used; and
 - (iii) The area of operation.
- (4) For additional management personnel requirements, See IS:1.8.1.2(b)
- (5) The individuals who serve in the positions required or approved under this section and anyone in a position to exercise control over operations conducted under the ROC must:
 - (i) Be qualified through training, experience, and expertise;
 - (ii) Discharge their duties to meet applicable legal requirements and to maintain safe operations; and
 - (iii) To the extent of their responsibilities, have a full understanding of the following materials with respect of the ROC holder's operation:

- (A) Aviation safety standards and safe operating practices;
 - (B) Nig.CARs;
 - (C) The ROC holder's Conditions and Limitation;
 - (D) All appropriate maintenance and airworthiness requirements of this Part;
 - (E) The manuals requirements of this Part.
- (6) Each ROC holder must:
- (i) State in the general policy provisions of the operations manual the duties, responsibilities and authority of personnel required by this section;
 - (ii) List in the operations manual the names and business addresses of the individuals assigned to those positions; and
 - (iii) Notify the Authority within 10 days of any change in personnel or any vacancy in any position listed.
- (c) Quality System
- (1) The rules pertaining to the development and implementation of the Quality Systems of ROC is as provided for in Part 9.2.2.3 of Nig. CARs.
- (d) Submission and revision of policy and procedure manual
- (1) The rules pertaining to the submission and revision of Policy and Procedure Manuals for ROC holders is as provided for in Part 9.2.2.4 of Nig. CARs.

1.8.1.3 Demonstration Flight.

- (a) General
- (1) No person may operate an RPAS type in commercial operation unless it first conducts satisfactory demonstration flights for the Authority in that RPAS type.
 - (2) No person may operate an RPAS in a designated special area, or using a specialised navigation system, unless it conducts a satisfactory demonstration flight for the Authority.
 - (3) Demonstration flights required by paragraph (a) shall be conducted in accordance with the rules applicable to the type of operation and RPAS type used.

- (4) The Authority may authorise deviations from this section if the Authority finds that special circumstances make full compliance with this section unnecessary.
- (5) Validation Flights: When an ROC holder applies for a Special Authorisation such as BVLOS, EVLOS and R-LOS etc, the final step of the approval process may be a completion of validation flight(s). The Authority shall perform an assessment of the operator on a flight to verify that such an operation and maintenance procedures and practices are used safely and effectively. The validation flight may be accomplished during a revenue flight, post ROC issuance as determined by the Authority.

1.8.1.4 Facilities

- (a) The operator shall have facilities allowing the performance and management of all planned tasks and activities within the scope of the ROC, taking into account the nature and complexity of such activities.

1.8.1.5 ROC flight operations

- (a) Operations Manual
 - (1) An RPAS operator shall develop and submit to the Authority for approval an operations manual as set out in the IS 1.8.1.5 to this Order.
 - (2) An operations manual shall include each item set forth in IS 1.8.1.5 which is applicable to the specific operation, unless otherwise approved by the Authority.
 - (3) The operations manual, which may be issued in separate parts corresponding to specific aspects of operations, should be organized with the following information, as a minimum:
 - (i) General operating rules;
 - (ii) RPAS operating information;
 - (iii) Areas, routes and aerodromes; and
 - (iv) Training requirements.
 - (v) Quality Management System
 - (vi) Security and
 - (vii) Safety Management System
 - (4) The operator shall provide the remote flight crew with an RPAS flight manual for each RPA type operated, which includes each associated RPS model, containing the normal, abnormal and emergency procedures relating to

the operation of all the relevant systems associated with the operation of each RPA and of the checklists to be used.

(b) Safety Management System

- (1) The holder of an ROC shall establish a safety management system commensurate with the size of the organization and the complexity of its operations.
- (2) The safety management system shall include—
 - (i) Lines of responsibility and accountability;
 - (ii) Safety policy;
 - (iii) Identification of aviation safety hazards encountered by the activities of the operator, assessment and mitigation of the associated risks, including taking actions and verifying their effectiveness;
 - (iv) A process to identify actual and potential safety hazards and assess the associated risks;
 - (v) A process to develop and implement remedial action necessary to maintain an acceptable level of safety;
 - (vi) Provision for continuous and regular assessment of the appropriateness and effectiveness of safety management activities.
- (3) The holder of an ROC shall establish a system of record-keeping that allows adequate storage and reliable traceability of all activities conducted;
- (4) The format of the above records shall be specified in the ROC holder's operations manual;
- (5) Records shall be stored for at least 5 years in a manner that ensures protection from damage, alteration and theft.

(c) Operating instructions

- (1) The operator shall ensure that all operations personnel are properly instructed in their particular duties and responsibilities and the relationship of such duties to the operation as a whole.

- (2) The operator should issue operating instructions and provide information on RPA climb performance with all engines operating to enable the remote pilot-in-command to determine the climb gradient that can be achieved during the departure phase for the existing take-off conditions and intended take-off technique. This information should be included in the operations manual.

(d) Training Programme

- (1) The operator shall establish and maintain a ground and flight training programme, approved by the Authority, which ensures that all flight crew members are adequately trained to perform their assigned duties. The training programme shall:
 - (i) include ground and flight training facilities and properly qualified instructors as determined by the Authority;
 - (ii) consist of ground and flight training in the type(s) of RPAS for which the remote flight crew will be assigned;
 - (iii) include proper remote flight crew coordination and training in all types of emergency and abnormal situations or procedures caused by engine, airframe or systems malfunctions, including RPS malfunctions, fire, natural disaster or other abnormalities;
 - (iv) include training in knowledge and skills related to flight procedures for the intended area of operation, human performance including threat and error management and in the transport of dangerous goods (as appropriate);
 - (v) ensure that all remote flight crew members know the functions for which they are responsible and the relation of these functions to the functions of other crew members, particularly in regard to abnormal or emergency procedures; and
 - (vi) be given on a recurrent basis, as determined by the Authority and shall include an assessment of competence.
- (2) The requirement for recurrent flight training for a particular type of RPAS shall be considered fulfilled by:

- (i) the use, to the extent deemed feasible by the Authority, of flight simulation training devices approved by the NCAA for that purpose; or
 - (ii) the completion within the appropriate period of the proficiency check required by type of RPAS.
- (e) In-flight simulation of abnormal and emergency situations
 - (1) The operator shall ensure that inflight training of emergency and abnormal situations are only simulated following careful consideration of the risks to third parties and those risks are mitigated.
- (f) RPAS Operating Manual
 - (1) The RPAS operator shall provide the remote flight crew and designated operations staff with an RPAS operating manual, for each RPA type and variant operated, which includes each associated RPS model, containing the normal, abnormal and emergency procedures relating to the operation of all the relevant systems associated with the operation of each RPA and of the checklists to be used.
- (g) Area of Operation (route guide)
 - (1) The operator shall only designate a remote pilot to act as RPIC if he/she has:
 - (i) the minimum level of training, experience and currency specified in the operations manual;
 - (ii) adequate knowledge of the route or area to be flown and of the aerodromes, including alternate aerodromes, other operating sites, facilities and procedures to be used;
 - (iii) in the case of multi-crew operations, completed a command course appropriate for the envisaged operations.
- (h) Weather reporting sources
 - (1) Each ROC holder shall use sources approved by the Authority for the weather reports and forecasts used for decisions regarding flight preparation, routing and terminal operations.
 - (2) For flight operations, the ROC holder shall have an approved system for obtaining forecasts and reports of

adverse weather phenomena that may affect safety of flight on each route to be flown and airport/location to be used.

(3) For sources of weather reports satisfactory for flight planning or controlling flight movement. See IS:1.8.1.5.(g)

(i) Communication facilities

(1) Each ROC holder conducting flights in controlled airspace shall be able to have two-way radio communications with all ATC facilities along the routes and alternate routes to be used.

1.9 Carriage of Dangerous Goods

1.9.1.1 General

(a) No person shall take or cause to be taken on board an RPAS/UAS or deliver or cause to be delivered for loading thereon any goods which that person knows or has reasonable cause to know to be dangerous goods unless authorized by the Authority.

(b) Dangerous goods are listed below—

(1) Chemical and/or Biological substances;

(2) Nuclear material;

(3) Explosives;

(4) Arms, ammunition and munitions of war;

(5) Corrosive substances;

(6) Radioactive elements;

(7) Volatile liquids;

(8) Highly flammable liquids;

(9) Aerosol sprays;

(10) Illicit or unauthorized drugs;

(11) Any such materials and/or substances that may from time to time be so classified by the Authority.

1.10 Security Requirements for RPAS Operations

1.10.1.1 Security Vetting for RPAS/UAS Pilot or Operator

- (a) On receipt of an application for a RPAS Operator Certificate or registration of RPAS, the Authority shall verify the compliance and the accuracy of the application and provide the applicant's information to competent security agencies for security vetting prior to certificate issuance;
- (b) The Authority shall only issue RPAS/UAS Operator Certificate (ROC) to individuals who have successfully completed a security assessment conducted by the competent security agencies;

Note: The security assessment consists of a check of intelligence-related databases, including Interpol and international databases, terrorist watch lists, and other sources relevant to determining whether an individual poses or may pose a threat to national security;

- (c) If the competent security agencies determine that the applicant poses a security risk, the Authority shall stop the application for an RPAS operator certificate;
- (d) A holder of a remote pilot license or a certificate of registration who might pose a security risk shall have his/her certificate amended, modified, suspend, or revoke (as appropriate) based on the competent security agencies' security findings;
- (e) The RPAS shall be stored and prepared for flight to ensure protection against sabotage or other unlawful malicious interference.
- (f) The RPAS shall be protected in a manner that will prevent and detect tampering, hacking, spoofing and other forms of interference or malicious hijack and ensure the integrity of vital components.
- (g) Personnel responsible for programming, preflight preparation and servicing as well as operating and remotely piloting the RPA shall be security background checked.

1.10.1.2 RPS Access Control

- (a) Access to an RPS shall be restricted, commensurate with the size and capability of the RPAS.
- (b) Access to computer based hardware shall be limited to persons identified and authenticated by the operator.

1.10.1.3 Security Programme Requirements

- (a) No person or a club shall operate a RPAS/UAS without operator security procedures developed in accordance with the Nig.CARs and accepted by the Authority.

- (b) An RPAS/UAS operator shall specify the security measure, procedures and practices to be followed in other to protect pilots and facilities from acts of unlawful interference.
- (c) An RPAS/UAS operator shall carry out and maintain security measures including identification and resolution of suspicious activity that may pose a threat to civil aviation—
 - (1) At a remote pilot station;
 - (2) On an RPAS/UAS; and
 - (3) At any facility under the control of the RPAS/UAS operator.
- (d) RPAS/UAS shall be subject to security inspection at any time during its operations without prior notification to the operator,
- (e) The specific security measures referred to in 1.10.1.4 (c) shall provide—
 - (1) That the premises used for preparing, storing, parking including RPAS/UAS ground station shall be secured at all times against unauthorized access;
 - (2) For protection of critical information technology and communication systems used for operations purposes from interference that may jeopardize the security of civil aviation;
 - (3) For protection of flight documents;
 - (4) That the RPAS/UAS operator requesting to operate with a camera shall be required to include details of the camera usage in the application for Security review and approval;
 - (5) Requirements for checks and searches of specific areas and accessible compartments of the interior and exterior of RPAS/UAS; and
 - (6) That persons engaged in RPAS/UAS operations are subject to recurrent background checks and selection procedures and are adequately trained.

1.10.1.4 Security Obligations for RPAS/UAS Operators

- (a) The operator of RPAS/UAS shall be responsible for the security of RPAS/UAS operations including associated facilities, personnel and equipment,
- (b) The RPAS/UAS operator shall ensure that the RPA or any component thereof that is no longer in use is completely disabled or destroyed to prevent unauthorized use,

- (c) The RPAS/UAS operator shall comply with any security directives or circulars issued by the Authority.

1.10.1.5 Acts of Unlawful Interference

- (a) The RPAS/UAS operator shall ensure that the RPAS/UAS is protected from acts of unlawful interference;
- (b) The RPAS/UAS operator shall have response procedures for operations, personnel for threats and incidents involving RPAS/UAS operations.
- (c) RPAS/UAS operator or owner shall ensure that reports on acts of unlawful interference are promptly submitted to the Authority as per the Part 17 of the Nig.CARs.

1.10.1.6 RPAS/UAS Operator Security Measures

- (a) The holder of an ROC issued under this Orde shall—
 - (1) Ensure that RPAS/UAS not in use are stored in a secure manner to prevent and detect unauthorized interference or use;
 - (2) Ensure that the RPAS/UAS is protected from acts of unlawful interference;
 - (3) Designate a security coordinator responsible for the implementation of 1.10.1.7.
 - (4) Ensure that all personnel employed in the deployment, handling, and storage of RPAS/UAS have received security awareness training.

1.11. General Provisions

1.11.1.1 Retention of Records

- (a) The ROC shall establish a system of record-keeping that allows adequate storage and reliable traceability of all activities developed, covering in particular all the elements related to RPAS operations as defined in the operations manual and management system processes as defined in this chapter.
 - (1) The format of the records shall be as approved by the Authority in the Operations Manual.
 - (2) Records shall be stored in a manner that ensures protection from damage, alteration and theft, for a period of two (2) years.

- (b) Records required to be kept include:
 - (1) operator's organization;
 - (2) SMSs;
 - (3) Personnel training and competence verification;
 - (4) Documentation of all management system key processes;
 - (5) Maintenance records; and
 - (6) Security management records.
- (c) Records identified in this Order shall be current and in sufficient detail to determine whether the experience and qualification requirements are met for the purpose of complex operations

1.11.1.2 Insurance

- (a) No person shall operate, or cause to be operated or commit any other person to operate RPAS/UAS unless there is in force a minimum insurance policy, commensurate with the risk of the operation conducted, in respect of third party risks and proof of insurance document submitted to the Authority.
- (b) An operator of RPAS/UAS shall make available a third party liability insurance certificate, in the authentic form, at the location of the RPAS/UAS operator's operational management or other location specified by the Authority
- (c) Notwithstanding the provisions of 1.10.1.2(a), the authority may dispense with requirement depending on the class and category of the RPAS/UAS.

