

**REPUBLIC OF KENYA**

**MINISTRY OF TRANSPORT AND INFRASTRUCTURE**

**DRAFT**

**KENYA POLICY ON REMOTELY PILOTED AIRCRAFT SYSTEM (RPAS)**

## 1.0 INTRODUCTION

Remotely Piloted Aircraft Systems have been given many names, but are most commonly referred to as Remotely Piloted Aircraft System (RPAS), remotely operated aircraft or remotely piloted vehicles. Remotely Piloted Aircraft Systems may take the form of airships, aeroplanes or rotorcraft. They could be considered to be any unmanned aircraft that performs a useful mission and can be remotely controlled or has autonomous flight capability. The term Unmanned Aircraft System (UAS) emphasizes the importance of other elements beyond the aircraft itself.

The UAVs, are a new and exciting technology. Uses of UAVs are many and varied beneficial application. However, in these applications there are issues of safety, privacy and ethics especially when operating in a non- designated airspace.

Remotely Piloted Aircraft System operate in diverse environments, in high risk roles, including but not limited to: atmospheric research (including weather and atmospheric gas sampling), scientific research, oceanographic research, geophysical research, mineral exploration, imaging spectrometry, telecommunications relay platforms, police surveillance, border patrol and reconnaissance, survey and inspection of remote power lines and pipelines, traffic and accident surveillance, emergency and disaster monitoring, cartography and mapping, search and rescue, agricultural spraying, aerial photography, promotion and advertising, weather reconnaissance, flight research, and firefighting monitoring and management.

## **1.1 Advantages of Remotely Piloted Aircraft Systems**

The use of “remote control” aircraft (Remotely Piloted Aircraft System – RPAS) for commercial purposes such as aerial photography is increasing at a rapid pace. Remotely Piloted Aircraft Systems are not constrained by human limitations and requirements, they make it possible to gather information in dangerous environments without risk to flight crews and they can be much more cost effective than manned aircraft operations Remotely Piloted Aircraft Systems although recurring costs to repair or replace those damaged during flight can be very high.

## **1.2 The Chicago Convention**

As a signatory to the Chicago Convention and a member of ICAO, Kenya undertakes to comply with the provisions of the Convention and Standards contained in Annexes to the Convention except where it has filed a Difference to any of those standards.

Article 3 of the Convention provides that the Convention applies only to civil aircraft and not to State aircraft. State aircraft are defined as being aircraft used in military, customs and police services of Kenya or of any other State or any other civil registered aircraft at the time performing a state a state function and fully converted to offer services to heads of State, military service, customs or police or to any other State. No State aircraft may fly over the territory of another State without authorisation. Contracting States undertake when issuing Regulations for their State aircraft that they will have due regard for the safety of navigation of civil aircraft.

Article 8 of the Convention provides that no aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a Contracting State without special authorisation by that State.

Article 8 of the Convention also requires that “each contracting State undertake to ensure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft”.

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Abbreviations

AAIB - Air Accidents Investigation Division

ACAS Airborne Collision Avoidance System

AIP Aeronautical Information Publication

ANO Air Navigation Order

ANSP Air Navigation Service Provider

AOC Aircraft Operating Certificate

ATC Air Traffic Control

ATM Air Traffic Management

ATS Air Traffic Service

ATSU Air Traffic Service Unit

BVLOS Beyond Visual Line of Sight

CAA Civil Aviation Authority

CPL Commercial Pilot Licence

CRM Crew Resource Management

DA Danger Area

ERF Emergency Restriction of Flying

EVLOS Extended Visual Line of Sight

FIR Flight Information Region

FISO Flight Information Service Officer

FMC Flight Management Computer

FOP Flight Operations Policy

FRTOL Flight Radio Telephony Operators’ Licence

GCS Ground Control Station

HALE High Altitude Long Endurance

HMI Human-Machine Interface

ICAO International Civil Aviation Organization

IFR Instrument Flight Rules

MALE Medium Altitude Long Endurance

MoD Ministry of Defence

MOR Mandatory Occurrence Reporting

MTOM Maximum Take-off Mass

RA(T) Restricted Area (Temporary)

RCS Radar Cross Section

RPA Remotely Piloted Aircraft

RPAS Remotely Piloted Aircraft System

RPAS Cdr Remotely Piloted Air System Commander

RPS Remote Pilot Station

RTF Radiotelephony

RTS Release to Service

SARPs Standards and Recommended Practices

SRG Safety Regulation Group

SSR Secondary Surveillance Radar

SUA Small Unmanned Aircraft

SUSA Small Unmanned Surveillance Aircraft

TCAS Traffic Collision Avoidance System

TDA Temporary Danger Area

UIR Upper Flight Information Region

VFR Visual Flight Rules

VLOS Visual Line of Sight

## 2.0 POLICY

It is Kenya Civil Aviation Authority policy that RPAS operating in Kenya must meet at least the same safety and operational standards as manned aircraft. Thus, RPAS operations must be as safe as manned aircraft insofar as they must not present or create a greater hazard to persons, property, vehicles or vessels, whilst in the air or on the ground, than that attributable to the operations of manned aircraft of equivalent class or category.

