# CIVIL AVIATION RULES AND STANDARDS

# FEDRAL DEMOCRATIC REPUBLIC OF ETHIOPIA

# PART 22 — REMOTELYLY PILOTED AIRCRAFT SYSTEM

# PREAMBLE

**WHEREAS**, it is desirable to consolidate and modernize the aviation Rules and Standards to bring them to international standards,

**WHEREAS**, it is important to set the rules and Standards as to how the regulatory, administrative, technical and supervisory activities of the Authority shall be performed in the one hand and setting the duties, obligations and standards that shall be respected by operators and aviation personnel,

**WHEREAS**, it is necessary, to provide detailed Rules and Standards for the administration of license, certification and operation of Remotely Piloted Aircraft System (RPAS) to ensure safety and security.

**NOW THEREBY**, The Authority under its power given by Article 92/2 of the Civil Aviation Proclamation No. 616/2008 issued the following rules and Standards.

## 1. SHORT TITLE

This Rules and Standards may be cited as "PART 22 OF ETHIOPIAN RULES AND STANDARDS — REMOTELYLY PILOTED AIRCRAFT SYSTEM"

## 2. REPEAL AND INAPPLICABLE LAWS

No directive, order or practice shall in so far as it is inconsistent with this Rules and Standards, be applicable with respect to matters provided for by this Rules and Standards

## 3. EFFECTIVE DATE

This Rules and Standards shall come into force as of 13th April 2023

Done at Addis Ababa, this 13th April 2023

Federal Democratic Republic of Ethiopia CIVIL AVIATION AUTHORITY

Getachew Mengistie Alemayehu
Director General

## AMENDMENTS

| Location | Date | Description |
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## RPAS OPERATION AND CERTIFICATION

### 22.1 GENERAL

#### 22.1.1 DEFINITIONS

**(a) In these, rules and standards, unless the context otherwise requires**

1. **"Accident"** means an occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time a 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:

a) except when the injuries are due to natural causes, self-inflicted or inflicted by acts of other persons, or when the injuries are to stowaways hiding outside the areas normally available to passengers and crew; a person is fatally or seriously injured as a result of:

i. his direct contact with the body or

ii. any part of the aircraft, including parts which have become detached from the aircraft; or

iii. his direct exposure to jet blast occurring from landing or takeoff or during taxi.

**(b) The aircraft sustains damage or structural failure which-**

i) Adversely affects the structural strength, performance or flight characteristics of the aircraft; and

ii) would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, wheel, fairings, panels, landing gear doors, the aircraft skin ( Such 44 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).

2. **"Aerodrome"**- means any defined area of land or on water, including any building, installation or equipment therein, used or intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

3. **"Airborne Collision Avoidance System (ACAS)"-** means an aircraft system based on Secondary Surveillance Radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders;

4. **"Air traffic"-** means all aircraft in flight or operating on the maneuvering area of an aerodrome;

5. **"Authority"-** means the Ethiopian Civil Aviation Authority;

6. **"Autonomous aircraft"-** An unmanned aircraft that does not allow pilot intervention in the management of the flight.

7. **"Automatic Dependent Surveillance- Broadcast (ADS-B)" refers** to means by which aircraft, aerodrome vehicles and other objects can automatically transmit or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link;

8. **"Beyond visual line-of-sight" -** means an operation in which the remote pilot cannot maintain direct unaided visual contact with the RPAS to manage its flight and to meet separation and collision avoidance responsibilities visually.

9. **"C2 Link.** "Means The data link between the remotely piloted aircraft and the remote pilot station for the purposes of managing the flight.

10. **"C2 Link interruption.** "Means Any temporary situation where the C2 Link is unavailable, discontinuous, introduces too much delay, or has inadequate integrity; but where the lost C2 Link decision time has not been exceeded.

11. **"C2 Link specification.** " Means The minimum performance to be achieved

12. **"Continuing airworthiness** "person" means any natural or juridical person; means the set of processes by which an aircraft, remote pilot station, engine, propeller or part complies with the applicable airworthiness requirements and remains in a condition for safe operation throughout its operating life.

13. **"Controlled airspace"-** mean airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification;

14. **"DATA link "-** means the direct or indirect communication link from the RPAS;

15. **"Detect and avoid"-** means the capability to see, sense or detect conflicting traffic or other hazards and take the appropriate action;

16. **"Extended visual line-of-sight" -** means an operation below 122 meter above ground level in which an observer, maintains direct and unaided visual contact with the RPAS at a distance not exceeding 1000 m from the pilot;

17. **"Flight plan"** - means specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft;
18. **"Ground station" -** means the station at which the remote pilot manages the flight of the RPAS;

19. " **Handover.** " The act of passing piloting control from one remote pilot station to another.

20. **"Human performance"-** means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations;

21. **"Incident"-** means an occurrence, other than an accident, associated with the operation of an aircraft which affect or could affect the safety of operation;

22. **"Lost C2 Link decision time.** " means The maximum length of time permitted before declaring a lost C2 Link state during which the C2 Link performance is not sufficient to allow the remote pilot to actively manage the flight in a safe and timely manner appropriate to the airspace and operational conditions.

23. **"Lost C2 Link state.** " The state of the RPAS in which the C2 Link performance has degraded, as a result of a C2 Link interruption that is longer than the lost C2 Link decision time, to a point where it is not sufficient to allow the remote pilot to actively manage the flight in a safe and timely manner

24. **"Maintenance.** " Means The performance of tasks on an aircraft, remote pilot station, engine, propeller or associated part required to ensure the continuing airworthiness of an aircraft, remote pilot station, engine, propeller or associated part including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or repair.

25. **"Maximum Take-off Weight (MTOW)"** – means the weight of the aircraft at the time of the operation, including the weight of any payload (e.g. a camera) and fuel.

26. " **Nominal C2 Link state.** "Means The state of the RPAS when the C2 Link performance is sufficient to allow the remote pilot to actively manage the flight of the RPA in a safe and timely manner appropriate to the airspace and operational conditions.

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

28. **"Operational control"-** means the exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight;

29. **"Operations manual"** - means a manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties;

30. **"Payload" -** means all the elements of the RPAS that are not necessary for flight but that are carried for the purpose of fulfilling specific mission objectives;
31. **"person"** means any natural or juridical person;
32. **"Private operation" -** means the use of a remotely piloted aircraft (RPA) for an individual's personal and private purposes where there is no commercial outcome, interest or gain;
33. **"Relevant qualification"-** Means any qualification such as aeronautical radio operator certificate, a remote pilot license [or flight crew license], an air traffic control license or a flight service license.

34. **" Remote pilot station (RPS). "Means** The component of the remotely piloted aircraft system containing the equipment used to pilot the remotely piloted aircraft.
35. **"Remotely piloted aircraft (RPA).** "An unmanned aircraft which is piloted from a remote pilot station
36. **"Remotely piloted aircraft system (RPAS).** " A remotely piloted aircraft, its associated remote pilot station(s), the required C2 Link(s) and any other components as specified in the type design.
37. **"RPAS category"-** means classification of RPAS in accordance with specifications in these Rules and standards;
38. **"RPA observer"** - means a trained and competent person designated by the operator who, by visual observation of the remotely piloted aircraft, assists the remotely pilot in the safe conduct of the flight;

39. **"RPAS Operator Certificate (ROC)"-** means a certificate authorizing an operator to carry out specified RPAS operations;

40. **"Safety"-** means 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;

41. **"Safety Management System (SMS)"-** means systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures;

42. **"Specified frequency"- for** particular airspace means a frequency specified from time to time in AIP or by ATC as a frequency for use in the airspace.

43. **"Specified information"** - for particular airspace means information specified from time to time in AIP or by ATC as information that must be broadcast in the airspace.

44. **"Specified interval"-** for particular airspace means the interval specified from time to time in AIP or by ATC as the interval at which broadcasts must be made while in that airspace

45. **"Toy"-** means a remotely piloted aircraft system that is less than 2 kilograms gross weight, not powered by any fuel system, not capable of carrying any payload, not fitted with a camera and is operated at a maximum height of 50 feet above ground level, a maximum lateral distance of 50 meters from the operator and a maximum speed of 10 knots;

46. **"Type certificate"-** means A document issued by a Contracting State to define the design of an aircraft, remote pilot station, engine or propeller type and to certify that this design meets the appropriate airworthiness requirements of that State.

47. **"Type design.** Means The set of data and information necessary to define an aircraft, remote pilot station, engine or propeller type for the purpose of airworthiness determination.

48. **"Unmanned free balloon"-** means non-power-driven, unmanned, lighter-than-air aircraft in free flight;

49. **"Visual Line-of-Sight (VLOS) operation"**- means an operation in which the remotely pilot or RPA observer maintains direct unaided visual contact with the remotely piloted aircraft; and

50. **"Visual Meteorological Conditions (VMC)"-** means meteorological conditions expressed in terms of visibility distance from cloud, and ceiling, equal to or better than specified minima.

## 22.1.2 ACRONYMS

ACAS - Automated Collision Avoidance System
ADS-B - Automatic Dependent Surveillance – Broadcast
AGL - Above Ground Level
AIP - Aeronautical Information Publication
ATC - Air Traffic Control
ATM - Air Traffic Management
ATS - Air Traffic Service
BVLOS - Beyond visual line of sight;
C o A - Certificate of Airworthiness
C o R - Certificate of Registration
C2 - Command and Control
C2CSP - C2 Communications Service Provider
DGCA - Director General of Civil Aviation
ECARAS - Ethiopian Civil Aviation Rules and Standards
E-VLOS - Extended Visual Line-of-Sight Operation
FCL - Flight Crew Licensing
FSTD - Flight Situation Training Devices
GPS - Global Positioning System
GS - Ground station;
ICAO - International Civil Aviation Organization
IFR - The symbol used to designate the instrument flight rules.
INSA - Information Network Security Administration
MoND - Ministry of National Defense
MTOW - Maximum Take-off Weight
NISS - National Intelligence Security Service
PPL - Private Pilot License
R o A - Rules of the air
RMT - RPAS maintenance technician
RPA - Remotely Piloted Aircraft

RPAS - Remotely Piloted Aircraft System(s)

RPS - Remotely Pilot Station(s)

UA - Unmanned Aircraft

UAOP - Unmanned Aircraft Operator Permit

UAS - Unmanned Aircraft System

UIN - Unique Identification Number

VFR - Visual Flight Rules

VLOS - Visual Line-Of-Sight

VMC - Visual Meteorological Conditions

## 22.1.3 COMPETENT AUTHORITY'S ROLES

(a) The role and responsibility of the following Authorities in these rules and standards, according to their mandates given by their respective legislation shall be: -

**(1) Information Network Security Administration role and responsibility shall be: -**

i. Technical and Security clearance for the import and export of RPASs

**(2) Ethiopian federal and regional police role and responsibility shall be: -**

i. Forensics activities during the operation of RPAS

ii. Law enforcement of RPAS operations

**(3) Ethiopian Communication Authority: -**

i. Controlling and assigning the use of communications frequency for the RPAS applications

**(4) National Intelligence and Security Service shall :-**

i. Identify critical areas

ii. Monitor and control RPAS operations in the critical-areas

iii. Provides security threat assessment and operators' background Security clearance during RPASs import.