1.11.1.3 Privacy of Persons and Property

- (a) Any person conducting operations using RPAS/UAS fitted with cameras shall operate them in a responsible way to respect the privacy of others.
- (b) No person shall use a RPAS/UAS to do any of the following—
 - (1) conduct surveillance of—
 - (i) A person without the person's consent.
 - (ii) Private real property without the consent of the owner.

- (2) Photograph or film an individual, without the individual's consent, for the purpose of publishing or otherwise publicly disseminating the photograph or film. This requirement shall not apply to news gathering, or events or places to which the general public is invited.
- (c) Infrared or other similar thermal imaging technology equipment fitted on RPAS/UAS shall only be for the sole purpose of—
 - (1) Scientific investigation;
 - (2) Scientific research;
 - (3) Mapping and evaluating the earth's surface, including terrain and surface water bodies and other features;
 - (4) Investigation or evaluation of crops, livestock, or farming operations;
 - (5) Investigation of forests and forest management;
 - (6) Other similar investigations of vegetation or wildlife;
 - (7) Border surveillance as approved by the Authority.

1.11.1.4 Discharging or Dropping Goods

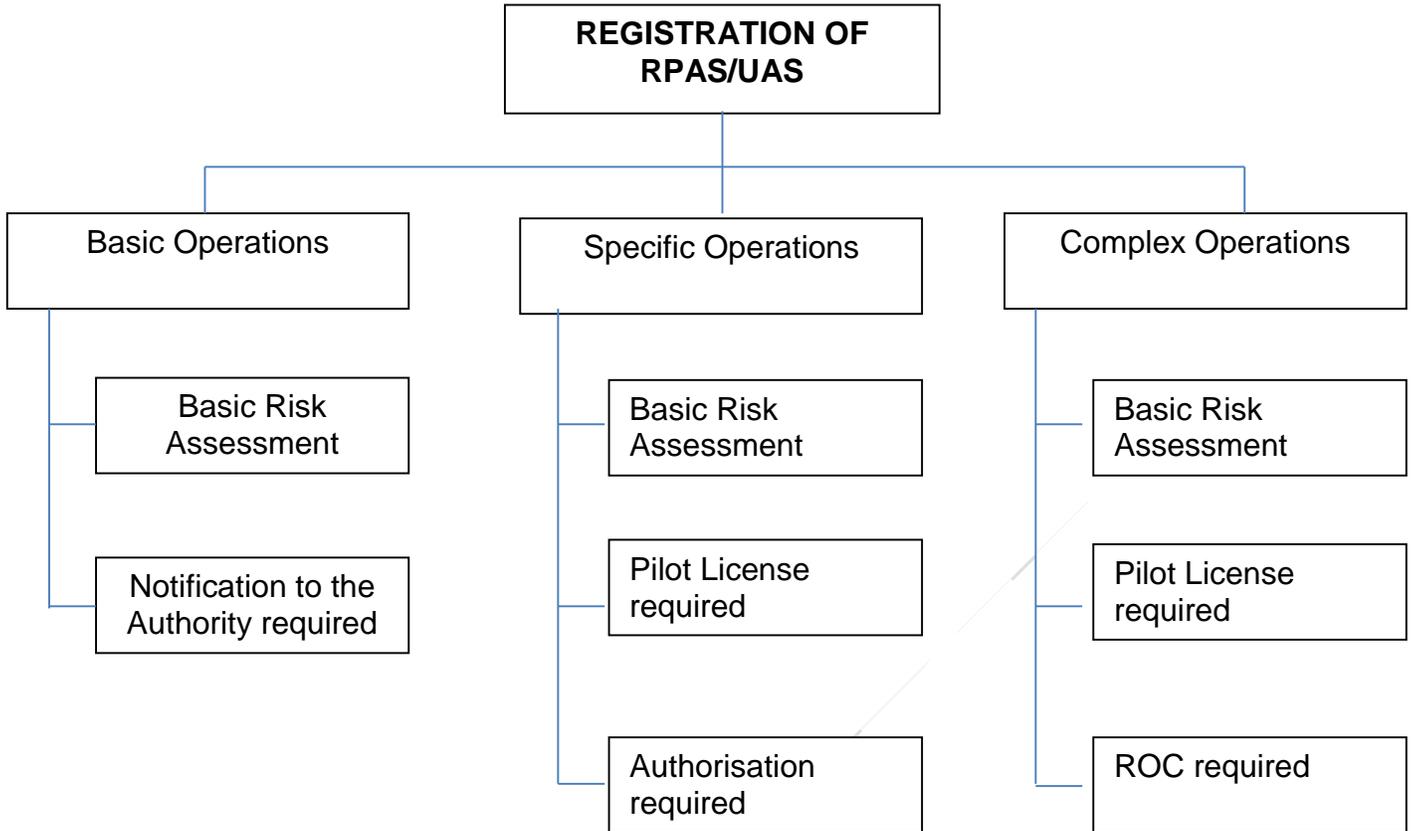
- (a) No person shall cause things to be dropped or discharged from an RPAS in a way that creates a hazard to another aircraft, persons or property.

1.11.1.5 Reports of Violation

- (a) Any RPAS/UAS Operator or employee of an operator, who knows of a violation under this Order, shall report it to the Authority.
- (c) The Authority will determine the nature and type of any additional investigation or enforcement action that is required.

RPAS ORDER IMPLEMENTING STANDARDS (IS)

IS1.2.1.1 Identification and classification of RPAS/UAS



IS 1.2.1.3 (c) RPAS grouping and classification

Category	RPAS Classification			
	Line-of-sight	Energy (kJ)	Height (ft)	MTOM (kg)
Category A	R-VLOS/VLOS	E < 15	h < 400	m < .250
	R-VLOS/VLOS	E < 15	h < 400	m < 7
Category B	VLOS/E-VLOS	E < 34	h < 400	m < 25
	VLOS/EVLOS	E > 34	h < 400	m < 150
	Experimental/Research			
	BVLOS	E > 34	h < 400	m < 150
	VLOS/EVLOS	Any	h > 400	m < 150
	BVLOS	Any	h > 400	m < 150
Category C	Any	Any	Any	m > 150
	Reserved	Reserved	Reserved	Reserved

Reserved - means to be defined in the future
h - means height above the surface
E - Energy at impact

Note: All operations are limited to radio line-of-sight. BVLOS required Authority's special approval.

IS 1.2.1.4 BASIC UAS OPERATING LIMITATIONS

- (a) A remote pilot must comply with all of the following operating limitations when operating an unmanned aircraft system under the Basic Classification of UAS/Drone operations—
- (1) The airspeed of the unmanned aircraft system shall not exceed 87 knots (100 miles per hour) calibrated airspeed at full power in level flight;
 - (2) The maximum take-off weight of a UAS/Drone under the Basic Classification shall be 1 kg.
 - (3) A person shall not operate a UAS/Drone at a height above 400 feet (120 meters) Above Ground Level (AGL) and a lateral distance of 100 m away from any person, vessel, vehicle or structure which is not under the control of the person in charge of the UAS/Drone except when approved by the Authority.
 - (4) The lateral distance between the unmanned aircraft system and the remote pilot shall be in such a way that the remote pilot will maintain continuous visual contact with the unmanned aircraft system;
 - (5) The unmanned aircraft system shall not be flown over or within any congested area of a city, town or settlement unless approved by the Authority;
 - (6) the minimum flight visibility, as observed from the location of the ground control station must be no less than 3 statute miles (5 kilometers);
 - (7) the minimum distance of the unmanned aircraft system from clouds must be no less than—
 - (i) 500 feet (150 meters) below the cloud; and
 - (ii) 2,000 feet (600 meters) horizontally away from the cloud.
 - (8) Notwithstanding the provisions of any rules, the operation of UAS/Drone may be conducted at such higher heights and lateral distances as the Authority may approve.
 - (9) Operating UAS/Drone fitted with cameras and/or imaging devices at heights or lateral distances where such cameras and/or imaging devices capture information, pictures or videos extending beyond the prescribed area of approved operation is prohibited.
 - (10) Unless approved by the Authority on a case by case basis, a person shall not operate a UAS/Drone —
 - (i) In conditions other than Visual Meteorological Conditions (VMC);
 - (ii) At night;
 - (iii) In controlled airspace under this category.

IS 1.2.1.4(c)(1) OPERATIONAL GUIDELINES FOR RPAS/UAS CLUBS

The following requirements shall apply to RPAS/UAS clubs intending to operate for sport and recreation as required in this Order.

1. GENERAL PROVISIONS

- (a) A RPAS/UAS club shall be registered in accordance with the provisions pertaining to the registration of clubs in Nigerian for it to be recognized and approved by the Authority. (b) No RPAS/UAS club shall operate without the approval by the Authority;
- (c) The club is required to develop an operational manual that provides for—
 - (1) Membership requirements;
 - (2) Administration of members;
 - (3) Training requirements for its members;
 - (4) Procedures and guidelines of operations;
 - (5) Types of operation;
 - (6) Class of equipment operated;
 - (7) Security arrangement for operations; and
 - (8) Reporting mechanisms of incidents and accidents of the RPAS/UAS operations.

2. ADMINISTRATION OF THE CLUB

- (a) The club management shall ensure that members—
 - (1) Have adequate training to facilitate operations;
 - (2) Are informed on current rules, policies and procedures;
 - (3) Adhere to safe business practices in their activities;
 - (4) Are knowledgeable of airspace restrictions that apply in the area of operation as approved;
 - (5) Are conversant with and meet the training requirements of the club.

3. RESPONSIBILITY OF THE CLUB MANAGEMENT

- (a) The administrator of the club shall—
 - (1) Obtain consent of the property owner or person in charge of the area of operation.
 - (2) Ensure that the club's recognition status is current with the Authority
 - (3) Develop and operationalize a training program and plan for their membership;
 - (4) A current list of members and particulars of their RPAS/UAS;
 - (5) maintain a record/database of all accidents and incidents that occur within their area of jurisdiction;
 - (6) Ensure that it has adequate personnel are properly qualified and

- competent to perform their allocated tasks and responsibilities;
- (7) Have procedures for responding to an incident, accident, medical emergency, or if any RPAS/UAS becomes uncontrollable;
 - (8) Immediately stop all operations if unable to meet the exemption requirements or if the safety of a person, property or other aircraft is at risk,
 - (9) Ensure that club activities do not interfere with civil aviation;
 - (10) Adhere to laws from all levels of government;
 - (11) Inspect their RPAS/UAS on site before conduct of any flight to ensure that they are safe.

IS 1.4.1.3 Certificate of Registration will be issued by the Authority in this format.

	<p>NIGERIAN CIVIL AVIATION AUTHORITY AVIATION HOUSE P. M. B. 21029, 21038 Ikeja Lagos, Nigeria</p>	<div style="border: 1px solid black; padding: 2px;">Certificate Number</div>
<p>CERTIFICATE OF REGISTRATION OF RPA</p>		

Nationality and Registration Marks.	Manufacturer and Manufacturer's Designation of RPA.	RPA Serial Number.
		Date of Manufacture.
Name of Registered Operator		
Address of Operator		
Street		
City		
State		
Country		
Name and Address of Owner		
Name		
Street		
City		
State		
Country		

It is hereby certified that the above described RPA has been duly entered on the Register of the Federal Republic of Nigeria in accordance with the Convention on International Civil Aviation dated 7th December, 1944, and with the Civil Aviation Act, 2006 and the Nig.CARs issued thereunder.

Date of Issue	by Authority of the Nigeria Civil Aviation
---------------	--

- Note: 1. No entries or endorsements may be made in the foregoing certificate except in the manner and by the persons authorised for that purpose.
2. This Certificate must be displayed at the RPS.
3. This Certificate is not transferable.

IMPORTANT

PLEASE READ CAREFULLY

This certificate is issued for registration purposes only and is not a certificate of title. The Nigerian Civil Aviation Authority does not determine rights of ownership between private persons.

On any change in the ownership of RPA, the RPA, *the registration and certificate become void* from the date of the change and the documents must be returned IMMEDIATELY to the issuing authority with the appropriate section duly completed. This certificate must not be handed over to the new owner. Similar action is also required if the RPA is destroyed or permanently withdrawn from use.

When the registration has become void, the RPA may not again be flown until a new Certificate of Registration has been obtained. Any application for re-registration of the RPA shall be made on the prescribed form, copies of which may be obtained from issuing authority.

SECTION I—NOTICE OF CHANGE OF OWNERSHIP

I hereby notify that, with effect from the Day of 20.....
the ownership of the RPA described overleaf was transferred to :

.....
(Fill in name and address of new owner)

Name: _____ Designation: _____

Signature: _____ Date: _____

SECTION II —NOTICE THAT RPA HAS BEEN DESTROYED OR PERMANENTLY WITHDRAWN FROM USE

I hereby notify that the registration of the RPA described overleaf should be cancelled by reason of:

- +(a) the RPA having been destroyed ;
- +(b) the RPA having been permanently withdrawn from use.

Name: _____ Designation: _____

Signature: _____ Date: _____

SECTION III: NOTICE OF ANY OTHER CHANGE AFFECTING THE REGISTRATION OF THE RPA
(CHANGE OF OPERATOR, ETC)

I hereby notify that the registration of the RPA described overleaf should be cancelled by reason of

.....