In consideration of the limited aviation background of some RPAS manufacturers and operators, the guidance is comprehensive and necessarily prescriptive. The CAA will supplement these regulations with further written advice when required.

Rules for Avoiding Aerial Collisions are set out in the Rules of the Air Regulations. For the purpose of RPAS operations, the 'See and Avoid' principle employed in manned aircraft is referred to as 'Detect and Avoid' (ICAO) or 'Sense and Avoid'. UAS may not be flown without obtaining the relevant approvals.

While this Policy aims to “normalize” RPAS operations within civil airspace, the industry technology is not mature enough, and the regulatory structure is not in place, to support routine operations.  Detect, sense-and-avoid (DSA) capability is a key to routine UAV operations.  The goal of any detect, sense-and-avoid system is to perform those collision avoidance function is normally provided by a pilot in a manned aircraft.  Therefore, a DSA system will have to detect the traffic in time to process the sensor information, determine if a conflict exists, and execute a manoeuver according to the right-of-way rules.  If pilot interaction with the system is required, transmission and decision time must also be included in the total time between initial detection and the point of minimum separation.  The DSA system will have to possess the capability to detect both participating and non-participating aircraft.

The probability of a UAV colliding with another aircraft must be comparable to that for manned aircraft (i.e. an equivalent level of safety).  Vigilance for the purpose of detecting potential collisions must not be relaxed for any aircraft in flight, regardless of the type of flight, type of aircraft or class of airspace in which the aircraft is operating.

The availability of reliable DSA technology is likely to be a significant number of years away.  Until that time arrives, UAV operators proposing to operate beyond visual range need to be aware that, depending on the mission and the operating environment, it may not be possible to find ways to safely integrate the operation with the manned aircraft.  Each application will continue to be assessed on an individual basis.

**Classification of RPAS (UAS)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Weight**  **Classification**  **Group** | **Civil Category** | **Mass**  **(kg)** | **Broad Military**  **Equivalent** | **Civil**  **Regulation** |
| 1 | Small Unmanned  Aircraft | 20 or less | Micro (< 5 kg) | National |
|  |  |  | Mini (< 30 kg) |  |
| 2 | Light UAS | More than 20  to 150 |  | National |
|  |  |  | Tactical |  |
| 3 | UAS | More than  150 |  | (State Aircraft  are National) |

"Model aircraft" means an aircraft, the total weight of which does not exceed **35 kg (77.2 pounds),** that is mechanically driven or launched into flight for **recreational purposes** and that is not designed to carry persons or other living creatures. Although some micro unmanned air vehicles may weigh less than 35 kg, they are operated by research institutions and other organizations for non-recreational purposes. To be covered under recreational activities

## 3.0 CIVIL OPERATIONS REGULATORY REQUIREMENTS

### 3.1 Lead Agency

CAA – Flight Operations Section (General Aviation).

### 3.2 Introduction

All civil aircraft fly subject to the legislation of the Civil Aviation Act, 2013 and the associated Rules of the Air Regulations 2013. However, in accordance with its powers under ………, the CAA may exempt RPAS operators from the provisions of the Act and the Rules of the Air, depending on the UAV’s potential to inflict damage or injury and the proposed area of operation. Small Unmanned Aircraft (SUA) are exempted from most of the provisions of the Act and Rules of the Air Regulations by the provisions of development, operation and maintenance and decommissioning procedure).

In Kenya the government has responsibility for aviation security. The CAA provides advice to the government and industry on these issues.

### 5.2 Policy

It is CAA Policy that “any UAS outside a Kenyan Restricted Area will not increase the risk to existing users and will not deny airspace to them”. This policy requires a level of safety and security equivalent to that of manned aviation.

The policy also requires that a UAV must have adequate security to protect the system from unauthorized modification, interference, corruption or control/command action.

### 5.3 Security Aspects to be Addressed

The security aspects are required to address particular possible weaknesses of RPAS such as employees, location, accessibility, technology, management structure and governance.

