

To: Ethiopian Civil Aviation Authority

Subject: Unmanned aircraft operator registration/ Renewal

Application type:

NEW		Renewal		Amendment	
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I, \_\_\_\_\_, hereby, applying for ECAA Unmanned Aircraft Operator

Authorization for ( \_\_\_\_\_ ). *(write the purpose)*


Commitment statement

I, \_\_\_\_\_, hereby, endorse the overall accountability of ensuring that the unmanned aircraft operations remain in compliance with ECAA safety and security requirements and with the Ethiopian Civil Aviation law.

- I'm accountable to the ECAA, law enforcement authorities and judicial authorities in case of breach of the requirements of this regulation or the civil aviation law.
- I shall report all safety and security concerns, if any, to the ECAA without delay.
- I shall ensure that all UA are appropriately insured before commencement of any operation.
- I shall ensure that I will report to the ECAA any situation or condition that will invalidate this Commitment Statement

Accountable person name & signature : \_\_\_\_\_

Date: \_\_\_\_\_

	Company Name <b>ETHIOPIAN CIVIL AVIATION AUTHORITY</b>	Document No. ECAA/AWS/OF/0120	
	Document Title: <b>Application for RPAS Registration and ROC</b>	Issue No. 1	Page No. Page 1 of 4

**USE ONE APPLICATION PER UAV**

Section I : Personnel Information		
No	Requirement descriptions	Personnel / Applicant's Details
1	A) Name of Applicant/Owner/Operator:  <i>(In case of Company/ Corporation, give names of owners/directors and their nationalities)</i>	Name:
		Address:
		E-mail:
		Phone:;
	B) Operation manager:	Name:
		Address:
		E-mail:
		Phone:
	C) Ground supervisor:	Name:
		Address:
		E-mail:
		Phone:
D) Primary UAV pilot	Name:	
	Address:	
	E-mail:	
	Phone:	
	E) Primary visual observer	Name:
		Address:
		E-mail:
		Phone:
2	Nationality	

3	Valid ID/Address proof details	
4	Copy of security and background clearance	
5	Copy of permission from concerned for use of all frequencies in UAVs operations	
6	Details of ownership:	
7	Declaration from Ethiopian entity in case UAV is wholly owned by a company or Corporation and has given the said UAV on lease to any person mentioned.	

**Section II: Specification of Remotely Piloted Aircraft**

8	Name and address of manufacturer	
9	Serial Number	
10	Date and Year of Manufacture	
11	Fixed Wing/Rotary Wing	
12	New/Used	
13	Maximum take-off weight of RPA (including Payload)	
14	Category of UAV (Please refer ECAR part 22)	
15	Details of compatible payload	
16	Place & region of operation	
17	Purpose of operation of UAV	
18	Checklists and placards	
19	Engine : Type/Power Rating/Number of Engines	
20	Motors: Type/Power Rating/Number of Motors	
21	Propeller details	
22	Dimensions of UAV (l x b x h)	
23	Model / Type of UAV	

24	Maximum Endurance of UAV		
25	Maximum Range of UAV		
26	Maximum Speed of UAV		
27	Maximum Height attainable by UAV		
28	Maximum height of operations required		
29	GPS and Geo-fencing details (if applicable)		
30	RFID and SIM details		
31	Total fuel capacity (kg)/Battery capacity (mAh)etc.		
32	Particulars of previous or existing <b>C of R and UIN</b> , if applicable		
33	Copy of UAV system flight manuals &Manufacturer's Operating Manual		
34	Copy of Manufacturer's Maintenance guidelines & Safety procedure manual (as applicable).		
35	History of incidents/accidents (if any) along with nature and extent of damage sustained by the UAV and details of any repairs carried out.		
36	Command and Control Frequency		
37	Maintenance procedures in place		
<b>Section III: Operational Information:</b>			
38	Type and Purpose of the Operation	a) VLOS	b) BVLOS
	Dates, alternate dates and times of the proposed operation	c) 400 feet AGL and below :_____ feet Date &Time:_____	d) Above 400 feet AGL: _____ feet Date&Time:_____
39	Location(s) of the operation		
40	Site Survey/ Plan of Operation(to be attached)		
41	Security Plan		
42	Emergency Plan		