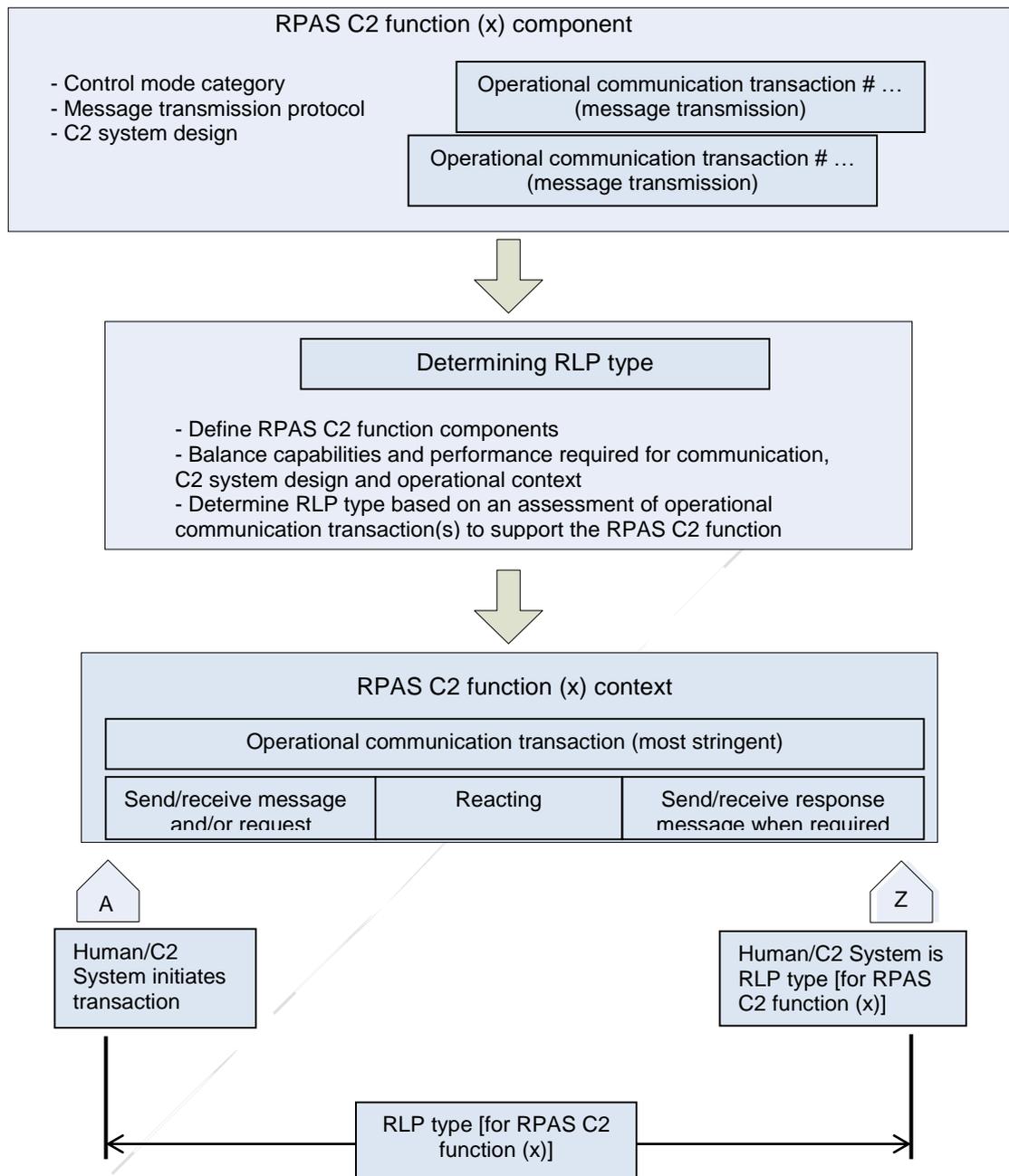
Name: _____ Designation: _____

Signature: _____ Date: _____

The signature required is that of the owner(s) as shown in this Certificate of Registration. If the owner is a body corporate, the signature shall be that of the Managing Director, Secretary, or other official duly authorised to sign under the seal of the Company.



IS:1.5.1.2 Determining RLP type for a RPAS C2 function



IS 1.2.1.6 (b). Contents of the ROC

NIGERIAN CIVIL AVIATION AUTHORITY



CERT. NO.

RPAS OPERATOR CERTIFICATE (ROC)

1. Pursuant to the Nigeria Civil Aviation Regulations (Nig.CARs) being in force, the Nigerian Civil Aviation Authority hereby grants, subject to the conditions in the Operating Specification hereto, an RPAS Operators Certificate to:-

being satisfied that the said person/organization is competent to secure the safe operation of the following types of RPAs.

on flights for the purpose of Aerial work.

2. Type of Operation:-
3. This certificate shall not be valid during the continuance of the breach of any condition thereof, provided that a breach of a condition which relates to only a particular type of RPAs shall not render this certificate invalid in respect of any other type of RPA.
4. The holder of this ROC must comply with all the requirements for the grant of an approval and the requirements for the maintenance of an approval applicable to each of the Operations Specifications items specified as attached, which requirements are published by the Nigerian Civil Aviation Authority and for the time being in-force.
5. The approval is limited to the scope and is subject to the limitations specified in the attached Operations Specifications.
6. This certificate or a certified true copy along with the operations specifications shall be carried on site each authorized/approved operations.
7. This certificate unless revoked, suspended or varied shall remain in force until _____

Signed this _____ day of 20 _____

Designation _____ Signature _____

RPAS OPERATOR CERTIFICATE (ROC) CONDITIONS AND LIMITATIONS

The above subject matter refers.

The following shall be conditions and Limitations for the utilisation of this ROC with certificate number:/ROC-.....

1. These standard conditions may not be changed without using the amendment process described in the Advisory Circular NCAA-AC-GAD-02. (Appendix 3, Section 3.2)
2. Certificate holders must include the information contained in the conditions issued to them in their manuals. Some paragraphs are required by the NCAA and some may be requested by the certificate holder to enhance or define its operation.

1.0 ISSUANCE AND APPLICABILITY

- a. The following conditions are issued to.....
.....whose principal base of operation is located at;
.....

The holder of these Conditions is the holder of REMOTELY PILOTED AIRCRAFT OPERATOR'S CERTIFICATE, Number: **AR/ROC-17/002** and shall hereafter be referred to as the certificate holder. The certificate holder is authorised to conduct Domestic (and if applicable; International) operations in remotely piloted aerial work pursuant to the Nigeria Civil Aviation Regulations (Nig.CARs). The certificate holder shall conduct these operations in accordance with the specific authorisations, limitations and the procedures in these Conditions and all appropriate Nig. CARs and Advisory Circulars.

- b. These Conditions are effective as of the "Effective Date" of each page and shall remain in effect as long as the certificate holder continues to meet the Nig. CARs requirements specified for certification and provided, at all times, the certificate holder has a Security clearance issued by the Office of The National Security Adviser (ONSA).
- c. The certificate holder is authorised to conduct the operations described in sub-paragraph 1. under the following business name:
.....

2.0 RPAS AUTHORISATION

- a. The certificate holder is authorised to conduct operations using Remotely Piloted Aircraft System (RPAS) with the approved capacities and the number of required personnel described in the following table:

Type of RPAS Make/Model/Series	Reg No	Serial No	Type of Operations	Capacity		Number of Required Personnel
				Demonstrated	Approved	

3.0. CONDITIONS AND LIMITATIONS OF THIS ROC

This shall be the conditions and limitations of this ROC:

1. The operator is authorized by the issue of this certificate to use the RPAs identified on the list of approved RPAS in Part 2.0 of this Conditions. Proposed operations of any RPA not on this list currently will require a variation to amend this ROC.
2. If operations under this exemption involve the use of foreign civil RPA, the operator must obtain a Foreign Aircraft Authorization pursuant to 8.8.1.33 of Nig. CARs prior to conducting any commercial air operations under the authority of this exemption. Application instructions are specified in IS8.8.1.33 of Nig. CARs. Applications should be submitted to the Director General, Nigerian Civil Aviation Authority.
3. Remote PIC Licence: Under this exemption, a Remote PIC must hold either an ATPL, CPL (manned aircraft) or Remote Pilot License or sport pilot certificate. The Remote PIC must also hold a current airman medical certificate. The PIC must also meet the flight review requirements specified in the Advisory Circular NCAA-GAD-AC-002 and Part 21 of the Nig. CARs in an RPAS in which the Remote PIC is rated.
4. Remote PIC qualifications: The Remote PIC must demonstrate the ability to safely operate the RPA in a manner consistent with how it will be operated under this ROC Conditions, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles, and structures before operating non-training, proficiency, or experience-building flights under this ROC Conditions. Remote PIC qualification flight hours and currency may be logged in a manner consistent with the Rules. However, Remote Pilots must not log this time in the same columns or categories as time accrued during manned flight. RPA flight time must not be recorded as part of total time.

Type of operation: In this Conditions, RPAS operations are restricted under these privileges:-

1. VLOS
2. EVLOS
3. R-VLOS
4. BVLOS

Foreign civil aircraft means (a) an aircraft of foreign registry that is not part of the armed forces of a foreign nation, or (b) a Nigerian registered aircraft owned, controlled, or operated by persons who are not citizens or permanent residents of the Federal Republic of Nigeria.

5. Under all situations, the PIC is responsible for the safety of the operation. The PIC is also responsible for meeting all applicable conditions and limitations as prescribed in these conditions, and operating in accordance with the operating documents. All training operations must be conducted during dedicated training sessions and may not be for compensation or hire. The operation must be conducted with a dedicated Visual Observer (VO) who has no collateral duties and is not the PIC during the flight. The VO must maintain visual sight of the RPAS at all times during flight operations without distraction in accordance with the conditions and limitations below. Furthermore, the PIC must operate the RPA not closer than 500 feet to any non-participating person without exception.
6. The RPA may not be operated at a speed exceeding 87 knots (100 miles per hour). The ROC holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the RPA be operated at airspeeds greater than the maximum RPA operating airspeed recommended by the RPA manufacturer.
7. The RPA may be operated at an altitude above 400 feet above ground level (AGL) but **not exceeding 400 ft (AGL)**. Altitude must be reported in feet AGL Day and night (early hours of the morning, early hours of dusk)
8. The RPA may be operated within visual line of sight (VLOS) of the PIC or beyond visual line of sight (BVLOS) with minimum qualification of PIC with Commercial Pilot License (CPL) in order to coordinate with ATC. VLOS operations requires the PIC to be able to use human vision unaided by any device other than corrective lenses.
9. All operations must utilize a VO. The RPA must be operated within the VLOS of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.
10. This ROC, Conditions, and all documents needed to operate the RPAS and conduct its operations in accordance with the conditions and limitations stated in this ROC Conditions, are hereinafter referred to as the operating documents. The operating documents must be accessible during RPAS operations and made available to the Authority or Inspectors upon request. If a discrepancy exists between the conditions and limitations in this Conditions and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the

operator's responsibility to track such revisions and present updated and revised documents to the Authority or any law enforcement official upon request. The operator must also present updated and revised documents if there are variations or amendment to this ROC. If the operator determines that any update or revision would affect the basis upon which the NCAA issued this ROC, then the operator must apply for an amendment to its ROC Conditions. The NCAA's General Aviation Directorate may be contacted if questions arise regarding updates or revisions to the operating documents.

11. Any RPAS that has undergone maintenance or alterations that affect the RPAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.
12. The operator is responsible for maintaining and inspecting the RPAS to ensure that it is in a condition for safe operation.
13. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the RPAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the RPAS, the RPA is prohibited from operating until the necessary maintenance has been performed and the RPAS is found to be in a condition for safe flight.
14. The operator must follow the RPAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the RPAS and RPA components.
15. Each RPA operated under this ROC must comply with all manufacturer safety bulletins.
16. RPAS operations may not be conducted during night, as defined in NCAA-GAD-AC-002. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.
17. The RPA may not be operated less than 400 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.
18. For RPAS operations where GPS signal is necessary to safely operate the RPA, the PIC must immediately recover/land the RPA upon loss of GPS signal.
19. If the PIC loses command or control link with the RPA, the RPA must follow a pre-determined route to either re-establish link or immediately recover or land.

20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the RPA to conduct the intended operation and to operate after that for at least 5 minutes or with the reserve power recommended by the manufacturer if greater.
21. The PIC must abort the flight operation if circumstances or emergencies that could potentially degrade the safety of persons or property arise. The PIC must terminate flight operations without causing undue hazard to persons or property in the air or on the ground.
22. Air Traffic Organization (ATO) Certificate of Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the enclosed COA.
23. Documents used by the operator to ensure the safe operation and flight of the RPAS and any documents required under the Advisory Circular NCAA-GAD-AC-002 must be available to the PIC at the Ground Control Station of the RPAS any time the RPA is operating. These documents must be made available to the Authority or any law enforcement official upon request.
24. The RPA must remain clear and give way to all manned aviation operations and activities at all times.
25. The RPAS may not be operated by the PIC from any moving device or vehicle.
26. All flight operations must be conducted at least 500 feet from all persons, vessels, vehicles, and structures unless when operating:
 - a. Over or near people directly participating in the operation of the RPAS. People directly participating in the operation of the RPAS include the PIC, VO, and other consenting personnel that are directly participating in the safe operation of the RPA.
 - b. Near but not over people directly participating in the intended purpose of the RPAS operation. People directly participating in the intended purpose of the RPAS must be briefed on the potential risks and acknowledge and consent to those risks. Operators must notify the local Authority with a plan of activities at least 72 hours prior to flight operations.
 - c. Near nonparticipating persons. Except as provided in subsections (a) and (b) of this section, a RPA may only be operated closer than 500 feet to a person when barriers or structures are present that sufficiently protect that person from the RPA and/or debris or hazardous materials such as fuel or chemicals in the event of an accident. Under these conditions, the operator must ensure that the person remains under such protection for the duration of the operation. If a situation arises where the person leaves such protection and is within 500 feet of the

RPA, flight operations must cease immediately in a manner that does not cause undue hazard to persons.