## 22.1.4 APPLICABILITY

(a) These Rules and standards and standard shall apply to any person , who imports, tests, operates, procures, assembles, manufactures or maintains a remotely piloted aircraft system registered in Ethiopia wherever they may be and any other such aircraft operating in Ethiopia.

(1) These Rules and standards applicable to civil RPAS which are remotely piloted from Ground Station software.

(2) Notwithstanding paragraph (1) above, these Rules and standards shall not apply to-

i. Unmanned free balloons or airships;

ii. Autonomous aircraft;

iii. Operation of toys;

iv. Amateur rockets;

v. Kites;

Provided that no toy shall be operated within an aerodrome and not less than 500 meters from the aerodrome boundaries, in or around strategic installations, radar sites, high tension cables and communication masts, prisons, police stations, courts of law and scenes of crime.

## 22.2 FALSIFICATION, REPRODUCTION OR ALTERATION

(a) No person or company shall make or cause to be made:

(1) Any fraudulent or intentionally false record or report that is required to be made, kept, or used to show compliance with any requirement under this part; or

(2) Any reproduction or alteration, for fraudulent purpose, of any certificate, authorization, record or report under this part.

(b) The commission by any person of an act prohibited under paragraph (a) of this section is a basis for any of the following:

(i) Denial of an application for any remote pilot certificate or authorization;

(ii) Suspension or revocation of any certificate or authorization issued by the Ethiopian Civil Aviation Authority (ECAA) under this part and held by that person; or

## 22.3 INSPECTION, TESTING, AND DEMONSTRATION OF COMPLIANCE.

(a) A remote pilot or person manipulating the flight controls of a (UAS) shall, upon request, make available to the Authority:

(1) The remote pilot certificate; and

(2) Any other document, record, or report required to be kept under this part.

(3) The remote pilot, unmanned aircraft (UA) observer, owner, operator, or person manipulating the flight controls of a UA shall, upon request, allow the Authority to make any test or inspection of the UAS, the remote pilot, the person manipulating

the flight controls of a UA, and, if applicable, the UA observer to determine compliance with this part.

## 22.4 CLASSIFICATION AND REGISTRATION OF REMOTELY PILOTED AIRCRAFT (RPAS)

### 22.4.1 CLASSIFICATION OF RPAS and EQUIPMENT.

a) Remotely piloted aircraft systems shall be classified and categorized by weight and use as set out in Appendix D of this Rules and standards.

b) RPA equipment shall be classified and approved as appropriate by the Authority.

### 22.4.2 ELIGIBILITY TO OWNERSHIP OF RPAS

(a) A person or company shall be eligible to own and operate RPASs if they are: –

1) Minimum age of eighteen (18) years.
2) An Ethiopian Citizen;
3) A resident in Ethiopia;
4) A company registered in Ethiopia;

(b) A Company who has legal documents to reside in Ethiopia.

(c) Change of ownership from very small to large RPASs shall be notified to the ECAA and INSA in writing within seven working days.

### 22.4.3 IMPORT AND EXPORT OF RPAS

(a) A person or company shall not import a remotely piloted aircraft system or a component thereof without a permit issued by the Authority, INSA and NISS.

(b) Before issuing a permit referred to under paragraph (1) above, the Authority shall seek and obtain the necessary security clearance provided by INSA and NISS.

(c) A person or company who intends to export an Ethiopian registered remotely piloted aircraft system shall notify the Authority and INSA in writing and obtain a deregistration certificate from the Authority.

(d) Any person or company who contravenes the provisions of this rules and standard commits an offence and shall be liable, upon conviction, to a fine not less than five hundred thousand birr.

(e) If the Authority becomes aware of a possible violation of any criminal provision of this Rules and Standards, shall immediately report it to the appropriate government body in a manner prescribed by this Rules and Standards.

(f) Notwithstanding the provisions of paragraph (d) and (e), the imported remotely piloted aircraft system or a component thereof belonging to a person who contravenes the provisions of this rules and standards shall be confiscated.

## 22.4.4 MANUFACTURE, ASSEMBLY AND TESTING.

**(a)** This Part applies to any manufacturer who intends to declare the demonstrated capabilities of their UA to the ECAA for a specific operation.

**(b)** Any person or company intending to manufacture, assemble or test a RPAS or a component thereof shall apply for ECAA and subject to necessary security clearance by INSA and NISS.

**(c)** Means of Compliance

(1) To meet the requirements of 22.4.4(d)(2)(ii) for operations for a specific UAS, the means of compliance shall consist of data (tests, analysis, industry consensus standards) and the results or justification used to demonstrate the UAS meets the predetermined level of safety the ECAA has established as acceptable.

(2) An applicant requesting ECAA acceptance of a means of compliance shall submit the following information to the ECAA in a manner specified by the ECAA:

(i) Detailed description of the means of compliance; and

(ii) Justification, including any substantiating material, showing that the means of compliance establishes achievement of or equivalency to the predetermined safety level

**(d) Manufacturer Declaration**

(1) For each model of UAS that is intended to conduct any operation, the manufacturer shall provide the ECAA with a declaration in accordance with subsection (2).

(2) The manufacturer's declaration shall:

(i) specify the manufacturer of the UAS, the model of the system, the maximum take-off weight of the UA, the operations that the UA is

intended to undertake and the category of UA, such as fixed-wing aircraft, rotary-wing aircraft, hybrid aircraft or lighter-than-air aircraft; and

(ii) Specify that the system meets the means of compliance applicable to the operations for which the declaration was made.

(3) The manufacturer's declaration is invalid if:

(i) The ECAA has determined that the model of the UA does not meet the terms set out in the means of compliance, or

(ii) The manufacturer has notified the ECAA of an issue related to the design of the model under section 22.4.4(f)

**(e) Notice to the ECAA**

(1) A manufacturer that has made a declaration to the ECAA under section 22.4.4(e) shall notify the ECAA of any issue related to the design of the model of the UAS that results in the system no longer meeting the technical requirements set out in the means of compliance referred in subparagraph 22.4.4(c) (2) (ii), as soon as possible after the issue is identified.

**(f) Documentation**

(a) A manufacturer that has made a declaration to the ECAA in respect of a model of a UAS under section 22.4.4(d) shall make available to each owner of that model of system:

(1) A maintenance program that includes: -

(i) Instructions related to the servicing and maintenance of the system; and

(ii) An inspection program to maintain system readiness;

(2) Any mandatory actions the manufacturer issues in respect of the system;

(3) A UAS operating manual that includes:

(i) A description of the system;

(ii) the ranges of weights and centers of gravity within which the system may be safely operated under normal and emergency conditions and, if a weight and center of gravity combination is considered safe only within

certain loading limits, those load limits and the corresponding weight and center of gravity combinations;

(iii) With respect to each flight phase and mode of operation, the minimum and maximum altitudes and velocities within which the aircraft can be operated safely under normal and emergency conditions;

(iv) A description of the effects of foreseeable weather conditions or other environmental conditions on the performance of both the system and the UA;

i. The characteristics of the system that could result in severe injury to crew members during normal operations;

ii. The design features of the system and their associated operations that are intended to protect against injury to persons not involved in the operations;

(vii) The warning information provided to the remote pilot in the event of degradation in system performance that results in an unsafe system operating condition;

(viii) Procedures for operating the system in normal and emergency conditions; and

(ix) Assembly and adjustment instructions for the system.

**(g)** Record Retention for Manufacturer

(1) A manufacturer that has made a declaration to the ECAA in respect of a model of a UAS under section 22.4.4(d) shall keep, and make available to the ECAA on request:

(i) A current record of all mandatory actions in respect of the system; and

(ii) A current record of the results of and the reports related to the verifications that the manufacturer has undertaken to ensure that the model of the system meets the technical requirements applicable to the operations for which the declaration was made.

(2) The manufacturer shall keep the records referred to in subsection (1)(i) for the greater of: -

(i) two years following the date that manufacturing of that model of UAS permanently ceases, and

(ii) The lifetime of the UA that is an element of the model of system referred to in paragraph

**(h)** Any person who contravenes the provisions of paragraph (1) commits an offence shall be liable, upon conviction, to a fine not less than five hundred thousand birr or to confiscation of RPAS or to the condition stated in section 22.4.3(e) of this rules and standards,, or to all.

## 22.4.5 REGISTRATION OF REMOTELY PILOTED AIRCRAFT SYSTEM.

(a) An operator or owner of a remotely piloted aircraft system shall register that remotely piloted aircraft system with the Authority submitting security clearance from INSA and NISS.

(b) Before registering the remotely piloted aircraft system referred to under paragraph (1) above, the Authority shall seek and obtain the necessary security clearance from INSA and NISS.

(c) The Authority shall establish and implement a system for registration, identification of remotely piloted aircraft system in Ethiopia and the display thereof.

(d) Any modification to the specifications of registered remotely piloted aircraft system shall be subject to approval by the Authority and INSA.

(e) No RPAS shall be operated within Ethiopia, unless such RPAS has been issued with a letter of approval by the Authority and security clearances by INSA and NISS..

(f) The letter of approval or the C of R shall be valid for a period of 12 months.

(g) ECAA and INSA may exclude certain types and weights of RPASs from registration requirements.

i) An applicant for the issue of RPAS letter of approval shall provide the ECAA:

ii) Documentation regarding the standard to which the RPAS was designed;

iii) Equivalent documentation that demonstrates the level of safety acceptable to ECAA;

iv) Documentation demonstrating system safety as prescribed in RPAS handbook.