43	FIR/ATC/FSS/Aerodrome Operator Coordination	Yes	NO	N/A	
44	Type Certificate (if applicable)				
45	Operation / business Contract agreements				
46	Insurance details (as applicable)	Company name:			
		Effective date:			
		Expiry date:			
I hereby certify that the above listed information/details are genuine.					
Applicant Name:		Signature:		Date:	
For CAA Use Only:					
<b>Operator type:</b>		Compliant	<input type="checkbox"/>	Restricted	<input type="checkbox"/>
Application:		Accepted	<input type="checkbox"/>	Rejected	<input type="checkbox"/>
Comments:					
Approved/Checked by:		Signature		Date	

Notes:-

I.B..Operation manager's qualifications to be attached with the application

I.C..On-site Ground supervisor's qualifications to be attached with the application

I.D..All UAV Pilot's qualifications to be attached with the application

I.E.. All Visual Observer's qualifications to be attached with the application

## Appendix F - Criteria for a Compliant Pilot of Small RPAS Systems

1. A Compliant Pilot of a small RPAS system, restricted to VLOS, will meet the following requirements:
  - a. Age - The pilot shall be a minimum of eighteen (18) years of age
  - b. Medical Fitness - The pilot shall be deemed eligible for a Category 4 Medical Declaration/Certificate. A current medical associated with a pilot's licence or permit would suffice.
  - c. Knowledge - A RPAS Pilot-in-command shall have:
    - i. completed a course of pilot ground school instruction, based on the TP1526E - Recommended Knowledge Requirements for Pilots of Small Unmanned Air Vehicle Systems, Restricted to Visual Line-of-Sight, which includes the following subjects:
      - A. air law and procedures relevant to the permit (e.g. general provisions, general operating and flight rules, air traffic control services and procedures, aviation occurrence reporting),
      - B. flight instruments (e.g. altimetry, GPS, airspeed and heading indicators),
      - C. navigation (e.g. aeronautical charts, pre-flight preparation),
      - D. flight operations (e.g. wake turbulence causes, effects and avoidance; data and command links),
      - E. meteorology (e.g. required for line-of-sight operations),
      - F. human factors (e.g. aviation physiology, the operating environment, aviation psychology), and
      - G. theory of flight (e.g. basic principles),
    - ii. obtained a passing grade on a written exam, and Authorized by a training organization.
  - d. Experience - The RPAS pilot shall have acquired on a small RPAS system:
    - i. practical training; and
    - ii. has reached a satisfactory standard of experience to establish proficiency.
  - e. Skill - The pilot must successfully demonstrate the ability to perform both normal and emergency manoeuvres appropriate to the small RPAS system used for the training program, and with a degree of competency appropriate for the operation of a small RPAS system - Restricted to VLOS
  - f. Credits - A RPAS pilot may be given credit for previous experience in accordance with the guidance below:
    - i. Ethiopian Civil Licence:
      - A. RPAS pilots who hold a Private Pilot Licence or higher may be considered to have met paragraph c above (knowledge requirement).

- ii. Foreign Pilots:
  - A. RPAS pilots with foreign credits will be evaluated on a case-by-case basis.
- iii. Ethiopian Forces Pilots:
  - A. Active and retired Ethiopian Forces personnel who have qualified to pilot aeroplane wings standard or who have successfully completed the Basic Flying Training course of approximately 120 hours, may be considered as having met paragraph c above (knowledge requirement).
  - B. Active and retired Ethiopian Forces pilots who hold current Ethiopian Forces qualifications on a small RPAS (or equivalent), may be considered as having met paragraph c, d and e above (knowledge, experience, skill).

### **Appendix G - Criteria for a Compliant Operator of Small RPAS Systems**

A Compliant operator of a small RPAS system, restricted to visual line-of-sight (VLOS), will meet the following requirements:

- 1. General
  - a. The Certificate applicant must demonstrate the ability to:
    - i. maintain an adequate organizational structure;
    - ii. maintain operational control;
    - iii. meet training program requirements;
    - iv. comply with maintenance requirements;
    - v. meet the standards contained herein; and
    - vi. conduct the operation safely.
  - b. For the purposes of section (a) above, a Certificate applicant shall have the following:
    - i. a management organization capable of exercising operational control;
    - ii. managerial personnel who perform the following functions
      - A. operational control;
      - B. pilot supervision and training; and
      - C. maintenance.
    - iii. the ground handling services and equipment necessary to ensure the safe handling of its flights;
    - iv. RPAS that are properly equipped and crew members who are qualified for the area of operation and the type of operation;

- v. identified the operating performance capabilities including maximum performance levels of the RPAS to be used;
- vi. a training program that meets the requirements of this standard;
- vii. an operations manual; and
- viii. a maintenance system.