- d. Near vessels, vehicles and structures. Prior to conducting operations the operator must obtain permission from a person with the legal authority over any vessels, vehicles, or structures that will be within 500 feet of the RPA during operations. The PIC must make a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.
28. All operations shall be conducted over private or controlled-access property with permission from a person with the legal authority to grant access. Permission will be obtained for each flight to be conducted.
 29. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the NCAA's GAD Office within 24 hours. Accidents and incidents must be reported to the Accidents Investigation Bureau (AIB).

For operations conducted closer than 500 feet to people directly participating in the intended purpose of the operation, not protected by barriers, the following additional conditions and limitations apply:

30. The operator must have an operations manual that contains at least the following items, although it is not restricted to these items.
 - a. Operator name, address, and telephone number.
 - b. Distribution and Revision. Procedures for revising and distributing the operations manual to ensure that it is kept current. Revisions must comply with the applicable conditions and limitations in this exemption.
 - c. Persons Authorized. Specify criteria for designating individuals as directly participating in the safe operation of the RPAS. The operations manual must include procedures to ensure that all operations are conducted at distances from persons in accordance with the conditions and limitations of the exemption.
 - d. Plan of Activities. The operations manual must include procedures for the submission of a written plan of activities.
 - e. Permission to Operate. The operations manual shall specify requirements and procedures that the operator will use to obtain permission to operate over property or near vessels, vehicles, and structures in accordance with this exemption.
 - f. Security. The manual must specify the method of security that will be used to ensure the safety of non-participating persons. This should also include procedures that will be used to stop activities when

unauthorized persons, vehicles, or RPA enter the operations area, or for any other reason, in the interest of safety.

- g. Briefing of persons directly participating in the intended operation. Procedures must be included to brief personnel and participating persons on the risks involved, emergency procedures, and safeguards to be followed during the operation.
- h. Personnel directly participating in the safe operation of the RPAS Minimum Requirements. In accordance with this ROC, the operator must specify the minimum requirements for all flight personnel in the operating manual. The PIC at a minimum will be required to meet the certification standards specified in this exemption.
- i. Communications. The operations manual must contain procedures to provide communications capability with participants during the operation. The operator can use oral, visual, or radio communications as long as the participants are apprised of the current status of the operation.
- j. Accident Notification. The operations manual must contain procedures for notification and reporting of accidents in accordance with this exemption.

In accordance with this ROC, the operating manual and all other operating documents must be accessible to the PIC during RPAS operations.

- 31. At least 72 hours prior to operations, the operator must submit a written Plan of Activities to the Authority having jurisdiction over the proposed operating area.

The Plan of Activities must include at least the following:

- a. Dates and times for all flights. For seasonal or long-term operations, this can include the beginning and end dates of the timeframe, the approximate frequency (e.g., daily, every weekend), and what times of the day operations will occur. A new plan of activities must be submitted prior to each season or period of operations.
- b. Name and phone number of the onsite person responsible for the operation.
- c. Make, model, and serial or 5N-Number of each RPAS to be used.
- d. Name and certificate number of each RPAS PIC involved in the operations.
- e. A statement that the operator has obtained permission from property owners. Upon request, the operator will make available a list of those who gave permission.

- f. Signature of ROC Accountable Manager or representative stating the plan is accurate.
- g. A description of the flight activity, including maps or diagrams of the area over which operations will be conducted and the altitudes essential to accomplish the operation.

In accordance with this exemption, the Plan of Activities and all other operating documents must be accessible to the PIC during RPAS operations. A new Plan of Activities must be submitted should there be any changes to items (a) through (g).

Unless otherwise specified in this ROC, the RPAS, the RPAS PIC, and the RPAS operations must comply with all applicable sections of Nig. CARs Part 21 and Advisory Circular NCAA-GAD-AC-002 including, but not limited to other relevant parts of Nig. CARs 2015 or any document issued by the Authority.

4.0 **EXEMPTIONS AND DEVIATIONS**

- a. The certificate holder is authorised to conduct operations in accordance with the provisions, conditions, and/or limitations set forth in the following exemptions and deviations. The certificate holder is not authorised and shall not conduct any operations under the provisions of any other exemptions and/or deviations.
- b. Exemptions:
 1. ***Not exceeding above 400 feet***
 2. ***Day and Night operations.***
 3. ***VLOS/BVLOS with PIC as holder of CPL minimum***

5.0 **MANAGEMENT PERSONNEL**

- a. The certificate holder uses the underlisted personnel for the following duties and responsibilities from the management positions section, listed is shown on the organisation and responsibilities section of its Operations Manual.
- b. The following personnel are designated to officially apply for and receive Conditions for the certificate holder:

_____ (Director) Sign:.....
 (NAME) (TITLE)

_____ (Director) Sign:.....
 (NAME) (TITLE)

6.0 **GEOGRAPHICAL LOCATION**

Within all geographical areas in Nigeria with approval from the Authority on specific operations.

7.0 DURATION OF ROC

- (a) An ROC, or any portion of the ROC, issued by the Authority is effective and valid for twenty four (24) months unless—
 - (1) The Authority amends, suspends, revokes or otherwise terminates the certificate.
 - (2) The ROC holder surrenders it to the Authority; or
 - (3) The ROC holder does not conduct any kind of operation for more than the time specified in this Order and fails to follow the procedures upon resuming that kind of operation.
- (b) An ROC holder shall make application for renewal of an ROC at least 30 days before the end of the existing period of validity.

IS 1.9.1.1 (e) If an ROC holder does not conduct a kind of operation for which it is authorised in its Conditions and Limitations within One Hundred and Eighty (180) calendar days specified in this section, it shall not conduct such kind of operation until—

- (1) It advises the Authority at least 5 consecutive calendar days before resumption of that kind of operation;
- (2) It makes itself available and accessible for the Authority to conduct a full inspection/ re-examination to determine whether the ROC holder remains properly and adequately equipped and able to conduct a safe operation; and
- (3) The Authority issues it a re-validation document authorising such kind of operation.

IS:1.9.1.2(b) for additional management personnel requirements.

- (a) Each ROC holder shall make arrangements to ensure continuity of supervision if operations are conducted in the absence of any required management personnel.
- (b) Required management personnel shall be contracted to work sufficient hours such that the management functions are fulfilled.
- (c) A person serving in a required management position for an ROC holder may not serve in a similar position for any other ROC holder, unless an exemption is issued by the Authority.
- (d) The minimum initial qualifications for a Director of Operations are—
 - (1) An RPAS BVLOS Pilot licence; and
 - (2) 3 year experience as PIC in manned RPA operation —
- (e) The minimum qualifications for a Chief Pilot are—

- (1) A CPL with Instrument Ratings or RPAS BVLOS Pilot licence with the appropriate ratings for at least one of the RPAS used in the ROC holder's operations; and
- (2) 1 year experience as PIC in RPAS operations—

Note: The Authority may accept a commercial pilot licence with instrument rating in lieu of the ATP licence if the PIC requirements for the operations conducted require an Instrument Rating.

- (f) The minimum entry qualifications for a Director of Maintenance are—
 - (1) 1 year experience in maintaining the same RPAS category and class of RPAS used by the ROC holder.
 - (2) 1 year supervisory experience maintaining the same category and class of RPA used by the ROC holder.
- (g) The minimum entry qualifications for a Quality Manager are—
 - (1) Be a holder of RPAS Maintenance Engineers' Licence in the following ratings: Airframes and Powerplant or Avionics, (ratings on aircraft type not essential) with five (5) years working experience in line/base maintenance, maintenance planning or technical services ; or
 - (2) Be a person qualified by holding an academic degree in an aeronautical, mechanical or electrical electronic engineering discipline from a recognized university or other higher educational institution ; or
 - (3) Be a holder of Remote Pilot Licence (RPL) (For ROC holders only).
 - (4) A minimum of five (3) years working experience in the quality system and/or continuing airworthiness in the aviation industry.
 - (5) A person with proven satisfactory audit experience, preferably in aviation, acceptable to the Authority.
 - (6) Must have in-depth knowledge of the Nig.CARs and Standard Maintenance Practices.
 - (7) Broad knowledge of the aviation and the organizations activities and procedures.
 - (8) Good understanding of quality management principles.
 - (9) Oral and written communication skills
- (h) ROC holder may employ a person who does not meet the appropriate finding that that person has comparable experience and can effectively perform the required management functions.

IS:1.9.1.3. (b) Demonstration and Special Demonstration Flights

1.0 PURPOSE

This section provides guidance to inspectors on the evaluation of demonstration and special demonstration flights.

2. CL-RPA-GAD-05

3.0 GENERAL

- 3.1 Part 1 of this Order requires the Authority to evaluate each applicant's ability to conduct RPAS operations safely and in accordance with rules applicable to the type of operations and the type of RPAS proposed by the operator.
- 3.2 The Authority conducts its evaluation by observing the applicant's performance of demonstration flights in accordance with 1.7.1.3 (b) of this Order. The Authority must consider the applicant's demonstration flights to be satisfactory before it will issue an RPAS Operator Certificate (ROC) to an applicant.
- 3.3 The Rules also requires the Authority to determine that an RPAS operator is capable of conducting operations safely and in compliance with applicable regulatory standards before authorising the certificate holder to operate in a designated special area or using a specialised navigation system.
- 3.4 The structured methods used by the Authority to determine an applicant's capabilities are called "demonstration Flights" and "Special-demonstration Flights". This Order contains direction and guidance to be used by inspectors for conducting these tests. For a comparison of demonstration and special demonstration flight requirements.

NOTE: The term, "applicant," as used in this Order means either a candidate applying for an ROC, or an RPAS operator requesting additional operating authorisation.

4.0 DEMONSTRATION FLIGHTS

- 4.1 Part 1.7.1.3 (b) of this Order requires applicants seeking authorization to operate certain types of RPAS in commercial air transport service to satisfactorily demonstrate their capability to the Authority before being granted operating authorisation. These applicants must conduct demonstration flights.
- 4.2 Demonstration flights consist of a demonstration of the applicant's ability to operate and maintain an RPAS new to the operator's fleet or the applicant's ability to conduct a particular kind of operation, such as carrying cargo. The applicant is required to

operate and maintain the RPAS to the same standards required of a certificate holder that is fully certificated and that holds the necessary authorisations.

- 4.3 Demonstration flights should not be confused with RPAS certification tests, which are tests conducted by the RPAS manufacturer to demonstrate the airworthiness of the RPAS. Part 1.7.1.3 (b) of this Order requires an applicant to successfully complete demonstration flights before the Authority may authorise the operation of each RPAS type.

5.0 SPECIAL-DEMONSTRATION FLIGHTS

- 5.1 Part 1.7.1.3 (b) of this Order requires an applicant to demonstrate the capability to conduct proposed operations in designated special areas, or when using specialized navigation in compliance with regulatory requirements before being granted authority to conduct these operations by the Authority.
- 5.2 The Authority requires the applicant to successfully complete special-demonstration flights in the following circumstances:
- 5.2.1 Before being authorised to add any areas of operation outside the territory of the certificating State to operations specifications and,
- 5.2.2 Before being issued any operations specifications paragraphs that authorise special means of navigation.
- 5.3 Though demonstration and special-demonstration flights satisfy different requirements, both tests may be conducted simultaneously when appropriate.

6.0 TESTING METHODS ACCEPTABLE TO THE AUTHORITY

- 6.1 Applicants must demonstrate to inspectors that they can conduct flight and maintenance operations to the standards required for commercial RPAS operations. Operations could range from the relatively simple to the more sophisticated. A simple operation may involve an operator that possesses authorisation issued by the Authority to operate locally, but is requesting authorisation to expand operations outside Nigeria. The operator may only have to demonstrate that it has the proper documentation to conduct the expanded operations.

7.0 THE DEMONSTRATION AND SPECIAL-DEMONSTRATION FLIGHT PROCESS

NOTE: The demonstration and special-demonstration flight process follows the general outline of the five phase approval process.

7.1 Phase One

- 7.1.1 Phase one of the demonstrations and special-demonstration flight process begins when an applicant requests authorisation from the Authority to conduct an operation for which demonstration or special-demonstration is required. The term, "applicant," as used in this section, means either an operator applying for an RPAS operator certificate or a certificate holder requesting additional operating authorisation.

7.1.2 When an applicant's request requires demonstration or a special demonstration, the following steps apply:

- (a) **The Authority's Demonstration Team.** The person responsible for Safety Oversight shall organise the demonstration team:
 - (i) **Team Leader.** The team leader should be responsible for the conduct, coordination, and evaluation of the test. In addition, the team leader will be the spokesperson for the Authority on all matters pertaining to the test;
 - (ii) En-route BVLOS flights (representative en-route) should closely simulate the routine line operations that the applicant proposes to conduct.

- (b) **Inspection Team Composition.** The observation team of the Authority's inspectors must include an operations inspector, qualified on the specific RPAS, who directly observes the flight crew and reports those observations. For those operations that include class II navigation or special use airspace, a navigation specialist or an experienced pilot qualified inspector who is knowledgeable in class II operations and the specific special use airspace should be a member of the test team.

- (c) The majority of en-route flights should also be observed by maintenance and ASI Avionics inspectors at the RPS. In addition to the in-flight activities, operations and ASI Airworthiness inspectors must also evaluate flight initiation, servicing and unscheduled maintenance, and flight termination activities.