## 22.4.6 REGISTRATION AND MARKING.

(a) No RPA shall be operated within Ethiopia, unless such RPA has been issued with a certificate of registration by the ECAA.

**(b)** All civil RPAS shall require obtaining Unique Identification Number (UIN) from ECAA.

i. An RPA registered on the Ethiopian civil aircraft Register shall be deemed to have Ethiopian nationality.

ii. An application for a certificate of registration shall be:

iii. Submitted physically on the prescribed form to the Authority and

iv. Accomplished by the fee prescribed in Chapter 10 as amended.

v. The ECAA shall register an RPA; issue a certificate of registration and a registration mark if the applicant complies with the requirements of this rules and standard.

vi. RPA in Micro category intended to fly up to 50 feet (15 m) above ground level (AGL) in uncontrolled airspace/ enclosed premises for commercial / recreational / R&D purposes are exempted from obtaining Reg. Mark;

vii. The format and specification of nationality mark designated for use on RPA shall be as prescribed in the RPAS handbook.

viii. If the holder of a certificate of registration transfers to another person ownership of the RPA, such holder shall, within 30 days, notify the ECAA of such transfer on the appropriate form.

## 22.4.7 DE-REGISTRATION OF REMOTELY PILOTED AIRCRAFT SYSTEM

(a) The Authority and INSA may de-register or cancel the registration of a remotely piloted aircraft system -

(1) Upon application of the remotely piloted aircraft system owner for purposes of registering the remotely piloted aircraft system in another State; or

(2) Upon destruction of the remotely piloted aircraft system or its permanent withdrawal from use; or

(3) In the interest of national security.

### 22.4.8 AIRWORTHINESS OF REMOTELY PILOTED AIRCRAFT SYSTEM.

(a) A Remotely piloted aircraft system owner or operator shall ensure that all its components are in working order and in accordance with the manufacturers' user manual.

(b) The Authority may require a remotely piloted aircraft system of all Class 4 with a type certificate to obtain a certificate of airworthiness.

**(c)** RPAS weighing 25kg and above, shall have to go through airworthiness certification before they are allowed to operate.

(d) The owner shall submit to ECAA for approval a maintenance program for the RPAS.

(e) The maintenance on an RPA or any component thereof shall be carried out by:

i) In respect of an RPA classified as a Class 3 and higher, the holder of a valid RMT authorization; or

ii) In respect of an RPA classified as a Class 2 and lower, the ROC holder provided that the holder can demonstrate, maintenance ability on the RPA, to the satisfaction of the ECAA.

## 22.5 OPERATION OF REMOTELY PILOTED AIRCRAFT SYSTEM

### 22.5.1 GENERAL OBLIGATION OF A REMOTELY PILOTED AIRCRAFT SYSTEM OWNER OR OPERATOR

(a) The Remotely piloted aircraft system owner or operator shall-

(1) Be responsible for the safe conduct of its operations;

(2) Comply with all requirements established by the Authority regarding its operation;

(3) Be responsible for contracted services from providers including communications service providers, as necessary, to carry out its operations;

(4) Responsible for operational control of the aircraft; and

(5) Ensure that it is registered in accordance with the provisions of these Rules and standards.

(b) Unless otherwise specified by the Authority the request for authorization for operation of the remotely piloted aircraft system shall include the following-

(1) Name and contact information of the operator;

(2) Remotely piloted aircraft system characteristics (type of aircraft, maximum certificated take-off mass, number of engines and wing span);

(3) Copy of certificate of registration;

(4) Aircraft identification to be used in radiotelephony, if applicable;

(5) Copy of the certificate of airworthiness;

(6) Copy of the remotely piloted aircraft system operator certificate;

(7) Copy of the remotely pilot(s) license;

(8) Copy of the aircraft radio station license, if applicable;

(9) Description of the intended operation, to include type of operation or purpose), flight rules, visual line-of-sight (VLOS) operation if applicable, date of intended flight(s), point of departure, destination, cruising speed(s), cruising level(s), route to be followed, duration or frequency of flight;

(10) Take-off and landing requirements;

(11) Remotely piloted aircraft system performance characteristics, including -

(i) Operating speeds;

(ii) Typical and maximum climb rates;

(iii) Typical and maximum descent rates;

(iv)Typical and maximum turn rates;

(v) Other relevant performance data including limitations regarding wind and precipitation; and

(vi)Maximum aircraft endurance;

(12) Communications, navigation and surveillance capabilities;

(13) Aeronautical safety communications frequencies equipment, including-

(i) ATC communications, including any alternate means of communication;

(iii) Communications between Remotely pilot and Remotely Piloted Aircraft (RPA);

(iv) Remotely Piloted Aircraft observer, if applicable;

(v) Navigation equipment; and

(vi) Surveillance equipment, including SSR transponder and Automatic Dependent Surveillance- Broadcast (ADS-B);

(14) Detect and avoid capabilities;

(15) Emergency procedures, including-

(i) Communications failure with Air Traffic Control (ATC);

(iii) Remotely pilot or remotely piloted aircraft observer communications failure, if applicable;

(iv) Number and location of remotely pilot stations as well as handover procedures between remotely pilot stations, if applicable;

(v) Document attesting noise certification, if applicable;

(vi) Confirmation of compliance with the National Civil Aviation Security Program;

(vii) Payload information or description; and

(viii) Proof of adequate insurance coverage.

(c) Where documents identified in paragraph (2) above are issued in a language other than English, the remotely piloted aircraft system operator shall ensure that an English translation is included.

(d) A Remotely piloted aircraft system shall meet the performance and equipment carriage requirements for the specific airspace in which the flight is to operate.

(e) Any person or company who contravenes the provisions of paragraphs (1)(b) or (2) of this rules and standards commits an offence and shall be liable upon conviction to a fine not less than five hundred thousand birr or to the condition stated in section 22.4.3(e) of this rules and standards, or to both.

(f) No person or company shall operate an RPAS in weather condition that do not allow unobstructed visual contact to be maintained with the RPA by other airspace users and by the operator unless by B-VLOS or night operations approved by ECAA in their operation manual.

(g) No person or company shall use a public road as a place of landing or take-off of an RPA, except by the holder of an ROC and as approved by the ECAA in the operator's operation manuals.

## 22.5.2 AUTHORIZATION OF REMOTELY PILOTED AIRCRAFT SYSTEM OPERATIONS.

(a) A person shall not operate a remotely piloted aircraft system in Ethiopia without authorization from the Authority.

(b) Remotely piloted aircraft system operators shall be authorized in accordance with the category of use, for purposes of-

(1) Recreation and sports which shall be through registered clubs established in accordance with the provisions of Part (22.6) of these Rules and standards;

(2) Private use with authorization granted to the operator directly by the Authority in accordance with the provisions of Part (22.5) and (22.9) of these Rules and standards;

(3) Commercial use where authorization shall be issued in accordance with the provisions of Part (22.8) of these Rules and standards.

(c) The Authority may grant, upon application, a temporary permit to a person or company intending to operate a remotely piloted aircraft system not registered in Ethiopia for a period of thirty (30) days renewable once.

(d) Notwithstanding the provisions of paragraph (4) above, no RPA shall enter into the airspace of another state prior authorization and coordination between the two state, where:

(1) Conditions would require the remotely pilot to fly alternate routes

(2) Avoiding hazardous meteorological conditions

(3) Restricted areas or where the alternate aerodrome in case of emergency

## 22.5.3 PROHIBITED OPERATION OF REMOTELY PILOTED AIRCRAFT SYSTEM.

(a) A person shall not operate a remotely piloted aircraft system in a negligent or reckless manner.

(b) For the purposes of paragraph (1) above, a person operates a remotely piloted aircraft system in a "negligent" or "reckless" manner where that person-

(1) In the cause of operation, endangers other aircraft, persons or property;

(2) operates in or around a prohibited or a restricted area, the particulars of which have been duly published in the Ethiopian Aeronautical Information

Publication (AlP), except in accordance with the conditions of the restrictions or by permission granted by the Authority; or

(3) Operates in or around strategic installations, radar sites, high tension cables and communication masts, prisons, police stations, courts of law, scenes of crime, except in accordance with the conditions of the restrictions or by permission granted by the Authority.

(c) Any person or company who contravenes the provisions of this rules and standards commits an offence and shall be liable upon conviction to a fine not less than five hundred thousand birr or to the condition stated in section 22.4.3(e) of this rules and standards,, or to both.

## 22.5.4 CARRIAGE OF DANGEROUS GOODS.

(a) A person or company shall not take on board or cause to be taken on board a remotely piloted aircraft system 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.

(b) For the purposes of paragraph (1) above, "dangerous goods" include, but are not limited to:-

(1) Chemical and 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) Any such materials or substances that may from time to time are so classified by the Authority as dangerous goods.

## 22.5.5 REMOTELY PILOTED AIRCRAFT SYSTEM OPERATING LIMITATIONS.

(a) A person or company shall not operate a remotely piloted aircraft system -

(1) at above 400 feet Above Ground Level (AGL) and within 50 meters of any person, vessel, vehicle or structure which is not under the control of the person in charge of the Remotely piloted aircraft system;

(2) In conditions other than Visual Meteorological Conditions (VMC);

(3) At night, unless specifically cleared by the Authority on a case by case basis;

(4) Fitted with cameras or imaging devices at heights or lateral distances where such cameras or imaging devices capture information, pictures or videos extending beyond the prescribed area of approved operation.

(b) Notwithstanding the provisions of paragraph (1) (b) above, operations for private and commercial categories of remotely piloted aircraft system may be conducted at such higher heights and lateral distances as the Authority may approve.

(c) No person or company shall operate or act as a remotely pilot in command or visual observer in the operation of more than one unmanned aircraft at the same time.

(d) No object or substance shall be released, dispersed, and dropped, delivered or deployed from an RPA except by the holder of an ROC and as approved by the authority in the operators' operation manuals.

### 22.5.6 OPERATIONS IN CONGESTED AREAS AND CROWDS.

(a) A person or company shall not operate a remotely piloted aircraft system at lateral distance of less than 50 meters from any person, building structure, vehicle, vessel or animal not associated with the operations of remotely piloted aircraft system unless authorized by the Authority.