## 2. Flight Operations

### a. Operating Instructions

- i. The RPAS operator shall ensure that all operations personnel are properly instructed about their duties and about the relationship of their duties to the operation as a whole; and
- ii. The operations personnel of a RPAS operator shall follow the procedures specified in the operations manual in the performance of their duties.

### b. Operational Control

- i. The RPAS operator shall not operate a RPAS system unless it is under the control of its operations manager.

### c. Operational Flight Plan

- i. The RPAS operator shall not permit a person to commence a flight of a RPAS unless an operational flight plan has been prepared in accordance with the procedures specified in its operations manual.
- ii. Minimum Content of an Operational Flight Plan:
  - A. RPAS operator name;
  - B. date;
  - C. RPAS registration(s), when applicable;
  - D. RPAS model(s);
  - E. Pilot-in-command name(s);
  - F. flight profile description; and
  - G. other information pertinent to the safe completion of the flight.
- iii. The operational flight plan shall permit the flight crew to record the fuel/other energy state and the progress of the flight relative to the plan.
- iv. The RPAS operator shall specify, in its operations manual, how formal acceptance of the operational flight plan by the PIC shall be recorded.

### d. Maintenance of Aircraft



- i. The RPAS operator shall not permit a person to conduct a take-off/launch of a RPAS that has not been maintained in accordance with the RPAS operator's approved maintenance manual.

- e. Built-up Area and Site Survey

- i. The RPAS operator shall not operate over a built-up area at altitudes and distances less than those specified in ECARAS part 22, or conduct a take-off/launch, approach or landing/recovery within a built-up area of a city or town, unless the operator conducts a site survey in accordance with part 22, section 3.18 of this handbook.

### 3. Personnel Requirements

- a. Designation of Pilot-in-command

- i. The RPAS operator shall ensure that a PIC is designated at all times during a RPAS flight.

- b. Pilot Qualifications

- i. The RPAS operator shall not permit a person to act and no person shall act as a pilot of a RPAS system unless the person:

- A. is deemed compliant as per Appendix B – Criteria for a Compliant Pilot of Small RPAS systems; and
- B. has fulfilled the requirements of the RPAS operator's ground and flight training program.

- c. Crew Member Qualifications

- i. The RPAS operator shall not permit a person to act and no person shall act as a crew member of a RPAS unless the person
  - A. has fulfilled the requirements of the RPAS operator's training program.

- d. Training

- i. Training Program

- A. The RPAS operator shall establish and maintain a ground and flight training program that is designed to ensure that each person who receives training acquires the competence to perform their assigned duties.
- B. The RPAS operator's ground and flight training program shall be conducted in accordance with the Training Standard provided in paragraph (e) below and will include:
  - I. company indoctrination training;
  - II. upgrading training;

- III. training in the specific work to be conducted; and
- IV. initial and recurrent training, including
- V. RPAS type training,
- VI. procedures for passing piloting control from one control station or pilot to another,
- VII. aircraft servicing and ground handling training,
- VIII. emergency procedures training,
- IX. training for personnel who are assigned to perform duties associated with the flight, and
- X. any other training required to ensure a safe operation.