- (d) Qualified ASI Operations Inspector
 - (1) Proving flights. A qualified ASI operations inspector who, in order of preferences, is:
 - (i) RPAS type-rated and current,
 - (ii) RPAS type-rated and not current, or
 - (iii) An Aviation Safety Inspector (ASI)- Operations, type-rated in an RPAS within the same group (group I or II) being used in the proving flight and in possession of a "Best Qualified" Letter of Authorization (LOA).

- (e) Validation flights. A qualified ASI operations inspector is an inspector who, in order of preference, is:
 - (i) RPAS typed-rated and current,
 - (ii) RPAS type-rated and not current,
 - (iii) RPAS group qualified, or

- (iv) An ASI in possessions of a LOA.

7.2 Phase Two

Phase two is initiated when the applicant submits the test plan to the Authority for evaluation. During this phase, the team leader must ensure that the plan is complete and in an acceptable format before a thorough review and analysis can be conducted.

7.3 Phase Three

7.3.1 Phase three is initiated when the team starts an in-depth review and analysis of the applicant's test plan for regulatory compliance, safe operating practices, logic of sequence, and other areas (such as training programmes, flight crew and flight operations officer qualifications, acceptable participants, and schedules). During this phase, the Authority must plan to co-ordinate its activities with the demonstrations that the applicant will conduct during phase four.

7.3.2 Team Leader. The team leader's responsibilities include the following:

- (a) Notifying the Authority of demonstration flight dates, times, and locations;
- (b) Assigning appropriate sections of the test plan to inspectors for review and comment;
- (c) Facilitating the development of test scenarios for the demonstration flights.

7.3.3 Team Members. Team members are responsible for performing assigned tasks, keeping the team leader informed of all actions, and ensuring that the team leader concurs with all agreements made with the applicant. In addition, team members are responsible for recording each activity accurately and completely in their reports.

7.4 Phase Four

7.4.1 Phase four is the major phase of the test process. For demonstration flights, the applicant will conduct the en-route flight segment and the maintenance test portion of the demonstration plan. In the case of special-demonstration flights, the applicant will conduct specific operations to collect data for either special-demonstration (BVLOS) for the Authority observation purposes.

7.4.2 Phase four is concluded when the demonstration team is satisfied that all test objectives have been achieved or that the applicant is unable to complete them satisfactorily.

7.5 Phase Five

Phase five is accomplished after the successful completion or termination of the demonstration or special-demonstration flights. In this phase, the Authority demonstration team recommends the granting of approval and issues the appropriate Conditions and Limitations, or recommend that a letter of disapproval be sent to the applicant. In either case, the team leader's final action is to complete the report.

8.0 DEMONSTRATION FLIGHT TEST REQUIREMENTS

8.1 General

8.1.1 Each applicant must demonstrate the ability to operate safely by conducting demonstration flights in accordance with the operating, maintenance, RPAS dispatch and monitoring or flight following requirements of Part 1 of this Order. Demonstration flights must be conducted in a manner that closely simulates the regulatory conditions that will apply after approval has been granted.

8.1.2 Types of Flights. The only types of flights that can be credited towards demonstration flight requirements are described in the following subparagraphs:

- (a) **En-route BVLOS Flights.** En-route BVLOS flights are conducted in compliance with Part 1 of this Order, including rules applicable to ROC security and dangerous goods requirements. Before an applicant may conduct these flights, the demonstration team must be satisfied that the phase three review of the applicant's plan has been completed;

8.2 ROC Applicant Demonstration Flight Requirements

8.2.1 Requirements for newly manufactured RPAS, RPAS new to the applicant, and materially altered RPAS are as follows:

- (i) Any design alterations that significantly affect flight characteristics.
- (ii) New Kind of Operation. This Order requires an operator using an RPAS that it has not previously demonstrated in that kind of operation to conduct demonstration flights (unless the Authority determines that a satisfactory level of proficiency has been demonstrated). Kind of operation is defined as cargo operations;
- (iii) Night-time Requirements. In situations where applicants are required by IS 1.7.1.3(b) of this Order to conduct RPAS demonstration flights (unless the Authority determines that a satisfactory level of proficiency has been demonstrated).

IS:1.8.1.5.(g) for sources of weather reports satisfactory for flight planning or controlling flight movement.

- (a) The Authority approves and considers the following sources of weather reports satisfactory for flight planning or controlling flight movement:
 - (1) Nigerian Meteorological Agency - NIMET.
 - (2) Nigeria-operated automated surface observation stations.

Note: Some automated systems cannot report all required items for a complete surface aviation weather report.

- (3) Nigeria-operated supplemental aviation weather reporting stations.
- (4) Observations taken by Air Traffic Control (ATC) towers.
- (5) Nigeria-contracted weather observatories.
- (6) Any active meteorological office operated by a foreign state which subscribes to the standards and practices of ICAO conventions.

Note: These meteorological offices are normally listed in the MET tables located in ICAO Regional Air Navigation Plans.

- (7) Any military weather reporting sources approved by the Authority.

Note: Use of military sources is limited to control of those flight operations which use military airports as departure, destination, alternate, or diversionary airports.

- (8) Near real time reports such as pilot reports, radar reports, radar summary charts, and satellite imagery reports made by commercial weather sources or other sources specifically approved by the Authority.
- (9) An ROC holder operated and maintained weather reporting system approved by the Authority.

IS 1.3.1.4 (e) Class 3 Medical Certificate.

The following details shall appear on the medical certificate in the Roman alphabet:

- (1) Name of State.
- (2) Licence No.
- (3) Name of holder in full;
- (4) Date of birth.
- (5) Address of holder.
- (6) Nationality of holder.
- (7) Signature of holder.
- (8) Medical certificate Class 3.
- (9) Issuing Authority.

- (10) Validity.
- (11) Limitations.
- (12) Date of issue and signature of Issuing Officer.

<i>Initial Medical Examination</i>		
<i>Date:</i>		
<i>State:</i>		
<i>Date: (Y D M)</i>	<i>Last</i>	<i>Next</i>
<i>Extended Medical Examination</i>		
<i>Medical (General) Examination</i>		
<i>Electrocardiogram</i>		
<i>Audiogram</i>		

IS 1.8.1.5 RPAS/UAS OPERATIONS MANUAL

An operations manual shall include each item set forth below which is applicable to the specific operation, unless otherwise approved by the Authority.

Part A – General

1. INTRODUCTION

- 1.1 Purpose and scope of manuals
- 1.2 A statement that the manual complies with all applicable Authority rules and requirements and with the terms and conditions of the applicable RPAS/UAS operator certificate.
- 1.3 A statement that the manual contains operational instructions that are to be complied with by the relevant personnel in the performance of their duties.
- 1.4 List of manuals comprising operations manual.
- 1.5 A list and brief description of the various operations manual parts, their contents, applicability and use.
- 1.6 Responsibility for manual content.
- 1.7 Responsibility for manual amendment.
- 1.8 List of effective pages.
- 1.9 Distribution of manuals and amendments

2. SAFETY MANAGEMENT SYSTEM

- 2.1 Safety Policy
- 2.2 Description of safety management system
- 2.3 Accident and Investigation policies

3. QUALITY SYSTEM

Description of quality system adopted

4. MANAGEMENT ORGANISATION

4.1 A description of the organizational structure including the general company organization and operations department organization. The relationship between the operations department and the other departments of the company. In particular, the subordination and reporting lines of all divisions, departments etc., which pertain to the safety of the RPAS/UAS operations, shall be shown

4.2 Accountable Manager –duties and responsibilities

4.3 Nominated personnel – Functions duties and responsibilities

4.4 RPAS/UAS Pilot- duties and responsibilities

4.5 Support personnel in the operation of RPAS/UAS- duties and responsibilities

4.6 A description of the objectives, procedures and responsibilities necessary to exercise operational control with respect to flight safety.

5. DOCUMENTATION

5.1 Documents required in RPAS/UAS operations

5.2 Document storage and retention period

Part B – UAS Operating Information

1. CREW INFORMATION

1.1 Flight team/crew composition

1.2 Qualification requirements of RPAS/UAS Pilot and support crew

1.3 Medical competencies

1.4 Operations of different types of RPAS/UAS

2. OPERATIONS OF RPAS/UAS

2.1 Operating Limitations and conditions

2.2 Communications

2.3 Weather

2.4 On site procedures

3. UAS FLIGHT MANAGEMENT

3.1 Assembly and functional checks

3.2 Pre –flight checks

3.3 Normal flight procedures associated with relevant systems

3.4 Inflight checks associated with relevant systems

3.5 Abnormal procedures associated with relevant systems

3.6 Emergency Procedures associated with relevant systems

4. RPAS/UAS USER MANUAL

Part C – Areas Routes and Aerodromes

1. Areas of Operations

2. Operating site planning and assessment
3. Authorizations including site permissions

Part D – Training

1. Training syllabi and checking programs for RPAS/UAS crew
2. Training syllabi and checking programs for RPAS/UAS support crew
3. Training syllabi and programs for personnel other than crew
4. Recurrent training programs
5. Additional training requirements that individual clients specify for the proposed operations.

1.2.4.16. ELIGIBILITY REQUIREMENTS FOR A REMOTE PILOT LICENSE

This guidelines sets forth the eligibility and training requirements for the certification of RPAS/UAS pilots.

1. KNOWLEDGE AND SKILL REQUIREMENTS

- (a) An applicant for a remote pilot certificate shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of the certificate holder, in the following subjects—
 - (1) Air law;
 - (2) RPAS/UAS general knowledge;
 - (3) Flight performance, planning and loading;
 - (4) Human performance;
 - (5) Meteorology;
 - (6) Navigation;
 - (7) Operational procedures;
 - (8) Principles of flight related to RPAS/UAS; and
 - (9) Radiotelephony
- (b) An applicant for a remote pilot certificate shall pass a skill test to demonstrate the ability to perform, as remote PIC of the appropriate RPA category and associated RPS, the relevant procedures and maneuvers with the competency appropriate to the privileges granted.

2. CREDIT

- (a) A holder of a license issued by the Authority may be credited towards the requirements for theoretical knowledge instruction and examination requirements for the remote pilot certificate.

3. PASSING GRADE

- (a) The Authority shall prescribe the minimum passing grade.

4. RETESTING AFTER FAILURE

- (a) An applicant for a knowledge or practical test who fails that test, may retest after the applicant has received the necessary training from an authorized instructor who has determined that the applicant is proficient to pass the test.

5. SPECIAL CONDITIONS

- (a) In the case of introduction of new RPA or RPAS/UAS in an operator's fleet, when compliance with the requirements established by the Authority is not possible, the Authority may consider issuing specific Authorization giving privileges for RPAS/UAS instruction. Such an Authorization should be limited to the instruction flights necessary for the introduction of the new type of RPAS/UAS or RPA.
- (b) The validity period for this Authorization shall be for the instruction sought only.

IS 1.3.1.6(a)(10) KNOWLEDGE TESTS:

a. GENERAL PROCEDURES AND PASSING GRADES

- (1) Knowledge tests prescribed by or under this Order is conducted by the Authority or by persons designated by the Authority.
- (2) An applicant for a knowledge test must have proper identification at the time of application that contains the applicant's—
 - (i) Photograph;
 - (ii) Signature;
 - (iii) Date of birth, which shows the applicant meets or will meet the age requirements of this Order for the certificate sought before the expiration date of the applicant knowledge test report; and
- (3) The minimum passing grade for the knowledge test and second chance exam sitting is 70% as specified by the Authority.

(b) INITIAL & RECURRENT KNOWLEDGE TESTS

- (1) An initial aeronautical knowledge test covers the following areas of knowledge—
 - (i) Applicable rules relating to unmanned aircraft system rating privileges, limitations, and flight operation;
 - (ii) Airspace classification and operating requirements, obstacle clearance requirements, and flight restrictions affecting unmanned aircraft system operation;
 - (iii) Official sources of weather and effects of weather on unmanned aircraft system performance;

- (iv) Unmanned aircraft system loading and performance;
 - (v) Emergency procedures;
 - (vi) Crew resource management;
 - (vii) Radio communication procedures;
 - (viii) Determining the performance of unmanned aircraft system;
 - (ix) Physiological effects of drugs and alcohol;
 - (x) Aeronautical decision-making and judgment; and
 - (xi) Airport operations.
- (b) A recurrent aeronautical knowledge test covers the following areas of knowledge—
- (i) Applicable rules relating to unmanned aircraft system rating privileges, limitations, and flight operation;
 - (ii) Airspace classification and operating requirements, obstacle clearance requirements, and flight restrictions affecting unmanned aircraft system operation;
 - (iii) Official sources of weather;
 - (iv) Emergency procedures;
 - (v) Crew resource management;
 - (vi) Aeronautical decision-making and judgment; and
 - (vii) Airport operations.

2.1.1.1 Part 14.1.16.1(b)(xi) of the Nig. CARs is hereby amended to read “ an established runway programme with defined runway incursion prevention programme”

2.1.1.2 Part 14.1.16.1(b)(xii) “any other information requested by the Authority”

Runway Incursion Programme.

2.2.1.1 The Air Navigation Service provider shall establish and maintain a runway incursion prevention programme which shall start with the establishment of runway safety teams at all aerodromes in accordance with **IS 2.2.1.1.**

2.2.1.2 The primary role of a local runway safety team, which may be coordinated by a central authority, shall be to develop an action plan for runway safety, advise management as appropriate on potential runway incursion issues and recommend strategies for hazard removal and mitigation of residual risk.

2.2.1.3 to include Runway Incursion Prevention Programme.