(b) Subject to paragraph (1) above, vertical limits shall be no less, above ground level, than 100 feet except when prescribed by the Authority.

### 22.5.7 COLLISION AVOIDANCE

(a) All Remotely piloted aircraft systems in controlled airspace shall operate in accordance with the Civil Aviation (Rules of the Air) Rules and standards and a remotely pilot shall maintain awareness so as to see and avoid other aircraft and vehicles and shall yield the right- of-way to all aircrafts and vehicles.

(b) For the purposes of paragraph (1), "yielding the right-of-way" means that the Remotely piloted aircraft shall give way to the aircraft or vehicle and may not pass over, under, or ahead of it unless well clear.

(c) No person or company shall operate a remotely piloted aircraft system unless he/she :

(1) holds a relevant qualification for the use of an aeronautical radio;

(2) Maintains a listening watch on a specified frequency or frequencies specified in the direction; and

(3) Makes broadcasts on a specified frequency or frequencies and/or maintains other ways of Communication requested by the ATC unit at the specified interval giving the specified information in the direction.

## 22.5.8 CERTIFICATIONS OF REMOTELY PILOTED AIRCRAFT SYSTEM PILOT OR INSTRUCTORS

(a) Remotely piloted aircraft system pilots or instructors for commercial operations shall be certified by the Authority in the rules and standards in accordance with the requirements specified in the handbook and Advisory circulars.

## 22.5.9 REPORTING OF REMOTELY PILOTED AIRCRAFT SYSTEM INCIDENTS AND ACCIDENTS

(a) Remotely piloted aircraft system operator shall ensure that all incidents and accidents, serious injury to any person or damage to any property, involving such a system are reported to the Authority within 48 hours.

(b) Notwithstanding the provisions of paragraph (1) above, RPAS operator shall instantly report to the local police authority in case of any incident, accident and emergency landing.

## 22.5.10 INTERNATIONAL REMOTELY PILOTED AIRCRAFT SYSTEM OPERATIONS

(a) A person or company shall not conduct a remotely piloted aircraft system flight-

(1) commencing at a place within Ethiopia and terminating at a place outside without authorization from the State of destination or any other State over whose airspace the Remotely piloted aircraft system shall fly; or

(2) Commencing at a place outside Ethiopia and terminating at a place within Ethiopia or over- flying the Ethiopian airspace without authorization from the Authority.

### 22.5.11 CANCELLATION, SUSPENSION OR VARIATION OF AUTHORIZATION

(a) Notwithstanding the provisions of this rules and standards part 22.3.2, the Authority may, in the interest of safety and security, cancel, suspend or vary any authorization granted.

### 22.5.12 FILING OF FLIGHT PLANS

(a) All Remotely piloted aircraft systems flights in controlled airspace shall file flight plans as provided for under the Aeronautical Information Publication (AIP).

(b) Without prejudice to the generality of paragraph (1) above, all Remotely piloted aircraft systems flights in uncontrolled air space operating below or within 5 kilometers out of launch area shall notify the nearest Air Traffic Control (ATC) and shall comply with any directions or orders issued by ATC.

### 22.5.13 EMERGENCIES AND CONTINGENCY LINKS

(a) All remotely piloted aircraft systems operators shall develop and implement emergency and contingency procedures acceptable to the Authority.

### 22.5.14 COMMAND AND CONTROL

(a) A Remotely piloted aircraft system owner or operator shall ensure that he or she has command or control of the remotely piloted aircraft system at all times during the flight.

(b) Any remotely piloted aircraft system owner or operator who loses command or control of his or her remotely piloted aircraft system shall report to the Authority immediately.

### 22.5.15 AIR TRAFFIC CONTROL (ATC) COMMUNICATION

(a) A Remotely piloted aircraft system pilot shall ensure that Air Traffic Control (ATC) is made aware of any operations that shall take place in areas which are likely to affect manned and controlled air traffic.

(b) The Air Navigation Service Provider (ANSP) shall establish procedures, acceptable to the Authority, for integration of remotely piloted aircraft system operation into the airspace to ensure aviation safety and such procedures shall include communication and surveillance detection.

(c) Procedures referred to in paragraph (2) above shall provide for required information to be passed to Air Traffic Control by Remotely piloted aircraft system pilot before and during remotely piloted aircraft system operations.

## 22.5.16 OPERATION IN THE VICINITY OF AERODROMES

(a) Except with written permission of the owner or operator of an aerodrome, approval from the Ethiopian Civil Aviation Authority, a person shall not operate a remotely piloted aircraft system.

(1) Within seven (7) kilometers of an aerodrome from the aerodrome reference point for class C and D, aerodromes;

(2) Within ten (10) kilo meters of an aerodrome from the aerodrome reference point for class B aerodromes;

(3) In class A airports in reference to the chart which will be attached to the Operation Permit.;

**i.** In C1 and C2 area and within the aerodrome

**ii.** In B above 100 meters

(4) Within the vicinity of navigation aids;

(5) Within the aerodrome traffic zone; and

(6) Within terminal traffic holding patterns.

## 22.5.17 OPERATIONS AT AN AERODROME

(a) The Authority may upon approval of remotely piloted aircraft system operation at an aerodrome-

(1) Impose operating restrictions on the approval in the interest of safety;

(2) Publish details of the approval in the appropriate element of the Aeronautical Information Publication (AIP);

(3) 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.

## 22.6 RECREATIONAL AND SPORTS OPERATION OF RPAS

### 22.6.1 RECREATIONAL AND SPORTS OPERATIONS OF RPAS.

(a) Remotely piloted aircraft system operations for recreation and sports purposes shall be conducted within registered clubs which are approved by the Authority in accordance with the guidelines set out in inspector's handbook and such recognition shall be valid for twelve months.

(b) The Authority shall develop a system for approval of clubs including requirements for composition, documentation and club rules and rules and standards.

(c) The clubs provided for under paragraph (1) above shall provide the Authority with details of their operation areas and times for approval.

(e) The Authority shall segregate and notify through the applicable element of the Aeronautical Information Publication (AIP) of such airspaces designated for use by remotely piloted aircraft system operators, including limitations that may apply.

## 22.7 LICENSES AND RATINGS FOR REMOTE PILOT

### 22.7.1 GENERAL RULES CONCERNING REMOTE PILOT LICENSES AND RATINGS

#### 22.7.1.1 GENERAL LICENSING SPECIFICATIONS

(a) A person shall not act either as remote pilot-in-command or as remote co-pilot of an RPA in any of the following RPA categories unless that person is the holder of a remote pilot license issued in accordance with the provisions of this chapter

(1) Airplane

(2) Airship

(3) Glider

(4) Rotorcraft

(5) powered-lift

(6) Free balloon.

(b) The category of RPA shall be endorsed as a category rating on the remote pilot license.

(c) An applicant shall, before being issued with any remote pilot license or rating, meet such requirements in respect of age, experience, flight instruction, competencies and medical fitness, as are specified for that remote pilot license or rating

(d) An applicant for any remote pilot license or rating shall demonstrate, in a manner determined by the Licensing Authority, such requirements for knowledge, experience and skill as are specified for that remote pilot license or rating.

### 22.7.1.2 CATEGORY RATINGS

(a) When established, category ratings shall be for categories of RPA listed in 22.7.*1.1(a)*

(b) The holder of a remote pilot license seeking additional category ratings to be added to the existing license shall meet the requirements of this rules and standards regarding RPAS appropriate to the privileges for which the category rating is sought.

(c) Class and type ratings

(1) A class rating shall be established for RPA and associated RPS certificated for single remote pilot operations which have comparable handling, performance and characteristics unless a type rating is considered necessary by the Licensing Authority.

(2) A type rating shall be established for RPA and associated RPS certificated for operation with a minimum crew of at least two remote pilots or when considered necessary by the Licensing Authority.

(3) When an applicant demonstrates competencies for the initial issue of a remote pilot license, the category and the ratings appropriate to the class or type of RPA and associated RPS used in the demonstration shall be entered on that remote pilot license.

(4) The level of performance to be achieved to operate the class or type of RPA for which the ratings are issued should be publicly available

### 22.7.1.4 CIRCUMSTANCES IN WHICH CLASS AND TYPE RATINGS ARE REQUIRED

(a) An ECAA having issued a remote pilot license shall not permit the holder of such remote pilot license to act either as remote pilot-in-command or as remote co-pilot of an RPA and associated RPS unless the holder has received authorization as follows:

(1) The appropriate class rating specified in ***22.7.1.2(c), (1);*** or

(2) A type rating when required in accordance with ***22.7.1.2(c),(2)***

i) When a type rating is issued limiting the privileges to act as remote co-pilot, or limiting the privileges toact as remote pilot only during the cruise phase of the flight, such limitation shall be endorsed on the rating.

(ii) When a class rating is issued limiting the privileges to act as remote pilot only during the cruise phase ofthe flight, such limitation shall be endorsed on the rating.

(b) For the purpose of training, testing, or specific special purpose non-revenue flights, special authorizationmay be provided in writing to the remote pilot license holder by the Licensing Authority in place of issuing the class or type rating in accordance with **22.7.1.4.(a)** This authorization shall be limited in validity to the time neededto complete the specific flight.

## 22.7.1.5 REQUIREMENTS FOR THE ISSUE OF CLASS AND TYPE RATINGS

(a) Class rating

(1) The applicant shall have demonstrated the competencies required for the safe operations of an RPA of the classfor which the rating is sought.

(b) Type rating as required by ***22.7.1.2(b)***

**(1) The applicant shall have-:**

**i)** Gained, under appropriate supervision, experience in the applicable type of RPA and associated RPS and/or FSTD in the following:

(A) Normal flight procedures and maneuvers during all phases of flight; abnormal and emergency procedures and maneuvers in the event of failures and malfunctions of equipment, such as engine, C2 link, systems and airframe;

(B) instrument procedures, including instrument approach, missed approach and landing procedures under normal, abnormal and emergency conditions, including simulated engine failure; and

(C) For the issue of an airplane category type rating, upset prevention and recovery training.

(D) Procedures for crew incapacitation and crew coordination including allocation of remote pilot tasks; crew cooperation and use of checklists;

(ii) Demonstrated the competencies required for the safe operation of the applicable type of RPA and associated RPS and demonstrated C2 link management skills, relevant to the duties of a remote pilot-in-command ora remote co-pilot as applicable.