C. The RPAS operator shall:

- I. include a detailed syllabus of its ground and flight training program in its operations manual; and
- II. ensure that adequate facilities and qualified personnel are provided for its ground and flight training program.

e. Training - Standard

- i. Company Indoctrination Training - This training is required for all persons assigned to the operation. Company indoctrination training shall include, as applicable ;
  - A. Ethiopian Aviation Regulations and applicable standards;
  - B. RPAS ROC and the conditions specified therein;
  - C. company reporting relationships and communication procedures, including duties and responsibilities of crew members and the relationship of their duties to other crew members;
  - D. flight planning and operating procedures including
    - I. operational preparation procedures related to reconnaissance of aerial work areas before low level flight operations; and
    - II. operational restrictions;
  - E. fuelling procedures, including fuel contamination precautions;
  - F. critical surface contamination and safety awareness program;
  - G. use and status of the operations manual including maintenance release procedures and accident/incident reporting procedures;
  - H. meteorological training appropriate to the area of operation;
  - I. navigation procedures appropriate to the area of operation;

- J. carriage of external loads;
- K. operational control system; and
- L. weight and balance system.

ii. Upgrading Training

- A. Upgrading training to PIC on a RPAS type shall include:
- B. completion of applicable qualification training related to assigned duties; and
- C. completion of type training as PIC on the RPAS type and a PIC competency check.

iii. Ground Technical Type Training (Initial and Recurrent)

- A. This training shall ensure that each crew member is knowledgeable with respect to the systems of the RPAS system and all normal, malfunction and emergency procedures, as applicable to their assigned duties. Ground technical type training programs shall include:
  - I. aircraft systems operation and limitations as contained in the RPAS system operating manual, manual supplements, standard operating procedures;
  - II. use and operation of navigation and ancillary equipment;
  - III. equipment differences of RPAS of the same type, as applicable;
  - IV. RPAS performance and limitations;
  - V. weight and balance procedures; and
  - VI. RPAS servicing and ground handling procedures.

iv. RPAS Servicing and Ground Handling Training

- A. Training in RPAS servicing and ground handling for each crew member, as applicable to their duties and applicable to the RPAS type, shall include:
- B. fuelling/charging procedures:
  - I. types of fuel, oil and fluids used in the RPAS;
  - II. correct fuelling procedures;
  - III. procedures for checking fuel, oil and fluids and securing of caps; and
  - IV. procedures for charging batteries.
- C. use and installation of protective covers; and
- D. procedures for operating in cold weather such as:

- I. moving the RPAS or other components of the RPAS from a warm facility when precipitation or high humidity is present;
- II. engine pre-heat procedures including proper use of related equipment; and
- III. managing battery degradation.

v. RPAS Flight Training Program (Initial and Recurrent)

A. The initial and recurrent flight training program shall ensure that each crew member is trained to competently perform the assigned duties including those relating to abnormal and emergency duties. Simulated malfunctions and failures shall only take place under operating conditions which do not jeopardize safety of flight. Flight training programs shall include, as applicable to the RPAS system:

- I. standard operating procedures for normal, abnormal and emergency operation of RPAS systems and components;
- II. use of check lists and pre-flight checks;
- III. crew member co-ordination procedures;
- IV. normal take-offs/launchs, circuits, approaches and landing/recovery including, as applicable, ground manoeuvring and hovering;
- V. control station fire procedures, including smoke control;
- VI. fire control and handling of hazardous materials;
- VII. simulated engine and system malfunctions and failures including hydraulic and electrical systems;
- VIII. simulated failure of navigation and communication equipment;
- IX. stall (clean, take-off/launch and landing/recovery configuration) prevention and landing/recovery procedure;
- X. autorotations and anti-torque system malfunctions, as applicable;
- XI. rejected take-off/launch and landing/recovery procedures;
- XII. use of performance information and performance calculation procedures;
- XIII. simulated emergency descent;
- XIV. collision avoidance techniques;
- XV. operational procedures involving visual observers;
- XVI. steep turns and flight characteristics;
- XVII. briefings on recovery from turbulence and windshear; and

XVIII. flight manoeuvres used in specific operations.

vi. Training and Qualification Records

A. The RPAS operator shall, for each person required to receive training, establish and maintain a record of:

- I. the person's name and, where applicable, personnel permit/licence number,
- II. if applicable, the person's medical category and the expiry date of that category;
- III. the dates on which the person, while in the RPAS operator's employ, successfully completed any training or competency checks; and
- IV. information relating to any failure of the person, while in the RPAS operator's employ, to successfully complete any training or competency check or to obtain any qualification required herein.

B. The RPAS operator shall retain the records referred to in paragraphs (A) (III) and (IV) above, for at least three years.