- (a) Description: A runway incursion prevention programme should start with the establishment of runway safety teams at aerodrome. The role of a local runway safety team, which may be coordinated by a central authority shall develop the action for runway safety, advise management as appropriate on potential runway incursion issues and recommend strategies for hazard removal and mitigation of residual risk. These strategies may be developed based on local occurrences or combined information collected elsewhere.
- (b) Composition: The team shall comprise representatives from aerodrome operations, air traffic service providers, airlines or aircraft operators, pilot and air traffic controllers associations and any other groups with a direct involvement in runway operations. The team should meet on a regular basis. Frequency of meetings should be determined by the individual groups. At some aerodrome other groups may already exist that could carry out the functions of a runway safety team.
- (c) Once the overall number, type and severity of runway incursion have been determined, the team shall establish goals that will improve the safety of runway operations. Examples of such goals are:-
 - (1) To improve runway safety data collection, analysis and dissemination
 - (2) To check that signage and markings are in accordance with the provisions of the Nig. CARs and visible to pilots
 - (3) To develop initiatives for improving the standards of communications
 - (4) To identify potential new technologies that may reduce the possibility of runway incursions.
 - (5) To ensure that procedures are in compliant with Nig. CARs
 - (6) To initiate local awareness by developing and distributing runway safety education and training material to air traffic controller, pilot and airside drivers.

2.2.1.4 IS 14.1. 49.2 (5) of Nig.CARs is amended to include “Aerodrome Grid Map”

2.2.1.5 REQUIREMENT FOR PROCEDURES DESIGN CERTIFICATE.

The PANS-OP service provider shall contain the requirement for developing instrument Flight Procedures as stipulated by the Authority

2.2.1.6 Ancillary Qualifications.

The Air Navigational Service Provider shall ensure the appropriate retention of ATS Data in appropriate manner for a period of at least 30days

2.2.1.7 Safety Management System.

Air Navigation service provider shall conduct safety reviews at least once every five (5) year.

(a) Air Navigation service provider shall establish and maintain a runway safety programme.

2.2.1.8 Responsibilities for Search and Rescue (SAR)

14.6.19.4. of Nig.CARs is amended to read “The holder of Aeronautical Meteorological Services Provider certificate shall retain information supplied to flight crew members **and operational meteorology data (OPMET) supplied to ATS unit**, either as printed copies or in computer files, for a period of at least 30 days from the date of issue. Except that if the information is required for enquiries or investigations, it shall be retained until the enquiry or investigation is concluded”.

2.2.1.9 Responsibility of Holder of Procedures Design Certificate.

IS 14.2.4.1 of Nig.CARs is amended to include “A procedure Design Certificate Holder shall ensure that all procedure designs, updates and entries to be used in Nigeria are approved by the Authority”

3.1.1.1. Part 12.3.1 is hereby amended to read:

Requirement for an Aerodrome Certificate

- (a) Aerodromes in Nigeria used for international operations shall be certified in accordance with this Order.
- (b) The operator of other aerodromes open to public use shall be in possession of an Operations Permit.
- (c) An Operation's Permit is required if:
 - (1) the maximum take-off mass of the aircraft exceeds 2 730 kg;
 - (2) the aerodrome meets the requirement for night operations; or
 - (3) the aerodromes is privately owned and engaged in commercial activities.
- (d) The operator of an aerodrome for which an Operations Permit is not required may nevertheless apply for an Operations Permit, for which a fee may be charged.

3.1.1.2. Application for an Aerodrome Certificate to include:

- (a) Proof of the applicant's level of resources and financial capability of operating and maintaining the aerodrome.

3.1.1.3. Grant of an Aerodrome Certificate to include:

- (a) Proof of the applicant's level of resources and financial capability of operating and maintaining the aerodrome.

3.1.1.4. Validation of Aerodrome Certificate to include:

- (a) The Authority shall carry out surveillance inspection of the aerodromes to ensure compliance with standards and validity of the certificate.

3.2.1.1 Personnel Requirements for Aerodrome Certificate Holders

Each Aerodrome Operator prior to the grant of an Aerodrome Certificate and on an on-going basis shall engage, employ or contract:

- (a) **Sufficient and qualified personnel** for the planned tasks and activities to be performed related to the operation, maintenance and management of the aerodrome in accordance with the applicable requirements and the Aerodrome Operator's training programme;

- (b) **Sufficient number of supervisors** to defined duties and responsibilities, taking into account the structure of the organisation and the number of personnel employed;

3.2.1.2 Key Aerodrome management personnel

- (a) The holder of an Aerodrome Certificate shall appoint an accountable manager, acceptable to the Authority, who has full authority for ensuring that all aerodrome operations and maintenance activities can be financed and carried out to the standards required as specified in 3.2(b)
- (b) The key aerodrome management personnel shall be responsible for ensuring safe operations, quality service delivery and maintenance of the aerodrome infrastructure and equipment.
- (c) **Accountable Manager** – the person who has the authority within the Aerodrome Operator's organisation to ensure that all activities undertaken by the organisation can be financed and carried out in accordance with the requirements prescribed by this Order and specifically has the following:
 - (i) Full control of the human resources required for the operations authorized to be conducted under the Aerodrome Certificate;
 - (ii) Full control of the financial resources required for the operations authorized to be conducted under the Aerodrome Certificate;
 - (iii) Final authority over operations authorized to be conducted under the Aerodrome Certificate;
 - (iv) Direct responsibility for the conduct of the organization's affairs; and
 - (v) Final responsibility for all safety issues
- (d) If fixed wing operations occur at the aerodrome, additional **Aerodrome Post Holders** responsible for safety critical aspects for the aerodrome operation to include the following:
 - (i) **Airport Manager** - a competent person designated, delegated and empowered by the accountable manager who shall be responsible for establishing and effectively managing all aspects of operations and maintenance activities at the aerodrome in accordance with this Order.
 - (ii) **Aerodrome Safety** - a person who shall be the responsible individual and focal point for the development and maintenance of an effective safety management system in accordance with this Order;

- (iii) **Aerodrome Operations** – a senior person who is responsible for ensuring that the aerodrome and its operation comply with the requirements of this Order;
- (iv) **Aerodrome Maintenance** – a senior person who is responsible for ensuring that the aerodrome’s maintenance programmes for safety critical infrastructure comply with the requirements of this Order; and
- (v) **Aerodrome Rescue Firefighting** – a competent person who is responsible for establishing and effectively managing all aspects of Rescue and Firefighting Services as per the requirements of this Order.

3.3.1.1 Register of Aerodromes and Aerodromes Certificates is hereby amended to read:

- (a) The Authority shall maintain a register of all aerodrome certificates issued under this Order situate in Nigeria.
- (b) The Authority shall maintain files for each aerodrome including certified aerodromes. The file for each certified aerodrome shall contain records from the expression of interest stage to the issuance or refusal of the aerodrome certificate and aerodrome certificate register or Operations Permit. The file shall remain open thereafter for further documentation and correspondence on the subject.

3.4.1.1 AERODROME MANUAL

- (a) The Aerodrome Manual shall be the key safety assurance document for the certification of an aerodrome and the Authority shall use it to assess both initial and continuing organizational competence to ensure that facilities, equipment, services and personnel meet the requirements.

3.5.1.1 Aerodrome Operator’s Safety Management System

- (a) The aerodrome operator shall establish a Safety Management System (SMS) for the aerodrome describing the structure of the organization, and the duties, powers and responsibilities of the officials in the organisational structure, with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.
- (b) The aerodrome operator shall implement a safety management system acceptable to the Authority as prescribed in Nig. CARs Part 20;
- (c) The aerodrome operator shall require all users of the aerodrome, including fixed-base operators, ground handling agencies and other organisations that perform activities independently at the aerodrome in relation to flight or aircraft handling, to comply with the requirements laid down by the aerodrome operator with regard to safety at the aerodrome. The aerodrome operator shall monitor such compliance;

- (d) The aerodrome operator shall require all users of the aerodrome mentioned in (c) above to cooperate in the programme to promote safety at, and the safe use of, the aerodrome by immediately reporting any accidents, incidents, defects and faults which have a bearing on safety
- (e) The aerodrome operator shall keep under review its SMS and take such corrective action as is necessary to ensure that it operates properly.
- (f) The holder of an airport certificate shall—
 - (1) ensure that corrective actions are taken in respect of any findings resulting from the SMS;
 - (2) appoint a person to manage the SMS; and
 - (3) ensure that the person managing the SMS performs the duties required.
- (g) The person managing the SMS shall—
 - (1) establish and maintain a reporting system to ensure the timely collection of information related to hazards, incidents and accidents that may adversely affect safety;
 - (2) identify hazards and carry out risk management analyses of those hazards;
 - (3) investigate, analyze and identify the cause or probable cause of all hazards, incidents and accidents identified under the SMS;
 - (4) establish and maintain a safety data system, by either electronic or other means, to monitor and analyze trends in hazards, incidents and accidents;
 - (5) monitor and evaluate the results of corrective actions with respect to hazards, incidents and accidents;
 - (6) monitor the concerns of the civil aviation industry in respect of safety and their perceived effect on the holder of the airport certificate; and
 - (7) determine the adequacy of the training.
- (h) The person managing the SMS shall, if a finding resulting from the SMS is reported to such person—
 - (1) determine what, if any, corrective actions are required and carry out those actions;
 - (2) keep a record of any determination made under sub-paragraph (1) and the reason for it;
 - (3) notify the certificate holder of any systemic deficiency and of the corrective action taken.
- (i) The person managing the SMS may assign the management functions for the SMS to another person if the assignment and its scope are described in the Aerodrome Manual.

- (j) The responsibility of the accountable executive (Airport Manager) shall not be affected by the appointment of a person to manage the SMS or the assignment of management functions to another person.

3.6.1.1 Aerodrome operator's internal safety audits and reporting

- (a) The aerodrome operator shall arrange for audits of the SMS, including inspections of the aerodrome facilities and equipment, and such audits—
 - (1) shall cover the aerodrome operator's own functions; and
 - (2) include an external audit and inspection programme for evaluation of other users, including fixed-base operators and organizations working at the aerodrome.
- (b) The audits referred to in (a) above shall be carried out over 12 months, or less, as agreed with the Authority.
- (c) The aerodrome operator shall ensure that the audit reports, including the report on the aerodrome facilities, services and equipment, are prepared by suitably qualified safety personnel.
- (d) The aerodrome operator shall retain a copy of the report(s) referred to in (c) above for a period of 24 months and the Authority may request a copy of the report(s) for its review and reference.
- (e) The report(s) referred to in (c) above shall be prepared and signed by the persons who carried out the audits and inspections.
- (f) The aerodrome operator shall ensure that deficiencies identified during audits are corrected in a timely manner as agreed upon with the auditors.

3.7.1.1 Medical requirements

- (a) The Aerodrome Rescue and Firefighting Personnel shall be assessed as medically fit and capable of performing their duties by a qualified medical practitioner appointed by the aerodrome operator. Assessment shall be done prior to employment and undergo further examinations at three-yearly intervals up to the age of 40, then at two –yearly intervals up to the age of 50 and annually thereafter.
- (b) Notwithstanding the above, an assessment conducted before reaching the age of forty will not be valid after the person's forty-second birthday. Similarly, an assessment conducted before reaching the age of fifty will not be valid after the person's fifty-first birthday.

- (c) Taking into account the demands of the role, persons over the age of sixty shall not be acceptable as personnel designated to be part of the operational RFFS at aerodromes where the RFF category is 3 and above.

3.8.1.1

- (a) set out the process for management of conflicts between safety and environmental requirements
- (b) set out the coordinating mechanism between land use authorities and appropriate aviation interests regarding obstacle limitation surfaces, farming activities, etc
- (c) Set out the procedure for the formation of the airport wildlife hazard control committee at each airport.

3.9.1.1

Pavement Strength and Overload Operations

The aerodrome operator shall determine the bearing strength of the pavements and report in the ACN-PCN format and shall not permit overloading of pavements beyond the design capacity particularly when it is observed that the pavements are exhibiting signs of distress or failure. However occasional minor overload on serviceable pavements is acceptable provided the following specifications are adhered to:

- (a) for flexible pavements, occasional movements by aircraft with Aircraft Classification Number (ACN) not exceeding 10 per cent above the reported Pavement Classification Number (PCN) should not adversely affect the pavement;
- (b) for rigid and composite pavements, in which a rigid pavement layer provides a primary element of the structure, occasional movements by aircraft with ACN not exceeding 5 per cent above the reported PCN should not adversely affect the pavement;
- (c) if the pavement structure is unknown, the 5 per cent limitation should apply ; and
- (d) the annual number of overload movements should not exceed approximately 5 per cent of the total annual aircraft movements.

3.10.1.1

QUALIFICATION OF AERODROME PERSONNEL

- (a) The term 'qualified' denotes fitness or fit for the purpose. This may be achieved through fulfilment of the necessary conditions such as completion of required training, or acquisition of a relevant diploma or degree certificate as specified in the organisations scheme of service or recruitment policy and through the gaining of suitable experience. It, also, includes the ability, capacity, knowledge or skill that matches or suits an occasion, or makes someone eligible for a duty, office, position, privilege or status.
- (b) Certain posts may, by nature, be associated with the possession of certain qualifications in a specific field (e.g. rescue and fire fighting, civil, mechanical or electrical engineering, wildlife biologist, etc.). In

such cases, the person occupying such a post is expected to possess the necessary qualifications as follows:.

3.10.2.1 **ARFF Operational Personnel**

3.10.2.2 ARFF Personnel

3.10.2.3 Minimum Educational Qualification for ARFF Officers: OND or equivalent qualification from the Education Board, HND or Bachelor's degree in Chemistry from any recognized Institution for ARFF Crew.