### 22.7.1.6 USE OF A FSTD FOR ACQUISITION OF EXPERIENCE AND DEMONSTRATION OF COMPETENCIES

(a) The use of a FSTD for acquiring the experience or performing any maneuver required during the demonstration of competencies for the issue of a remote pilot license or rating shall be approved by the Licensing Authority, which shall ensure that the FSTD used is appropriate to the task.

### 22.7.1.7 CIRCUMSTANCES IN WHICH AUTHORIZATION TO CONDUCT REMOTE PILOT LICENSE TRAINING IS REQUIRED

(a) An ECAA, having issued a remote pilot license, shall not permit the holder thereof to carry out remote pilot license training required for the issue of a remote pilot license or rating, unless such holder has received proper authorization from such ECAA. Proper authorization shall comprise:

(1) RPAS instructor rating on the holder's remote pilot license; or

(2) The authority to act as an agent of an approved training organization authorized by the LicensingAuthority to carry out remote pilot license training; or

(3) Specific authorization granted by the ECAA which issued the remote pilot license.

(b) An ECAA shall not permit a person to carry out remote pilot license training on a FSTD required for the issue of a remote pilot license or rating unless such person holds or has held an appropriate remote pilot license or has appropriate RPAS training and flight experience and has received proper authorization from such ECAA

### 22.7.1.8 CREDITING OF RPAS FLIGHT TIME

(a) A student remote pilot shall be entitled to be credited in full with all solo and dual instruction RPAS flight time towards the total flight time required for the initial issue of a remote pilot license.

(b) The holder of a remote pilot license shall be entitled to be credited in full with all dual instruction RPAS flight time towards the total RPAS flight time required for a remote pilot-in-command upgrade.

(c) The holder of a remote pilot license shall be entitled to be credited in full with all solo or dual instruction RPAS flight time, in a new category of RPA or for obtaining a new rating, towards the total RPAS flight time required for that rating.

(d) The holder of a remote pilot license, when acting as remote co-pilot of an RPA certificated for operation by a single remote pilot but required by an ECAA to be operated with a remote co-pilot, shall be entitled to be credited with not more than 50 per cent of the remote co-pilot RPAS flight time towards the total RPAS flight time required for a remote pilot-in- command upgrade.

(e) The ECAA may authorize that RPAS flight time be credited in full towards the total RPAS flight time required if the RPAS is equipped to be operated by a remote co-pilot and is operated in a multi-crew operation

(f) The holder of a remote pilot license, when acting as remote co-pilot of an RPA certificated to be operated with a remote co-pilot, shall be entitled to be credited in full with this RPAS flight time towards the total RPAS flight time required for a remote pilot-in-command upgrade.

(g) The holder of a remote pilot license, when acting as remote pilot-in-command under supervision, shall be entitled to be credited in full with this RPAS flight time towards the total RPAS flight time required for a remote pilot-in-command upgrade.

**(h)** When applying for a new rating, the holder of a remote pilot license should be entitled to be credited with RPAS flight time experience as a remote pilot of RPA. The Licensing Authority should determine whether such experience is acceptable and, if

so, the extent to which the experience requirements for the issue of a rating can be reduced accordingly.

**(i)** The total RPAS flight time required is derived from the approved competency-based training program.

#### 22.7.1.9 LIMITATION OF PRIVILEGES OF REMOTE PILOTS

*(a)* Limitation of privileges of remote pilots who attain their 60th birthday and curtailment of privileges of remote pilots who attain their 65th birthday

*(b)* An ECAA, having issued remote pilot licenses, shall not permit the holders thereof to act as pilot of an RPAS engaged in international commercial air transport operations if the license holders have attained their 60th birthday or, in the case of operations with more than one pilot, their 65th birthday.

### 22.7.2 STUDENT REMOTE PILOT

(a) A student remote pilot shall meet requirements prescribed by the ECAA concerned. In prescribing such requirements, ECAA shall ensure that the privileges granted would not permit student remote pilots to constitute a hazard to air navigation.

(b) A student remote pilot shall not fly an RPA solo unless under the supervision of, or with the authority of, anauthorized RPAS instructor.

(1) A student remote pilot shall not fly an RPA solo on international RPAS operations unless by special or general arrangement between the contracting states concerned.

(c) Medical fitness

(1)An ECAA shall not permit a student remote pilot to fly an RPA solo unless he/she holds a current Class3 or a current Class 1 Medical Assessment.

### 22.7.3 REMOTE PILOT LICENSE

#### 22.7.3.1 GENERAL REQUIREMENTS FOR THE ISSUE OF THE REMOTE PILOT LICENSE

(a) **Age**: The applicant shall not be less than 18 years of age.

(b) **Knowledge** The applicant shall demonstrate a level of knowledge appropriate to the

privileges granted to the holder of a remote pilot license and appropriate to the category of RPA and associated RPS intended to be included in the remote pilot license, in at least the following subjects:

**(1) Air law**

**(i)** Rules and rules and standards relevant to the holder of a remote pilot license; rules of the air; appropriate air traffic services practices and procedures;

**(ii)** Rules and rules and standards relevant to flight under IFR; related air traffic services practices andprocedures;

**(2) General RPAS knowledge**

**(i)** Principles of operation and the functioning of engines, systems and instruments;

**(ii)** Operating limitations of the relevant category of RPA and engines; relevant operational information from the flight manual or other appropriate document;

**(iii)** Use and serviceability checks of equipment and systems of appropriate RPA;

**(iv)** Maintenance procedures for airframes, systems and engines of appropriate RPA;

**(v)** For rotorcraft and powered-lifts, transmission (power trains) where applicable;

**(vi)** Use, limitation and serviceability of avionics, electronic devices and instruments necessary for the control and navigation of an RPA under IFR and in instrument meteorological conditions;

**(vii)** Flight instruments; gyroscopic instruments, operational limits and precession effects; practices and procedures in the event of malfunctions of various flight instruments;

**(viii)** For airships, physical properties and practical application of gases;

**(ix)** RPS general knowledge:

(A) Principles of operation and function of systems and instruments;

(B) Use and serviceability checks of equipment and systems of appropriate RPS;

(C) Procedures in the event of malfunctions;

**(x)** C2 link general knowledge:

(A) Different types of C2 links and their operating characteristics and limitations;

(B) Use and serviceability checks of C2 link systems;

(C) Procedures in the event of C2 link malfunction;

**(xi)** detect and avoid capabilities for RPAS;

**(3) Flight performance, planning and loading**

(i) Effects of loading and mass distribution on RPA handling, flight characteristics and performance; mass and balance calculations;

(ii) Use and practical application of take-off, landing and other performance data;

(iii) Pre-flight and en-route flight planning appropriate to RPAS operations under IFR; preparation and submission of air traffic services flight plans under IFR; appropriate air traffic services procedures; altimeter setting procedures;

(iv) In the case of airships, rotorcraft and powered-lifts, effects of external loading on handling;

**(4) Human performance**

(i) Human performance relevant to RPAS and instrument flight, including principles of TEM;

**(5) Meteorology**

(i) Interpretation and application of aeronautical meteorological reports, charts and forecasts; use of, and procedures for obtaining, meteorological information, preflight and in-flight; altimetry;

(ii) Aeronautical meteorology; climatology of relevant areas with respect to the elements having an effect on 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;

(iii) Causes, recognition and effects of icing; frontal zone penetration procedures; hazardous weather avoidance;

(iv) In the case of rotorcraft and powered-lifts, effects of rotor icing;

(v) in the case of high altitude operations, practical high altitude meteorology, including interpretation and use of weathers reports, charts and forecasts; jet streams;

**(6) Navigation**

(i) Air navigation, including the use of aeronautical charts, instruments and navigation aids; an understanding of the principles and characteristics of appropriate navigation systems; operation of RPAS equipment;

(ii) Use, limitation and serviceability of avionics and instruments necessary for control and navigation;

(iii) use, accuracy and reliability of navigation systems used in departure, en-route, approach and landing phases of flight; identification of radio navigation aids;

**(7) Operational procedures**

(i) Principles and characteristics of self-contained and external-referenced navigation systems; operation of RPAS equipment;

(ii) Application of TEM to operational performance;

(iii) Interpretation and use of aeronautical documentation such as AIP, NOTAM, aeronautical codes and abbreviations and instrument procedure charts for departure, en-route, descent and approach;

(iv) Altimeter setting procedures;

(v) Appropriate precautionary and emergency procedures; safety

practices associated with flight under IFR; obstacle clearance criteria;

(vi) Operational procedures for carriage of freight; potential hazards associated with dangerous goods and their management;

(vii) Requirements and practices for safety briefings to remote flight crew members

(viii) In the case of rotorcraft, and if applicable, powered-lifts, settling with power; ground resonance; retreating blade stall; dynamic rollover and other operating hazards; safety procedures, associatedwith flight in VMC;

(ix) Operational procedures for handovers and coordination;

(x) (x) Operational procedures for normal and abnormal C2 link operations;

**(8) principles of flight; and Radiotelephony**

(i) Communication procedures and phraseology; action to be taken in case of communication failure

**(9) Skill**

(1) The applicant shall have demonstrated all the competencies of the adapted competency model approved by the Licensing Authority at the level required, to act as remote pilot in command of an RPAS operation within the appropriate category of RPA and associated RPS.

(2) If the privileges of the remote pilot are to be exercised on a multi-engine RPA, the applicant shall have demonstrated the ability to operate under IFR with degraded propulsion capabilities

(d) Medical fitness

(1)The applicant shall hold a current Class 3 Medical Assessment or a current Class 1 Medical Assessment.

## 22.7.3.2 PRIVILEGES OF THE HOLDER OF THE REMOTE PILOT LICENSE AND THE CONDITIONS TO BE OBSERVED IN EXERCISING SUCH PRIVILEGES

(a) Subject to compliance with the requirements of Validity of licenses, Decrease in medical fitness, Holders of licenses provided for in this Annex 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, Language proficiency and General rules concerning remote pilot licenses and ratings, the privileges of the holder of a remote pilot license shall be

(1) To act as remote pilot-in-command of an RPA and associated RPS, certificated for remote single- pilot operation;

(2) to act as remote co-pilot of an RPA and associated RPS, required to be operated with a remote co- pilot;

(3) To act as a remote pilot-in-command of an RPA and the associated RPS, required to be operated with a remote co-pilot; and

(4) To act either as remote pilot-in-command or as remote co-pilot of an RPAS under IFR.