Such security aspects include but are not limited to:

• The availability of system assets, e.g. ensuring that system assets and information are accessible to authorised personnel or processes without undue delay.

• Physical security of system elements and assets, e.g. ensuring adequate physical protection is afforded to system assets.

## 6.0 AIR TRAFFIC MANAGEMENT (ATM) PROCEDURES

Air Traffic Services (ATS) in the Kenya are provided by personnel who are suitably trained and qualified to provide services at one or more of the three levels of provision: Air Traffic Control, Kenya Flight Information Services and Air/Ground Communication Service.

This section provides guidance on the policy associated with the provision of Air

Traffic Services within Kenyan airspace.

Individual ATS units may provide services within clearly defined geographic boundaries (such as a specific portion of airspace) or may provide services within a general area (for example, in the vicinity of an aerodrome).

The rules pertaining to aircraft flight and to the ATS provided will be determined by a number of factors (including airspace categorisation, weather conditions, aircraft flight rules and type of ATSU).

Not all aircraft within the same geographic area will necessarily be in communication with the same ATSU or operating under the same rules. It is important that those managing RPAS operations are familiar with the relevant rules and procedures applicable within any airspace through which the aircraft will be flown.

UAS operation is expected to be transparent to ATS providers. The pilot will be required to respond to ATS guidance or requests for information, and comply with any ATC instruction, in the same way and within the same timeframe that the pilot of a manned aircraft would. These instructions may take a variety of forms, for example, to follow another aircraft or to confirm that another aircraft is in sight.

## 7.0 INCIDENT/ACCIDENT PROCEDURES

### 7.1 Scope

The safe operation of RPAS is as important as that of manned aircraft, and third-party injury and damage to property can be just as severe when caused by either type of aircraft. Proper investigation of each accident, serious incident or other occurrence is absolutely necessary in order to identify causal factors and to prevent repetition. Similarly, the sharing of safety related information is critical in reducing the number of occurrences. The limited operational experience with RPAS in civil applications makes such investigation particularly relevant.

This section outlines the principles that should be employed with regard to the reporting and further investigation of occurrences involving the operation of all civilian unmanned aircraft within Kenyan airspace; it also covers occurrences involving Kenyan registered unmanned aircraft that take place within the airspace of other nations. The requirements for investigation of occurrences involving Kenyan military RPAS are contained within the appropriate military regulations.

### 7.2 Definitions

The current Kenyan definitions of 'Accident' and 'Serious Incident' originate from the Civil Aviation (Aircraft Accident and Incident Investigation) Regulations, 2013 which in turn are directly linked to the ICAO Annex 13

An Accident is defined as:

‘An occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked or, in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

a) a person is fatally or seriously injured as a result of:

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

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

c) the aircraft is missing or is completely inaccessible.’

A Serious Incident is defined as:

'An incident involving circumstances indicating that there was a high probability of an accident and associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked or, in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down.'

**NOTE**: The difference between an accident and a serious incident lies only in the result.

A Reportable Occurrence is defined as:

'Any incident which endangers or which, if not corrected, would endanger an aircraft, its occupants or any other person.'

8.0 COMMERCIAL AND AERIAL WORK

As interest grows for use of RPAS in photography, survey, search and rescue, fire fighting, parcel delivery, traffic management, it is implied that this mode of air activity will lead into flights entering undesignated airspace and build up areas. Without doubt this activity will require a certain level of control in order to maintain an acceptable level of safety. Therefore there will be need to vet and control applicants for such operations to ensure that the level of qualification compares well with other parties involved in flying in the same airspace. A sample has been developed capturing what will be expected from the prospective operators.

**Sample of**

# REQUEST FOR AUTHORIZATION FORM

*Note.— For details on completing this form, and for definitions of acronyms and abbreviations, see section on Information Required for the Assessment of Authorization following this form.*

|  |  |  |
| --- | --- | --- |
| **RPAS operator information**   1. Name of RPAS operator:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. State of RPAS operator: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. Mailing address:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. Contact numbers: tel.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cell:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   fax:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Email:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. State of the RPAS operator, RPAS operator certificate number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (*attach copy of RPAS operator certificate*). Alternative documents (*attach copy*).   **RPAS information**   1. State of Registry and aircraft registration (*attach copies of certificate of registration and certificate of airworthiness*).   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Alternative airworthiness documents (*attach copy*).   1. Aircraft radio station licence number (*attach copy of aircraft radio station licence*):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 9. Noise certificate (*attach copy of certificate*).   **Remote pilot(s) and RPA observer(s) information**  10. Name: 11. Type of licence or certificate and 12. Experience of remote pilot or RPA number (*attach copy of licences or* observer (detailed description): *certificates):* | | |
| a) | a) | a) |
| b) | b) | b) |
| c) | c) | c) |
| d) | d) | d) |