3.10.2.4 Institutional Training:

- (a) Basic Aerodrome Fire Fighting Course from any NCAA approved Training Institute.
- (b) Fire fighter Course
- (c) Medical First Aids Training
- (d) Crew Commander Course
- (e) Watch Commander Course
- (f) Safety Management System
- (g) Specialized Fire Fighter Course
- (h) On-the-job Training (OJT)

3.10.3.1 **Aerodrome Operations Personnel**

3.10.3.2 Aerodrome Operations Officer:

3.10.3.3 Minimum Educational Qualification: Bachelor degree in any physical sciences or its equivalent.

- 3.10.3.4 (a) After being posted to Airport Operations, such staff shall get familiarization with the real time job and eventually acquire competence for the job. They shall acquire sufficient knowledge about:
- (b) Aerodrome facilities, installations & Nav aids on and around the aerodrome, Part 12 of Nigeria Civil Aviation Regulations (Nig.CARs), Aerodrome Standards Manual (ASM), Aerodrome SMS Manual.
 - (c) On – Job – Training

3.10.3.5 ***Institutional Training:***

- (a) Airport Terminal Operations
- (b) Works Safety Procedures;
- (c) Apron Control Training
- (d) Apron Safety and Management
- (e) Aerodrome Self Inspection Programme
- (f) Bird/Wildlife Hazard Management;
- (g) Aerodrome Certification
- (h) Air side driving & phraseology.

(i) Safety Management System

3.10.4.1 **Safety Personnel**

3.10.4.2 Aerodrome Safety Officer:

3.10.4.3 Minimum Educational Qualification: Bachelor degree in any physical sciences or Any Engineering Course.

3.10.4.4 After being posted to Airports, such staff shall get familiarization with the real time job and eventually acquire competence for the job. They shall acquire sufficient knowledge about: aerodrome facilities, installations & Nav aids on and around the aerodrome; Part 12 of Nigeria Civil Aviation Regulations (Nig.CARs), Aerodrome Standards Manual (ASM), Aerodrome SMS Manual,

3.10.4.5 ***Institutional Training:***

- (a) Airport Operations and Management,
- (b) Apron Management and Safety ,
- (c) Airport Terminal Operations
- (d) Safety Management System
- (e) Aerodrome Certification
- (f) Aerodrome Self Inspection ;
- (g) Works Safety Procedures
- (h) Airside driving & Phraseology
- (i) Bird/Wildlife hazard management
- (j) On – Job – Training

3.10.5.1 **Marshalls**

3.10.5.2 OND or equivalent qualification

- (a) After being posted to Airport Operations as a marshaller, such staff shall get familiarization with the real time job and Part 12 of Nigeria Civil Aviation Regulations (Nig.CARs), Aerodrome Standards Manual (ASM), Aerodrome SMS Manual.

3.10.5.3 ***Institutional Training:***

- (a) Aircraft Marshalling;
- (b) Apron Control and Management
- (c) Air side driving & Phraseology.
- (d) Safety Management System

3.10.6.1 **Maintenance personnel:**

3.10.6.2 The following categories of personnel are involved in the Aerodrome maintenance:

- (a) Civil Engineering personnel,
- (b) Electrical Engineering personnel
- (c) Mechanical Engineering personnel;

3.10.7.1 **Civil Engineering personnel:**

3.10.7.2 *Minimum Educational Qualification:*

- (a) HND or Bachelor in Civil Engineering from any recognized Institution

3.10.7.4 After being posted to Engineering department, Engineers shall get familiarization with the real time job and eventually acquire competence for the job. They shall acquire sufficient knowledge about: aerodrome facilities, installations & Nav. aids on and around the aerodrome;

3.10.7.5 ***Institutional Training:***

Aerodrome Engineering Course covering the following under listed modules from any recognized Training Institute;

- Pavement Management System
- Airport Planning and development
- Airport Design and Construction
- Aerodrome design & maintenance programme;
- Aerodrome certification & Inspection;
- Air side driving & phraseology.

3.10.8.1 **Mechanical Engineering personnel:**

3.10.8.2 *Minimum Educational Qualification:*

HND or Bachelor in Mechanical Engineering from any recognized Institution.

3.10.8.3 After being posted to Airport Engineering division Engineers shall get familiarization with the real time job and eventually acquire competence for the job. They shall acquire sufficient knowledge about: all Aerodrome facilities & installations, Secondary Power Maintenance, Boarding bridge, Air Conditioning System around the aerodrome;

Concerned works safety procedures; Aerodrome design & Capital expenditure maintenance programme; Regular maintenance programme; Nig.CARs Part 12, Aerodrome Standards Manual (ASM), Aerodrome SMS Manual,

3.10.8.4 ***Institutional Training:***

- Airport Fire Fighting Truck Maintenance*
- Generator Maintenance Training*
- Avio - Bridge Maintenance Training*
- Airport Mechanical Maintenance Equipment
- Aerodrome certification;
- Air side driving & phraseology.
- On-the-Job Training (OJT) / Familiarization

3.10.9.1 **Bird/Wildlife Biologist/ Ornithologist:**

3.10.9.2 **Minimum Educational Qualification:**

- (a) HND or Bachelor degree in zoology or any biological related courses, Additional training on ornithology

3.10.9.3

- (a) After being posted to Bird/Wildlife Unit, Staff shall get familiarization with the real time job and eventually acquire competence for the job. They shall acquire sufficient knowledge about: bird/wildlife hazard control & management
- (b) Part 12 of Nigeria Civil Aviation Regulations (Nig.CARs),
- (c) Aerodrome Standards Manual (ASM),
- (d) Aerodrome SMS Manual,
- (e) On – Job – Training

3.10.9.4 ***Institutional Training:***

- (a) Basic Bird/wildlife Hazard Control & Management
- (b) Grass Management Technique Aerodrome SMS Manual,
- (c) Aerodrome certification
- (d) Airport Inspection;
- (e) Air side driving & phraseology.
- (f) Safety Management System

3.10.10.1 **Survey Personnel**

3.10.10.2 ***Minimum Educational Qualification:***

- (a) HND or Bachelor in Surveying from any recognized Institution.

3.10.10.3 After being posted to Airport Survey division, the personnel shall get familiarization with the real time job and eventually acquire competence for the job. They shall acquire sufficient knowledge about: all Aerodrome layout plan; Nig.CARs Part 12, Aerodrome Standards Manual (ASM)

3.10.10.4 ***Institutional Training:***

- (a) *WGS Survey Training*
- (b) *Aerodrome Certification*
- (c) *Aerodrome Survey Training*

3.10.11.1 **Other Operational & Maintenance Personnel**

- (a) Notwithstanding the above provisions, the aerodrome operator may decide to have more or less number of the above-listed areas provided it is approved by the Authority.

- (b) Anyone that has any activity or duty to perform on the airside must undergo airside familiarization training before the grant of the airside access.

3.10.12.1 Effectiveness

- (a) This requirement comes into effect immediately. Aerodrome Operators are advised to establish their Training Facilities, prepare their Training Programme for approval by the approving authority of the Organisation, NCAA, and implement the training programme based on the approval.

3.11.1.1 NCAA's ASSESSMENT CRITERIA FOR AERODROME POST HOLDER

- (a) Nominated Heads of departments shall be directly responsible to an accountable manager.
- (b) The person or persons nominated shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aerodrome operations and maintenance and demonstrate a working knowledge as specified in the Advisory Circular, NCAA-AC-ARD 031 and this Order.
- (c) Procedures shall make clear as to who deputizes for any particular person in the case of lengthy absence of the incumbent person.
- (d) The holder of an Aerodrome Certificate shall have adequate qualified personnel, with proven competency in civil aviation, available and serving full-time in the following positions or their equivalent:
 - (1) Airport Manager.
 - (2) Head of Aerodrome Operations
 - (3) Head of Aerodrome Safety
 - (4) Head of Aerodrome Maintenance
 - (5) Head of Aerodrome Rescue and Firefighting services

Note: "Competency in civil aviation" means that an individual shall have a technical qualification and management experience acceptable to the Authority for the position served.

- (e) Nomination of persons to occupy the positions specified in 12.6.3.1.10 (b)-(e) shall be made by the Aerodrome Operator using the requirements established in **this Order** and the Advisory Circular: NCAA-AC-ARD031
- (f) The Authority may approve positions or numbers of positions, other than those listed in 12.6.3.1.9 if the Aerodrome Operator is able to show that it can perform the operation with the highest degree of safety under the direction of different categories of management personnel due to the nature and scale of operation.

IS:12.6.3.1.2: The individuals who serve in the positions required or approved under this Order and anyone in a position to exercise control over operations conducted under the Aerodrome Certificate shall:—

- (1) Be qualified through training, experience, and expertise;
- (2) Be capable of discharging their duties to meet applicable legal requirements and to maintain safe operations; and

- (3) Have a full understanding of the following areas with respect to the Certificate holder's operation:
 - (1) The Aerodrome Manual
 - (2) Civil Aviation Act 2006
 - (3) Nig. CARs Part 12 of Nigeria Civil Aviation Regulations Part 12 and 20;
 - (4) Aerodrome's Standard Operating Procedures and best practices

IS: 12.6.3.1.3 The Aerodrome Certificate holder shall notify the Authority within 30 days before effecting any change in personnel or any vacancy in any position listed in IS 12.6.3.1.1 (d)

IS: 12.6.3.1.4: The Aerodrome Certificate holder shall make arrangements to ensure continuity of supervision if operations are conducted in the absence of any required management personnel.

3.11.1.2 Minimum Qualification

- (a) The minimum initial qualifications for **Airport Manager** includes:—
 - (1) A degree or appropriate qualifications in relevant civil aviation management, with training in airport operations and maintenance.
 - (2) A minimum of 5 years working experience at airport, which includes at least 3 years' experience in airport administration and civil aviation industry.
- (b) The minimum initial qualifications for **Head of Aerodrome Operations** include:—
 - (1) A degree or appropriate qualification in civil aviation field with training in airport operations
 - (2) A minimum of 8 years working experience at an airport which includes
 - (i) At least 5 years' experience in airport operations
 - (ii) At least 3 years supervisory level
- (c) The minimum initial qualifications for **Head of Aerodrome Safety** include:
 - (1) A university degree in aviation, systems safety, engineering or physical science
 - (2) A minimum of 8 years working experience at an airport which includes:
 - (i) at least 5 years' experience in application of safety management concepts and tools
 - (ii) at least 3 years supervisory experience
- (d) The minimum initial qualifications for **Head of Aerodrome Rescue and Firefighting services** include:—
 - (1) A minimum of 8 years working experience in an airport rescue and firefighting services which includes:

- (2) At least 5 years supervisory experience and considerable first hand practical experience
- (e) The minimum initial qualifications for **Head of Aerodrome Maintenance** includes:—
- (1) A university degree in civil engineering, aerodrome engineering, electrical engineering or equivalent qualification
 - (2) A minimum of 8 years working experience in an aviation airfield lighting or civil/building of an airport which includes at least 5 years supervisory experience

IS: 12.6.3.1.6: The Aerodrome Post Holders' qualification and competency requirements shall be effective from 31th December 2020.

Note 1: Assessment of Post Holders: The Authority will assess each nominated Aerodrome Post Holder based on the Assessment Criteria in Advisory Circular: NCAA-AC-ARD031, conduct an interview with the nominee and may call for additional evidence of his/her suitability before deciding upon his/her acceptability.

Note 2: Details of Aerodrome Post Holders personnel requirements for qualification and competency in performing safety critical activities at the aerodrome are specified in Advisory Circular: NCAA-AC-ARD031.

3.11.1.3 TRAINING REQUIREMENTS

- (a) Head of Safety: The head of safety shall undergo at least the following trainings:
 - (1) Aerodrome Certification
 - (2) Basic and Integrated safety management system
 - (3) Aeronautical studies and risk assessment
 - (4) Accident and incident investigation course
- (b) Head of Rescue and Firefighting Services: The Head of Rescue and Firefighting Services shall undergo at least the following trainings:
 - (1) Basic rescue and firefighting
 - (2) Fire fighters course
 - (3) Crew commander course
 - (4) Station commanders course
 - (5) Fire prevention and protection course
 - (6) Aerodrome certification course
- (c) Head of Aerodrome Operations: The Head of Aerodrome Operations shall undergo at least the following trainings:
 - (1) Aerodrome certification
 - (2) Basic and Integrated safety management system
 - (3) Aeronautical studies and risk assessment
 - (4) Airport condition reporting
 - (5) Airfield and ramp operations
- (d) Head of Maintenance:- The head of maintenance shall undergo at least the following trainings:

- (1) Aerodrome certification
- (2) Basic and integrated safety management system
- (3) Aeronautical studies and risk assessment
- (4) Aerodrome planning
- (5) Aerodrome maintenance
- (6) Airfield lighting

(e) Accountable Manager (Airport Manager)

(a) Performance Criteria

- (1) Full control of the human resources required for the operations authorised to be conducted under the Aerodrome Certificate
- (2) Full control of the technical resources required for the operations authorised to be conducted under the Aerodrome Certificate
- (3) Full control of the financial resources required for the operations authorised to be conducted under the Aerodrome Certificate
- (4) Final authority over operations authorised to be conducted under the Aerodrome Certificate.
- (5) Ultimate responsibility and accountability for the establishment, implementation and maintenance of the Safety Management System.
- (6) Authority and accountability for establishment, implementation, communication and promotion of the safety policy.
- (7) Authority and accountability for establishment of the organisation's safety objectives and safety targets
- (8) Final responsibility for the resolution of all safety issues
- (9) Authority and accountability for establishment, implementation and maintenance of the organisation's competence to learn from the analysis of data collected through its safety reporting system and others
- (10) Safety Data Collection and Processes Systems (SDCPS) in place; and
- (11) Authority and accountability for establishment of a just culture which encourages safety reporting.