(b) Before exercising the privileges at night, the remote pilot license holder shall have received dual instruction in an RPA and associated RPS in night flying, including take-off, landing and navigation.

## 22.7.3.3 SPECIFIC REQUIREMENTS FOR THE ISSUE OF REMOTE PILOT LICENSE

(a) Experience

The applicant shall have gained experience during training in operating the RPA and associated RPS to successfully demonstrate the competencies required in 22.7.3.1(c)

(b) Remote Pilot License Training

(1) In order to meet the requirements of the remote pilot license, the applicant shall have completed an approved training course. The training shall be competency-based and, if applicable, conducted in a multi-crew operational environment.

(2) During the training, the applicant shall have acquired the competencies and underpinning skills required for performing as a remote pilot of an RPA certificated for operation under IFR.

(3) The applicant shall have received dual remote pilot license training in an RPA and associated RPS, sought from an authorized RPAS instructor. The RPAS instructor shall ensure that the applicant has operational experience in all phases of flight and the entire operating envelope of an RPAS, including abnormal and emergency conditions, upset prevention and recovery training for the categories concerned, as well as IFR operations.

(4) If the privileges of the remote pilot are to be exercised on a multi-engine RPA, the applicant shall have received dual instrument remote pilot license training in a multi-engine RPA within the appropriate category from an authorized RPAS instructor. The RPAS instructor shall ensure that the applicant has operational experience in the operation of the RPA within the appropriate category with engines inoperative or simulated inoperative.

## 22.7.4 RPAS INSTRUCTOR RATING

### 22.7.4.1 REQUIREMENTS FOR THE ISSUE OF THE RATING

**(a) Knowledge**

(1) The applicant shall demonstrate the ability to effectively assess trainees against the adapted competency model used in the approved training program.

(2) The applicant shall successfully complete the training and meet the qualifications of an approved training organization appropriate to the delivery of competency-based training programs.

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

(i) The adapted competency model of the remote pilot training program according to the defined grading system used by the RPAS operator or approved training organization;

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

(iii) Recognizing and highlighting performance that meets competency standards;

(iv) Determining root causes for deviations below the expected standards of performance; and

(v) Identifying situations that could result in unacceptable reductions in safety margins.

(4) The applicant shall have met the competency requirements for the issue of a remote pilot license as appropriate to the category of RPA and associated RPS.

(5) In addition, the applicant shall have demonstrated a level of competency appropriate to the privileges granted to the holder of an RPAS instructor rating, in at least the following areas:

(i) Techniques of applied instruction;

(ii) Assessment of student performance in those subjects in which ground instruction is given;

(iii) The learning process;

(iv) Elements of effective teaching;

(v) Competency-based training principles, including student assessments;

(vi) Evaluation of the training program effectiveness;

(vii) Lesson planning;

(viii) Classroom instructional techniques;

(ix) Use of training aids, including FSTDs as appropriate;

(x) Analysis and correction of student errors;

(xi) Human performance relevant to RPAS, instrument flight and remote pilot license training, including principles of TEM; and

(xii) Hazards involved in simulating system failures and malfunctions in the aircraft

**(b) Skill**

(1) The applicant shall have successfully performed a formal competency assessment, prior to conducting instruction and assessment within a competency-based training program.

(2) 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 pre-flight, post-flight and ground instruction as appropriate.

(3) The competency assessment shall be conducted by a person authorized by the Licensing Authority.

**(c) Experience**

(1) The applicant shall have met the requirements for the issue of a remote pilot license, shall maintain competencies and meet the recent experience requirements for the license.

(2) 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

**(d) Remote pilot license training.**

(a) The applicant shall, under the supervision of an RPAS instructor authorized by the Licensing Authority for that purpose:

(1) Have received training in RPAS instructional techniques including demonstration, student practices, recognition and correction of common student errors; and

(2) Have practiced instructional techniques in those flight maneuvers and procedures in which it is intended to provide remote pilot license training.

### 22.7.4.2 PRIVILEGES OF THE HOLDER OF THE RATING AND THE CONDITIONS TO BE OBSERVED IN EXERCISING SUCH PRIVILEGES

(a) Subject to compliance with the requirements of Validity of licenses and General rules concerning remote pilot licenses and ratings the privileges of the holder of an RPAS instructor rating shall be:

(1) To supervise solo flights by student remote pilots; and

(2) To carry out remote pilot license training for the issue of a remote pilot license and an RPAS instructor rating provided that the RPAS instructor:

(i) holds at least the remote pilot license and rating for which instruction is being given, in the appropriate RPA category and associated RPS;

(ii) Holds the remote pilot license 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

(iii) Has the RPAS instructor privileges granted endorsed on the remote pilot license.

(b) The applicant, in order to carry out remote pilot license training in a multi crew operational environment, shall have also met all the instructor qualification requirements.

### 22.7.4.3 PRIVILEGES OF THE HOLDER OF THE LICENSE AND THE CONDITIONS TO BE OBSERVED IN EXERCISING SUCH PRIVILEGES FOR RPAS.

(a) The privileges of the holder of an aircraft maintenance license shall be exercised only in respect of such:

(1) RPA or RPS as are entered on the license either specifically or under broad categories; or

(2) RPAS and associated C2 link as are entered on the license either specifically or under broad categories after appropriate knowledge and practical training on maintenance of the RPAS and associated C2 link system.

#### 22.7.4.4 CONCURRENT ISSUANCE OF TWO AIR TRAFFIC CONTROLLER RATINGS

(a) When two air traffic controller ratings are sought concurrently, the Licensing Authority shall determine the applicable requirements on the basis of the requirements for each rating. These requirements shall not be less than those of the more demanding rating

## 22.8 COMMERCIAL OPERATION OF RPAS

### 22.8.1 REMOTELY PILOTED AIRCRAFT OPERATOR'S CERTIFICATE (ROC) COMPLIANCE.

(a) An operator shall not engage in commercial remotely piloted aircraft system operations unless that operator holds a valid Remotely Piloted Aircraft Operator's Certificate (ROC) issued by the Authority.

(b) The Remotely Piloted Aircraft Operator's Certificate (ROC) referred to in paragraph (1) above shall authorize the operator to conduct Remotely piloted aircraft system operations in accordance with the conditions and limitations detailed in the operations specifications attached to that certificate.

(c) The issuance of the Remotely Piloted Aircraft Operator's Certificate (ROC) by the Authority shall be dependent upon the Remotely piloted aircraft system operator demonstrating an adequate organization, method of control and supervision of flight operations, 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.

(d) A commercial remotely piloted aircraft system operator shall establish and implement a Safety Management System (SMS) in accordance with their operational requirements established under the Act or any other Rules and standards made there under.

(e) The holder of an ROC shall, at least 60 days immediately preceding the date on which such certificate expires, apply for the renewal of such certificate.

(f) The holder of an ROC which is cancelled shall, within seven days from the date on which the ROC is cancelled, surrender such document to the ECAA.

(g) The holder of an ROC shall report to the ECAA any changes directly or indirectly related to the ROC that may affect continued validity of the certificate or approval or safety of persons and property.

(h) For operations approved for E-VLOS, the operator shall: -

1) Make use of at least one observer who shall not be younger than 17 years of age; and
2) Ensure that each observer has completed the training prescribed by the operator and as approved by the ECAA in their operations manual.

### 22.8.2 APPLICATION FOR REMOTELY PILOTED AIRCRAFT OPERATOR'S CERTIFICATE (ROC)

(a) An operator applying to the Authority for a Remotely Piloted Aircraft Operator's Certificate (ROC) shall submit an application in a form and manner prescribed by the Authority and containing any other information the Authority may require.

(b) An applicant shall make the application for an initial issue or re-issue of an ROC at least sixty days before the date of the intended operation.

### 22.8.3 ISSUANCE OF ROC

(a) The Authority may issue a Remotely Piloted Aircraft Operator's Certificate (ROC) to an applicant if that applicant-

(1) Meets the requirements of ownership stipulated under rules and standards part 22.3;

(2) Meets the applicable rules and standards for the holder of a Remotely Piloted Aircraft Operator's Certificate (ROC);

(3) Is properly qualified and adequately staffed and equipped to conduct safe operations in commercial operations of the remotely piloted aircraft system; and

(4) Has an approved aircraft operator security program in accordance with the National Civil Aviation Security Program, and meets any other requirements as specified by the Authority.

## 22.8.4 VALIDITY AND RENEWAL OF AN RPAS CERTIFICATE (ROC)

(a) A Remotely Piloted Aircraft Operator's Certificate (ROC) issued by the Authority shall be valid for 12 months from the date of issue or renewal unless-

(1) A shorter period is specified by the Authority;

(2) The Authority amends, suspends, revokes or otherwise terminates the certificate;

(3) The holder surrenders it to the Authority; or

(4) The holder notifies the Authority of the suspension of operations.

(b) A Remotely Piloted Aircraft Operator's Certificate (ROC) which is suspended or revoked shall be returned to the Authority.

(c) An applicant for a Remotely Piloted Aircraft Operator's Certificate (ROC) which has expired shall make an initial application.

## 22.8.5 AMENDMENTS OF ROC

(a) The Authority may amend a Remotely Piloted Aircraft Operator's Certificate (ROC) if-

(1) The Authority determines that the amendment is necessary for the safety of commercial remotely piloted aircraft system operations;

(2) The Remotely Piloted Aircraft Operator's Certificate holder applies for an amendment and the authority determines that the amendment is necessary; or

(3) The amendment is in the interest of national security.

(b) The Remotely Piloted Aircraft Operator Certificate holder shall operate in accordance with the amendment unless it is subsequently withdrawn.

### 22.8.6 CONDUCTING SURVEILLANCE, TESTS AND INSPECTIONS

(a) The Authority shall conduct surveillance, inspections and tests on the Remotely Piloted Aircraft Operator Certificate holder to ensure continued eligibility to hold that certificate and associated approvals.