4. Manual Requirements

a. Operations Manual

i. The RPAS operator shall establish and maintain an operations manual that meets the requirements of Section (b) below.

b. Contents of Operations Manual

i. The operations manual, which may be issued in separate parts corresponding to specific aspects of an operation, shall include the instructions and information necessary to enable the personnel concerned to perform their duties safely and shall contain the information required by the standards in Section (5)(a) below.

ii. The operations manual shall be such that

- A. all parts of the manual are consistent and compatible in form and content;
- B. the manual can be readily amended;
- C. the manual contains an amendment control page and a list of the pages that are in effect; and
- D. the manual has the date of the last amendment to each page specified on that page.

c. Distribution of Operations Manual

i. The RPAS operator shall provide a copy of the appropriate parts of its operations manual, including any amendments to those parts, to each of its crew members and to its ground operations and maintenance personnel.

- ii. Every person who has been provided with a copy of the appropriate parts of an operations manual pursuant to subsection (i) above, shall keep it up to date with the amendments provided and shall ensure that the appropriate parts are accessible when the person is performing assigned duties.

d. Standard Operating Procedures

- i. The RPAS operator shall, for each operation that is described in the operations manual, establish and maintain type-specific standard operating procedures that meet the standards described in Section (5)(b) below.
- ii. The RPAS operator that has established standard operating procedures shall ensure that a copy of the standard operating procedures is available at the control station.

5. Manuals - Standard

a. Operations Manual Content - The operations manual shall include the following, as applicable to the operation:

- i. preamble related to use and authority of manual;
- ii. table of contents;
- iii. amending procedures, amendment record sheet, distribution list and list of effective pages;
- iv. copy of the ROC;
- v. flight authorization and flight preparation procedures;
- vi. retention period of flight operations documents;
- vii. dissemination procedures for operational information;
- viii. fuel/energy and oil requirements;
- ix. weight and balance system;
- x. accident/incident reporting procedures;
- xi. use of check lists;
- xii. maintenance discrepancy reporting and requirements on completion of flights;
- xiii. operating weather minima and applicable requirements;
- xiv. operations in hazardous conditions such as icing, thunderstorms, white-out, windshear;
- xv. operations conducted from control stations that are situated above 10,000 ft. ASL and associated oxygen requirements for crew members;
- xvi. performance limitations;
- xvii. securing of cargo;

- xviii. briefing procedures for persons other than crew members;
- xix. use of RPAS operating instructions and standard operating procedures;
- xx. aircraft ice, frost and snow critical-surface contamination procedures;
- xxi. procedures for carriage of dangerous goods;
- xxii. fuelling procedures including:
  - A. fuel contamination precautions;
  - B. bonding requirements; and
  - C. fuelling with engine running;
- xxiii. list of emergency and survival equipment, how to use the equipment and periodic inspection requirements;
- xxiv. emergency procedures for:
  - A. command and control link;
  - B. flight termination system;
  - C. loss of visual contact;
  - D. preparation for emergency landing/diECAAing;
  - E. control station failures; and
  - F. emergency control station evacuation;
- xxv. minimum crew members required and crew member qualifications;
- xxvi. flight time, flight duty time limitations and rest requirements;
- xxvii. training programs, including copy of company training and qualification record form(s);
- xxviii. operational support services and equipment;
- xxix. procedures related to operations including:
  - A. carriage of external loads;
  - B. low level flight precautions;
  - C. towing precautions, pick-up and release procedures;
  - D. external load procedures, including flight and ground crew signals and briefing procedures, steps to be taken before starting an external load operation, hazards of oscillating loads, low density loads and unfamiliar load configurations; and
  - E. operational restrictions related to the operation.