(f) Knowledge Criteria

- (1) Knowledge and understanding of the documents that prescribe relevant aerodrome safety standards
- (2) Understanding of the requirements for competence of aerodrome management personnel, so as to ensure that competent persons are in place
- (3) Knowledge and understanding of safety, quality, and security management systems, related principles and practices, and how these are applied within the organisation
- (4) Knowledge and understanding of the key issues of risk management within the aerodrome
- (5) NCAA regulatory framework
- (6) NCAA State Safety Programme and Aerodrome SMS
- (7) NCAA Aerodrome Certification Process

- (8) NCAA Regulatory Oversight Process
 - (9) NCAA Enforcement Process
- (g) Supporting Documents
- (1) Organisational Structure
 - (2) Other relevant documents if requested by Authority
- (h) Head of Safety Department.
- (1) Performance Criteria
 - (i) Responsible individual and focal point for the development and maintenance of an effective Safety Management System
 - (ii) Ensure that processes needed for the SMS are established, implemented and maintained
 - (iii) Reportable directly to the Accountable Manager on the performance of the SMS and on any need for improvement
 - (iv) Ensure safety promotion throughout the organisation
 - (v) The role of the safety manager should be to:
 - (A) facilitate hazard identification, risk analysis, and risk management;
 - (B) monitor the implementation and functioning of the Safety Management System, including the necessary safety actions following an internal audits or inspections
 - (C) manage the safety reporting system of the aerodrome;
 - (D) provide periodic reports on safety performance;
 - (E) ensure maintenance of safety management documentation;
 - (F) ensure that there is safety management training available, and that it meets acceptable standards;
 - (G) provide advice on safety matters; and
 - (H) initiate and participate in internal occurrence/accident investigations.
 - (2) Knowledge Criteria
 - (i) Practical experience and expertise in aerodrome operations, maintenance or similar area
 - (ii) Knowledge of the Aerodrome Manual
 - (iii) Comprehensive knowledge of the applicable requirements in the area of aerodromes
 - (iv) NCAA Regulatory framework
 - (v) NCAA State Safety Programme /Aerodrome SMS
 - (vi) NCAA Aerodrome Certification Process
 - (vii) NCAA Regulatory Oversight Process
 - (viii) NCAA Enforcement Process
 - (3) Supporting Documents
 - (i) Curriculum Vitae, Job Description and proof of relevant Training and Qualifications
 - (ii) Other relevant documents if requested by Authority

- (I) Head of Operations Department.
 - (1) Performance Criteria
 - (i) Ensure that aerodrome certification requirements are met, and that the aerodrome operates in accordance with certificate conditions and regulatory requirements
 - (ii) Ensure an understanding of the Aerodrome management of the certification requirement for the status of the Aerodrome manual.
 - (iii) Responsible for the management of the operational services of the aerodrome and day to day aerodrome operations
 - (iv) Analyse auditing findings and inspections by the Authority, and initiate actions
 - (v) Use feedback from auditing and inspections to recommend appropriate changes to airside safety management procedures and ensure implementation
 - (vi) Monitor airside planning and development for compliance
 - (vii) Develop proactive working relationships with aerodrome users
 - (2) Knowledge Criteria
 - (i) Practical experience and expertise in aerodrome operations or maintenance (or similar area) respectively
 - (ii) Comprehensive knowledge of the applicable requirements in the area of aerodromes
 - (iii) Appropriate level of knowledge of safety and quality management
 - (iv) Knowledge of the Aerodrome Manual
 - (v) NCAA Regulatory Framework
 - (vi) NCAA State Safety Program / SMS
 - (vii) NCAA Aerodrome Certification Process
 - (viii) NCAA Regulatory Oversight Process
 - (ix) NCAA Enforcement Process
 - (3) Supporting Documents
 - (i) Curriculum Vitae, Job Description and proof of relevant Training and Qualifications
 - (ii) Other relevant documents if requested by Authority
- (J) Head of Maintenance Department.
 - (1) Performance Criteria
 - (i) Ensure that aerodrome certificating requirements are met, and that the aerodrome facilities are accurately reported (Aerodrome Manual/AIP) and in accordance with the regulatory requirements
 - (ii) Ensure aerodrome facilities are compatible with sizes, types and frequency of aircraft in accordance with organisation and legislative requirements
 - (iii) Ensure that maintenance policies, procedures and

training fulfil the aims of the aerodrome and meet regulatory requirements

- (iv) Ensure understanding of regulatory requirements specific to electrical systems
- (v) Ensure understanding of regulatory requirements specific to aeronautical ground lighting and other visual aids such as markings
- (vi) Ensure understanding of regulatory requirements specific to aerodrome pavements
- (vii) Ensure understanding of role as related to aerodrome reporting systems to include hazard identification, defect identification and reporting of safety critical information to the aerodrome Air Traffic Service Unit
- (viii) Ensure basic understanding of aerodrome bird and wildlife hazard management programme
- (ix) Ensure understanding of requirement for corrective and preventive maintenance programme
- (x) Ensure understanding of competency standards and evaluation programme for maintenance staff maintaining safety critical assets or working in safety critical areas (including both technical and operational (RT/Driving) competencies as necessary)
- (xi) Ensure understanding of aerodrome certification scope and process as applicable to both maintenance and facility development activities.

(2) Knowledge Criteria

- (i) Qualified in the role with appropriate education, experience and/or certification
- (ii) Practical experience and expertise in aerodrome maintenance
- (iii) Comprehensive knowledge of the applicable requirements in the areas of electrical systems, aeronautical ground lighting and pavements
- (iv) Knowledge of the Aerodrome Manual
- (v) Knowledge of applicable ICAO guidance materials such as Aerodrome Design Manual
- (vi) NCAA Regulatory framework
- (vii) NCAA State Safety Programme / Aerodrome SMS
- (viii) NCAA Regulatory Oversight Process and NCAA Enforcement Process
- (ix) NCAA process for the reporting and follow-up of accidents, incidents and emergencies on the aerodrome.

(3) Supporting Documents

- (i) Curriculum Vitae, Job Description and proof of relevant Training and Qualifications
- (ii) Other relevant documents if requested by Authority

(K) Head of Rescue Firefighting Services Department

- (1) Performance Criteria

- (i) Ensure that aerodrome certificating requirements are met, and that the aerodrome operates in accordance with the regulatory requirements in the provision of RFFS
 - (ii) Ensure emergency fire and rescue facilities are compatible with sizes, types and frequency of aircraft in accordance with organisation and legislative requirements
 - (iii) Ensure that rescue and firefighting, policies, procedures and training fulfil the aims of the aerodrome and meet regulatory requirements
 - (iv) Ensure that procedures for auditing driver training programmes are to established standards
 - (v) Ensure the use of communication protocols and procedures is in accordance with this Order
 - (vi) Assess the feasibility of continuing aerodrome operations in an emergency situation.
 - (vii) Ensure appliances and equipment meet all regulatory requirements
 - (viii) Establish an effective Incident Command & Control System
- (2) Knowledge Criteria
- (i) Qualified in the role with appropriate education, experience and/or certification
 - (ii) Practical experience and expertise in aerodrome RFFS
 - (iii) Comprehensive knowledge of the applicable requirements in the areas of RFFS and aerodromes
 - (iv) Knowledge of the Aerodrome Manual
 - (v) NCAA Regulatory framework
 - (vi) NCAA State Safety Programme / Aerodrome SMS
 - (vii) NCAA Regulatory Oversight Process
 - (viii) NCAA Enforcement Process
 - (ix) NCAA Process for the reporting and follow- up of accidents, incidents and emergencies on the aerodrome.
- (3) Supporting Documents
- (i) Curriculum Vitae, Job Description and proof of relevant Training and Qualifications
 - (ii) Other relevant documents if requested by Authority

4.1.1.1 No person shall aim laser beam at aircraft.

- (1) No person shall intentionally project, or cause to be projected, a laser beam or other directed high intensity light at an aircraft in such a manner as to create a hazard to aviation safety, damage to the aircraft or injury to its crew or passengers.
- (2) Any person using or planning to use lasers or other directed high-intensity lights outdoors in such a manner that the laser beam or other light beam may enter navigable airspace with sufficient power to cause an aviation

hazard shall provide written notification to the Directorate Airspace and Aerodrome Standards of the Nigerian Civil Aviation Authority (NCAA).

- (3) No pilot-in-command shall deliberately operate an aircraft into a laser beam or other directed high intensity light beam unless flight safety is protected. This may require mutual agreement by the operator of the laser emitter or light source, the pilot-in-command and the competent authority.

4.2.1.1 **Dangerous Goods by Mail**

- (a) No Postal Operators (POs) may transport dangerous goods unless approved to do so by the Authority
- (b) The procedures of designated postal operators for controlling the introduction of dangerous goods in mail into air transport shall be approved by the Authority.
 - (i) ICAO Technical instructions (DOC 9284) Part 1;2.3 outlines those dangerous goods that may be acceptable in mail for carriage by air subject to the provisions in the Technical Instructions.
- (c) The staff of Designated Postal operator are required to be trained in the requirements commensurate with their responsibilities as shown in Table 1-6 of the Technical Instructions Part 1;4
- (d) The procedures for the introduction of dangerous goods in to air transport through its designated postal operators are contained IS 9.6.18

4.2.1.2 **Dangerous Goods by Mail**

- (a) The procedures for the introduction of dangerous goods in to air transport through designated postal operators are:
 - (i) Training of staff in accordance with ICAO Technical Instructions Part 1;4
 - (ii) Reporting of dangerous goods accidents and incidents to the Authority
 - (iii) Reporting of hidden and undeclared dangerous goods to the Authority
 - (iv) Provision of information to o customers at acceptance point such as street post boxes, post offices, agencies, websites etc
 - (v) Provision of information to account customers regarding dangerous goods
 - (vi) Inclusion of clauses in contracts with account customers regarding dangerous goods not permitted in the mail;
 - (vii) Emergency procedures
 - (viii) Retention of documents (e.g. dry ice acceptable checklist)
 - (ix) Documented acceptance procedures for staff regarding the dangerous goods allowed by Part 1;2.3 of the Technical Instructions
 - (x) Procedures for requiring the sender's name, address and signature on package containing dangerous goods
 - (xi) Procedures for ensuring that any State or Operator variations in attachment 3 of the Technical Instructions are complied with;
 - (xii) Procedures for ensuring that any changes to the Technical Instructions are incorporated into existing procedures and
 - (xiii) Procedures for the handling of packages rejected from transport

4.2.1.3 Dangerous Goods in Safety Management System (SMS)

- (a) Each Certificate holders (AOC) with an approved and operational SMS are required to perform a safety risk analysis on their processes, and identify areas of risks and risk mitigation strategies, and continue to self-audit the design and performance elements of the system. The certificate holder should cover at a minimum the following items:
- (1) Identify areas that involve a safety risk (i.e., acceptance, loading, securing, packaging [e.g., COMAT]);
 - (2) Identify any hazards that exist within the established processes;
 - (3) Evaluate the level of the hazard (acceptable, non-acceptable);
 - (4) Verify whether the safety risk can be mitigated for non-acceptable hazards;
 - (i) If yes, define mitigations necessary to eliminate or minimize the safety risk; and
 - (ii) With the mitigations in place, verify whether the risk is now acceptable.
 - (5) Self-Audit the process/system over time to determine if the mitigation is effective, and whether additional safety risks exist.

Note: *Certificate holders not required to implement a SMS should demonstrate that they are aware of the hazards within their system, and have mitigated those hazards to the greatest extent possible, to be able to operate safely.*

4.1.1.3 Each AOC holder and AOC applicant may submit and maintain training programme manuals based on the following outline:

1.0 TRAINING SYLLABI AND CHECKING PROGRAMMES

- 1.1** (a) Training syllabi and checking programmes for all operations personnel assigned to operational duties in connection with the preparation and/or conduct of a flight shall be developed to meet the respective requirements of the Authority. An AOC holder may not use, nor may any person serve in a required crewmember capacity or operational capacity unless that person meets the training and currency requirements established by the Authority for that respective position.
- 1.2** The training syllabi and checking programmes for flight crew members shall include:
- (a) A written training programme acceptable to the Authority that provides for basic indoctrination, initial, transition, re-qualification familiarisation difference, and recurrent training, as appropriate, for flight deck crew members for each type of aircraft flown by that crew member. This written training programme shall include both normal and emergency procedures training applicable for each type of aircraft flown by the crewmember. Also, human factor, CRM, safety management and other specialized training that is acceptable to the Authority.
 - (b) Adequate ground and flight training facilities and properly qualified instructors required to meet training objectives and needs.
 - (c) A current list of approved training materials, equipment, training devices, simulators, and other required training items needed to meet the training needs for each type and variation of aircraft flown by the AOC holder.
 - (d) Adequate number of ground check personnel and flight check pilots to ensure adequate training and checking of flight crew members.

- (e) Upset Prevention and Recovery Training (UPRT) is to be incorporated into a pilot's training as part of (i) CPL, ATPL and type-rating training provided by an ATO, and (ii) recurrent training provided by the AOC holder. ATOs and AOC holders are to update their pilot training programmes to incorporate UPRT and are to submit the UPRT programme and the instructor qualification programme for the Director General's approval.
- (f) A record system acceptable to the Authority to show compliance with appropriate training and currency requirements

5.1 CITATION

- (a) This Order shall be cited as Nigeria Civil Aviation Order 003 (Order 003).

ACTION REQUIRED

Submission of comments on the proposed Order shall be in writing and shall:

- i. State the names and address of the commenter;
- ii. Explain the interest of the commenter; and
- iii. Contain any information, views or arguments supporting the comments.

All comments shall be submitted in hard and soft copies within one (1) week but not later than **8th January, 2020** to the:

**Director General
Nigerian Civil Aviation Authority
Aviation House
Murtala Muhammed International Airport
Domestic Wing,
P.M.B. 21029, 21038 Ikeja, Lagos.**

Attention: The Chairman, Regulations Committee

Email: regulation.committee@ncaa.gov.ng

**Captain Abdullahi Sidi
Ag. Director General**