### 22.8.7 PERSONNEL REQUIRED FOR RPAS COMMERCIAL OPERATIONS.

(a) Remotely piloted aircraft system operator shall have an accountable manager acceptable to the Authority, with corporate authority for ensuring that all necessary resources are available to support Piloted Aircraft Operator Certificate holder operations.

(b) 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.

(b) A Remotely piloted aircraft system operator shall establish initial and recurrent training to ensure continuing competence of its personnel.

### 22.8.7.1 CONSUMPTION OF ALCOHOL AND DRUGS

(a) No RPAS pilot, observer shall: –

(i) Consume alcohol less than 8 hours prior to reporting for duty; (b) commence a duty period while the concentration of alcohol in any specimen of blood taken from any part of his or her body is more than 0.04 grams per 100 milliliters:

(ii) Consume alcohol or any psychoactive substance during the duty period or whilst on standby for duty; or

(b) Commence duty period while under the influence of alcohol or any psychoactive substance having a narcotic effect.

### 22.8.8 OPERATIONS MANUAL

(a) A remotely piloted aircraft system operator shall develop and submit to the Authority for approval an operation manual as set out in the manufacturer's operation manual.

## 22.9 PRIVATE OPERATION OF REMOTELY PILOTED AIRCRAFT SYSTEMS

(a) A person shall not operate remotely piloted aircraft system for private purposes except with prior authorization issued by the Authority and subject to the conditions contained therein.

(b) A Remotely piloted aircraft system pilot for private operation shall be trained in accordance with training requirements set out in the Appendix A of this Rules and standards.

## 22.10 SECURITY REQUIREMENTS FOR RPAS OPERATIONS

### 22.10.1 SECURITY PROGRAMME REQUIREMENTS

(a) A person or a club shall not operate a remotely piloted aircraft system without operator security procedures developed in accordance with the provisions of the National Civil Aviation Security Program and accepted by the Authority.

(b) A Remotely piloted aircraft system operator shall-

(1) Specify the security measures, procedures and practices to be followed by the operator to protect pilots and facilities from acts of unlawful interference;

(2) Carry out and maintain security measures including identification and resolution of suspicious activity that may pose a threat to civil aviation-

(i) At a Remotely pilot station;

(ii) On a Remotely piloted aircraft system; and

(iii) Any facility under the control of the remotely piloted aircraft system operations.

(c) A Remotely piloted aircraft system shall be subject to security inspection at any time during its operations without prior notification to the operator.

(d) The specific security measures referred to in paragraph (2) (a) shall provide-

(1) That the premises used for preparing, storing, parking including remotely piloted aircraft system 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 commercial operators 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 remotely piloted aircraft system; and

(6) That persons engaged in remotely piloted aircraft system operations are subject to recurrent background checks and selection procedures and are adequately trained.

(7) RPA Operators shall develop and implement appropriate cyber security measures according to the requirements of the Nation Civil Aviation Security Program, in order to protect the hardware and software that may be provided and managed by third party from acts of unlawful interference.

(8) RPA operator shall establish an environment and culture where cyber security governance and management is conducted at the organization's executive levels.

## 22.10.2 SECURITY OBLIGATIONS FOR REMOTELY PILOTED AIRCRAFT SYSTEM OPERATORS

(a) An operator of remotely piloted aircraft system shall- .

(1) Be responsible for the security of such system operations including associated facilities, personnel and equipment;

(2) Ensure that the Remotely Piloted Aircraft (RPA) or any component thereof that is no longer in use is completely disabled or destroyed to prevent unauthorized use; and

(3) Comply with any security directives, Cyber Security policies or circulars issued by the National Intelligence and Security Service.

## 22.10.3 ACTS OF UNLAWFUL INTERFERENCE AGAINST CIVIL AVIATION

(a) An operator or owner of remotely piloted aircraft system shall-

(1) Have response procedures for operations personnel for threats and incidents involving remotely piloted aircraft system operations; and

(2) Ensure that reports on acts of unlawful interference are promptly submitted to National Intelligence and Security Service in accordance with National Civil Aviation Security Program.

## 22.10.4 ELIGIBILITY FOR ISSUANCE OF AN RPAS OPERATOR CERTIFICATE

(a) No person or company is eligible to be a RPA Operator Certificate Holder unless:

(1) The person or company has an organization and structure that is appropriate for safe operation of RPAs;

(2) The person or company has enough qualified and experienced personnel to undertake the proposed operations safely;

(3) The person or company has facilities and equipment appropriate to carry out the proposed operations using RPAs of the type to be used;

(4) The person or company has suitable practices and procedures to conduct operation; and

(5) The person or company has nominated suitable persons as chief RPA controller and maintenance controller.

(b) Two or more persons cannot be certified jointly as a RPA operator.

## 22.10.5 LIMITATIONS ON RPAS OPERATOR CERTIFICATE

(a) The Authority may impose limitations on the certification of a person as a RPA operator in the interest of air navigation safety, to include but not limited to the following:

(1) Allow the person to operate only a specific kind/s or type of RPAs; or

(2) Allow the person to operate RPAs only for specified purposes; or

(3) Limit the areas where the person may operate RPA s; or

(4) allow the person to operate RPAs only in VMC;

(5) Requiring the RPA to stay within a specified area or visual line of sight (VLOS) unless authorized to conduct Beyond Visual Line of Sight (BVLOS);

(i) BVLOS operations may be allowed by the Authority provided the RPA is equipped with the following accessories:

(ii) Detect and avoid system capability;

## 22.11 GENERAL PROVISIONS

### 22.11.1 RECORD- KEEPING

(a) A Remotely piloted aircraft system operator shall establish a system of record-keeping that allows adequate storage and reliable traceability of all activities developed, covering at a minimum-

(1) Operator's organization;

(2) Safety management systems;

(3) Personnel training and competence verification;

(4) Documentation of all management system key processes;

(5) Maintenance records;

(6) Security management records.

(b) Records shall be stored in a manner that ensures protection from damage, alteration and theft.

(c) Records identified in these rules and standards shall be current and in sufficient detail to determine

whether the experience and qualification requirements are met for the purpose of commercial operations.

### 22.11.2 INSURANCE

(a) A person or company shall not operate, or cause to be operated or commit any other person to operate remotely piloted aircraft system unless there is in force a minimum insurance policy in respect of third-party risks.

(b) The minimum sum of insurance in respect of any remotely piloted aircraft system insured in accordance with paragraph (1) above shall be notified by the Authority.

(c) An operator of remotely piloted aircraft system shall make available third party liability insurance certificate(s), in the authentic form, at the location of the remotely piloted aircraft system operator's operational management or other location specified by the Authority.

(d) Notwithstanding the provisions of paragraph (1) above, the Authority may dispense with requirement depending on the class and category of the Remotely Piloted Aircraft.

### 22.11.3 PRIVACY OF PERSONS AND PROPERTY

(a) Any person or company conducting operations using remotely piloted aircraft system fitted with cameras shall operate them in a responsible way to respect the privacy of other persons and their property.

(b) Without prejudice to the generality of paragraph (1) above, no person shall use a remotely piloted aircraft system 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;

(c) Photograph or film an individual, without the individual's consent, for the purpose of publishing or otherwise publicly disseminating the photograph or film: Provided that this requirement shall not apply to news gathering, or events or places to which the general public is invited.

(d) Infrared or other similar thermal imaging technology equipment fitted on remotely piloted aircraft 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; and

(6) Other similar investigations of vegetation or wildlife.

### 22.11.4 DISCHARGING OR DROPPING GOODS

(a) A person or company shall not cause a thing to be dropped or discharged from a remotely piloted aircraft in a way that creates a hazard to another aircraft, a person, or property.

### 22.11.5 REPORTS OF VIOLATION

(a) Any person who knows of a violation under these rules and standards shall report it to the Authority.

(b) The Authority shall determine the nature and type of any additional investigation or enforcement action that requires to be taken.

## 22.12 OFFENCES AND PENALTIES

### 22.12.1 UNLAWFUL INTERFERENCE OF RPAS OPERATIONS

(a) Any person or company who unlawfully or intentionally interferes with duly authorized operation of Remotely piloted aircraft system commits an offence and shall be liable upon conviction to a fine not less than five hundred thousand birr or to the condition stated in section 22.4.3(e) of these rules and standards, or to both.

### 22.12.2 NON-COMPLIANCE

(a) Any Remotely piloted aircraft system operator who contravenes the provisions of these Rules and standards and whose penalty has not been specified in these Rules and standards commits an offence and shall be liable upon conviction, to a fine not less than five hundred thousand birr or to the condition stated in section 22.4.3(e) of these rules and standards, or to both.

(b) Any person or company who fails to comply with any direction given pursuant to these Rules and standards by the Authority or by any authorized person under any provision of these Rules and standards commits an offence and shall be liable upon conviction, to confiscation of RPAS or a fine not less than five hundred thousand birr or to the condition stated in section 22.4.3(e) of these rules and standards, or to all

(c) Notwithstanding the foregoing provisions, the Authority may-

- Revoke, cancel, and suspend, any license, certificate, approval, authorization and or exemptions issued under these Rules and standards of any person who contravenes any provisions of these Rules and standards; or

## APPENDIX A. IMPLEMENTATION SCHEDULE

## CERTIFICATION OF RPAS PILOT

(a) This Implementation Schedule (IS) sets forth the eligibility and training requirements for the certification of RPAS pilots. Required Certificates, Ratings and Qualifications for Remotely Pilot Certificate

(b) **Knowledge and skill requirements**.

(1) An applicant for a remotely pilot certificate shall have demonstrated a level of knowledge appropriate to the privileges granted to the holder of the certificate, in the following subjects-

i. Air law;
ii. RPAS general knowledge;
iii. Flight performance, planning and loading;
iv. Human performance;
v. Meteorology;
vi. Navigation;
vii. Operational procedures;
viii. Principles of flight related to RPAS; and
ix. Radiotelephony

(c) An applicant for a remotely pilot certificate shall pass a skill test to demonstrate the ability to perform, as Remotely PIC of the appropriate RPA category and associated RPS, the relevant procedures and maneuvers with the competency appropriate to the privileges granted.

1) **Credit.**

i. A holder of a license issued by the Authority may be credited towards the requirements for theoretical knowledge instruction and examination requirements for the remotely pilot certificate.

2) **Passing grade.**

i. The Authority shall prescribe the minimum passing grade.

3) **Retesting after failure.**

i. 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.