- xxx. procedures to prevent and manage incidents of interference with RPAS system command and control links; and
- xxxi. procedures to prevent and manage incidents of interference with a crew member.

b. Standard Operating Procedures (SOPs)

- i. The Standard Operating Procedures shall contain the following information. Where there are significant differences in equipment and procedures between the same type of RPAS system operated, the SOP shall clearly indicate the RPAS system it is applicable to.
- ii. Required information, if contained in another publication that is available at the control station during flight, need not be repeated in the SOP.
- iii. The SOP may form part of the operations manual.
- iv. The SOP shall contain the following as applicable to the specific RPAS type.
- v. General

- A. table of contents;
- B. list of effective pages;
- C. amending procedure; and
- D. preamble.

vi. Normal Procedures

- A. assembly;
- B. pre-flight tests;
- C. weight and balance control requirements;
- D. take-off/launch, flight and recovery;
- E. crew coordination such as standard briefings and calls and handovers;
- F. balked landing procedures;
- G. refuelling/battery charging or replacement; and
- H. use of check lists.

vii. Abnormal and Emergency Procedures

- I. emergency landing/recovery;
- II. equipment failure;
- III. command and control link failure;
- IV. loss of visual contact;
- V. pilot incapacitation; and
- VI. potential conflict with other aircraft.



## Appendix H - Small RPAS System Declaration of Compliance

### Small Unmanned Air Vehicle (RPAS) System Declaration of Compliance

#### RPAS System

Make: \_\_\_\_\_

Model: \_\_\_\_\_

#### **Manufacturer**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*I hereby declare that the Type Definition for the RPAS System herein described is in compliance with the Design Standard for Small RPAS Systems.*

*The Type Definition and record of all tests and analyses are in my possession and available for inspection or retention by the Authority.*

*I understand and agree that by signing this declaration I am responsible for ensuring that the Type Definition of this RPAS System model continues to comply with the RPAS System Design Standards as long as it appears on the Transport Ethiopia Listing of Compliant RPAS Systems.*

\_\_\_\_\_

**Signature of Manufacturer**

\_\_\_\_\_

**Date**

## Appendix I - Small RPAS System Statement of Conformity

Make: \_\_\_\_\_

Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

### Manufacturer

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Manufacturer's Statement

*The assembled small RPAS System herein described conforms with the Type Definition as declared in the Declaration of Compliance for the make and model and has been found to conform to the Design Standards for Small RPAS Systems and is fit for flight.*

\_\_\_\_\_  
**Signature of Manufacturer**

\_\_\_\_\_  
**Date**

### Owner's Statement

*The small RPAS System has not been altered or modified from the configuration provided by the manufacturer and remains in conformance with the original design.*

\_\_\_\_\_  
**Signature of Owner**

\_\_\_\_\_  
**Date**

### Attachment III – Restricted and/ or Prohibited Areas for RPAS flight

No	Restricted or Prohibited Area	Over flight	Horizontal Distance	Remark
<b>1</b>	<b>Military Bases</b>			<b>Permanently Prohibited</b>
	1.1 Air force	NO	NO	AIP
	1.2 Depot	NO	NO	AIP
	1.3 Factories	NO	NO	AIP
	1.4 Training Centers	NO	NO	AIP
<b>2</b>	<b>Bridges</b>			
	Abay	NO	500 m	Permanently restricted
	Awash	NO	500 m	Permanently restricted
<b>3</b>	<b>Dam &amp; it's Power Station</b>	NO	500 m	From the edge of appropriate frontier
<b>4</b>	<b>Governmental Offices</b>			
	4.1 INSA	NO	300 m	From the edge of appropriate frontier
	4.2 Palace(PM)	NO	1 kilometer	From the palace edge of appropriate frontier
	4.3 NISS	NO	1 kilometer	
	4.4 Parliament	NO	1 kilometer	
	4.5 Foreign Affair	NO	1 kilometer	
	4.6 Defense head quarter	NO	500 m	From the edge of appropriate frontier
	4.7 Regional state head	NO	300 m	From the edge of appropriate frontier
	4.8 Africa Union	NO	300 m	From the center of appropriate frontier
<b>5</b>	<b>Industrial Park</b>	NO	300 m	From the edge of appropriate frontier
<b>6</b>	<b>Fuel Depot</b>	NO	500 m	From the edge of appropriate frontier
<b>7</b>	<b>Petroleum plant</b>	NO	2 kilometer	From the center
<b>8</b>	<b>Aerodrome</b>			<b>Permanently restricted</b>
	8.1 Class A	NO	Attachment IV	
	8.2 Class B	NO	ECARAS	Part 22
	8.3 Class C & D	NO	ECARAS	Part 22
9	Domestic Train Depot	NO	300 m	From the edge of appropriate frontier

ATTACHMENT IV: Class A aerodrome map