4) **Special conditions.**

i. In the case of introduction of new RPA or RPS in an operator's fleet, when compliance with the requirements established by the Authority is not possible, the Authority may consider issuing a specific authorization giving privileges for RPAS instruction.

ii. Such an authorization should be limited to the instruction flights necessary for the introduction of the new type of RPA or RPS;

iii. The validity period for this authorization shall be for the instruction sought only.

**(d) Approved Person or Organization (AAO)**

(1) In this IS, an approved person or organization (AAO) means a person or organization having appropriate expertise in the design, construction or operation of a UA, or appropriate knowledge of airspace designations and restrictions, and who has been approved by the Authority to perform one or more of the following specified functions:

i. Issuing a remote pilot qualification for operating a UA;

ii. Appointing persons to give instruction to operators of UA;

iii. Authorizing a person to notify the air navigation service provider, for the issuance of a NOTAM, of a UA operation

iv. Authorizing the construction or modification of a UA greater than [15 kg];

v. Inspecting and approving the construction of a UA greater than [15 kg]; or

vi. Authorizing the operation of a UA greater than [15 kg].

## APPENDIX B – GENERAL INFORMATION

### Remotely Piloted Aircraft System (RPAS) Operations Manual

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

**1) INTRODUCTION**

i. Purpose and scope of manuals

ii. A statement that the manual complies with all applicable Authority Rules and standardss, requirements and with the terms and conditions of the applicable RP AS operator certificate.

iii. A statement that the manual contains operational instructions that is to be compiled with by the relevant personnel in the performance of their duties.

iv. List of manuals comprising operations manual.

v. A list and brief description of the various operations manual parts, their contents, applicability and use.

vi. Responsibility for manual content.

vii. Responsibility for manual amendment.

viii. List of effective pages.

ix. Distribution of manuals and amendments

**(b) SAFETY MANAGEMENT SYSTEM**

2) Safety Policy.

3) Description of safety management system.

4) Accident and Investigation policies.

**(c) QUALITY SYSTEM**

(1) Description of quality system adopted.

**(d) MANAGEMENT ORGANISATION**

i. A description of the organizational structure including the general company organization and operations department organization. The relationship between the

operation's 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 operations, shall be shown.

ii. Accountable Manager -duties and responsibilities.

iii. Nominated personnel- functions duties and responsibilities.

iv. RPAS Pilot- duties and responsibilities.

v. Support personnel in the operation of RPAS- duties and responsibilities.

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

**(e) DOCUMENTATION**

(1) Documents required in RPAS operations.

(2) Document storage and retention period.

## APPENDIX C - RPAS OPERATING INFORMATION

### (a) CREW INFORMATION

1) Flight team/crew composition.
2) Qualification requirements of RPAS Pilot and support crew.
3) Medical competencies.
4) Operations of different types of RPAS.

### (b) OPERATIONS OF RPAS

1) Operating Limitations and conditions.
2) Communications.
3) Weather.
4) On site procedures

### (c) RPAS FLIGHT MANAGEMENT

1) Assembly and functional checks.
2) Pre -flight checks.
3) Normal flight procedures associated with relevant systems.
4) In flight checks associated with relevant systems.
5) Abnormal procedures associated with relevant systems.
6) Emergency procedures associated with relevant systems.

### (d) RPAS USER MANUAL

1) Areas Routes and Aerodromes
2) Areas of operations.
3) Operating site planning and assessment.
4) Authorizations including site permissions.

### (e) Training

1) Training syllabi and checking programs for RPAS crew.
2) Training syllabi and checking programs for RPAS 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.

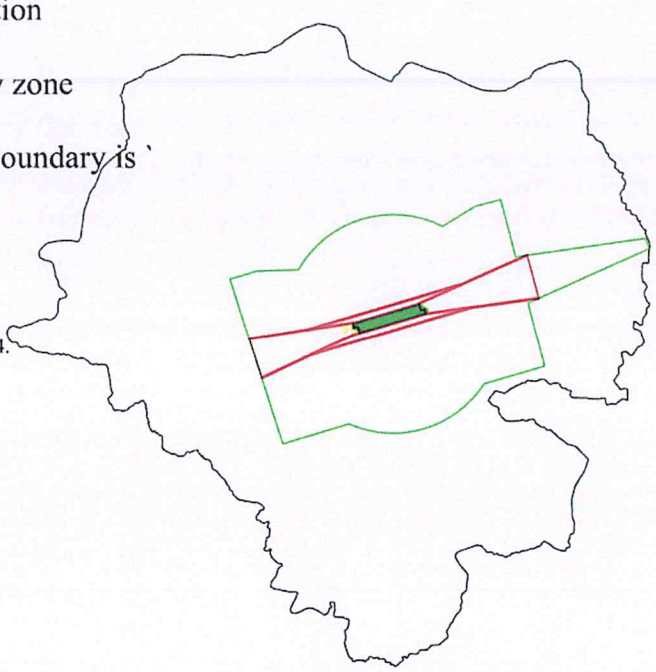
## APPENDIX D- RPAS CLASSIFICATIONS

| | **Cat A: Utilized for recreational and sports purposes only** | **Cat B: Utilized for private activities Excluding recreational and sports purposes.** | **Cat C: Utilized for commercial activities** |
|---|---|---|---|
| **Class 1: Micro** 0 -100gs (Including any payload carried by the RPAS) | 1A | 1B | 1C |
| **Class 2: Very small** 100gs-2kg (Including any payload carried by the RPAS) | 2A | 2B | 2C |
| **Class 3: Small** 2Kgs -25Kgs (Including payload carried) | 3A | 3B | 3C |
| **Class 4: Medium** 25kgs-150kgs (Including payload carried) | 4A | 4B | 4C |
| **Class 5: Large** More than 150kgs | 5A (if any) | 5B (if any) | 5C (if any) |

APPENDIX E. CLASS A AIRPORT MAP

1. The green colore boundary is fly zone with altitude restriction for drons
2. The red colore boundary zone is no Fly Zone for drons.
3. the white colour circle boundary is `

Note
1.The green colour lines are the two run ways.
2.The coordinate reference system is WGS 84.



Ethiopian Civil Aviation Authority

Horizontal Scale / 1:100

DRAWING TITLE Bole Airport Dron Operation free Zone
DRAWN BY Kassahun Wakene
DEPARTMENT Air Space Management
May 2023

## SUBPART B: REQUIREMENTS FOR RPAS MANUFACTURING / ASSEMBLING

### 22.1 Applicability

**(i)** This Part applies to any manufacturer who intends to declare the demonstrated capabilities of their UAS to Ethiopian Civil Aviation Authority for a specific operation

### 22.2 Means of Compliance

(a) To meet the requirements of 22.3(a)(1)(ii) for operations for a specific UAS, the means of compliance shall consist of data (tests, analysis, industry consensus standards) and the results or justification used to demonstrate the UAS meets the predetermined level of safety the Authority has established as acceptable.

(b) An applicant requesting the Ethiopian Civil Aviation Authority acceptance of a means of compliance shall submit the following information to the Authority in a manner specified by the civil aviation:

(1) Detailed description of the means of compliance; and

(2) Justification, including any substantiating material, showing that the means of compliance establishes achievement of or equivalency to the predetermined safety level.

### 22.3 Manufacturer Declaration

(a) For each model of UAS that is intended to conduct any operation, the manufacturer shall provide the Authority with a declaration in accordance with subsection (1).

(1) The manufacturer's declaration shall:

(i) Specify the manufacturer of the UAS, the model of the system, the maximum take-off weight of the UA, the operations that the UA is intended to undertake and the category of UA, such as fixed-wing aircraft, rotary-wing aircraft, hybrid aircraft or lighter-than-air aircraft; and

(ii) Specify that the system meets the means of compliance applicable to the operations for which the declaration was made.

(b) The manufacturer's declaration is invalid if:

(1) The Authority has determined that the model of the UA does not meet the terms set out in the Means of compliance, or

(2) The manufacturer has notified the Authority of an issue related to the design of the model under section 22.4

### 22.4 Notices to the Authority

(a) A manufacturer that has made a declaration to the Ethiopian Civil Aviation under section 22.3 shall notify the Authority of any issue related to the design of the model of the UAS that results in the system no longer meeting the technical requirements set out in the means of compliance referred in subparagraph 22.2(b)(2), as soon as possible after the issue is identified.

### 22.5 Documentation

(a) A manufacturer that has made a declaration to the Authority in respect of a model of a UAS under section 22.3 shall make available to each owner of that model of system:

(1) A maintenance program that includes:

(i) Instructions related to the servicing and maintenance of the system; and

(ii) An inspection program to maintain system readiness;

(2) Any mandatory actions the manufacturer issues in respect of the system;

(3) UAS operating manual that includes:

(i) A description of the system;

(ii) The ranges of weights and centers of gravity within which the system may be safely operated under normal and emergency conditions and, if a weight and center of gravity combination is considered safe only within certain loading limits, those load limits and the corresponding weight and center of gravity combinations;

(iii) With respect to each flight phase and mode of operation, the minimum and maximum altitudes and velocities within which the aircraft can be operated safely under normal and emergency conditions;

(v) A description of the effects of foreseeable weather conditions or other environmental Conditions on the performance of both the system and the UA;

(v) The characteristics of the system that could result in severe injury to crew members during normal operations;

(vi) The design features of the system and their associated operations that are intended to Protect against injury to persons not involved in the operations;

(vii) The warning information provided to the remote pilot in the event of degradation in system performance that results in an unsafe system operating condition;

(viii) Procedures for operating the system in normal and emergency conditions; and

(ix) Assembly and adjustment instructions for the system.

### 22.5.1 Record Retention for Manufacturer

(a) A manufacturer that has made a declaration to the Authority in respect of a model of a UAS under Section 22.3 shall keep, and make available to the Civil Aviation on request:

(1) A current record of all mandatory actions in respect of the system; and

(2) A current record of the results of and the reports related to the verifications that the manufacturer has undertaken to ensure that the model of the system meets the technical requirements applicable to the operations for which the declaration was made.

(b) The manufacturer shall keep the records referred to in subsection (a)(1) for the greater of:

(1) Two years following the date that manufacturing of that model of UAS permanently ceases, and

(2) The lifetime of the UA that is an element of the model of system referred to in paragraph (a).