|  |  |  |
| --- | --- | --- |
| e) | e) | e) |
| f) | f) | f) |
| **RPA performance characteristics (including appropriate units of measurement)**  *(attach picture or sketch of RPA)*  13. Type of aircraft: 14. Maximum take-off mass: 15. Wake turbulence category: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  16. Number and type of engine(s): 17. RPA dimensions (wing span/ 18. Maximum speed:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rotor diameter: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  19. Minimum speed:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20. Cruising speed:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  21. Typical and maximum climb rates:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 22. Typical and maximum descent rates:\_\_\_\_\_\_\_\_\_\_\_\_\_  23. Typical and maximum turn rates:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 24. Maximum aircraft endurance:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Other relevant performance data or information to declare (maximum operating altitude):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. CNS capabilities (including alternate means of communication with remote pilot station(s)):     Communications: CPDLC  VHF  UHF  SATCOM  HF  Telephone: landline  mobile phone     Navigation: DME  VOR  GNSS  ADF  ILS  GBAS  RNAV \_\_\_\_\_\_\_\_ RNP\_\_\_\_\_\_\_\_ RVSM \_\_\_\_\_\_\_\_\_    Surveillance: transponder mode(s): \_\_\_\_\_ ADS-B  ADS-C  ACAS     Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Detect and avoid capabilities:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   **Operations**   1. Purpose of operation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. Aircraft identification to be used in radiotelephony, if applicable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. Date of flight(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 31. Duration/frequency of flight(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   32. Flight rules: I □ V □ Y □ Z □ 33. Type of operation: VLOS □ BVLOS □   1. Number and location(s) of remote pilot station(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. Handover procedures between remote pilot stations:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. Point of departure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 37. Point of destination:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   39. Route:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 40. Cruising level:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

1. Payload information/description:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Use of communication capabilities**

1. ATS communications:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Command and control (C2) link:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Communications between remote pilot and RPA observer, if applicable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Payload data link:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Contingency and emergency procedures**

1. Loss of C2 link (partial or total):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Failure of ATC communications (partial or total):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Failure of remote pilot/RPA observer communications:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Other emergencies:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Security measures associated with the RPA operation**

1. Physical security of remote pilot station(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Physical security of RPA while on the ground:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Security of C2 link:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Liability and insurance**

1. Document number of insurance policy (*attach copy of liability and insurance document*):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Attachments:

□ copy of certificate of registration (one for each RPA)

□ copy of certificate of airworthiness (one for each RPA)

□ copy of associated RPAS components certificate(s)

□ copy of RPAS approval

□ copy of RPAS operator certificate

□ copy of aircraft radio station licence(s)

□ copy of licence(s) or certificate(s) of remote pilot(s) and RPA observer(s)

□ copy of all relevant operations specifications

□ rendering or photographic depiction of RPA

□ copy of RPA flight manual emergency procedures

□ copy of liability insurance document(s)

□ copy of RPA noise certificate

□ other attachment(s)

1. **Signature of applicant**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Date**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **INFORMATION REQUIRED FOR THE ASSESSMENT OF AUTHORIZATION**

(for completion of Request for Authorization Form)

**RPAS operator information**

Item 1. Name of RPAS operator — indicate the name of a person, organization or enterprise engaged in, or offering to engage in, the RPAS operation.

Item 2. State of RPAS operator — indicate the State in which the RPAS operator’s principal place of business is located, or if there is no such place of business, the operator’s permanent residence.

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| --- | --- |
| Item 3. | Mailing address — indicate the current contact mailing address of the operator. |
| Item 4. | Contact numbers — indicate the current telephone, cellular and fax number of the operator. |
| Item 5. | Email address — indicate the current email address of the operator. |
| Item 6. | State of the RPAS operator and RPAS operator certificate number — indicate the State of the RPAS |

operator and the number indicated on the RPAS operator certificate.

**RPAS information**

Item 7. State of Registry and aircraft registration — indicate the name of the State on whose register the RPA is entered as well as the aircraft registration marks. Copies of the certificate of registration and certificate of airworthiness issued by the State must be attached. The specific titles of any alternative airworthiness documents must be indicated. These may include, for example, a temporary flight permit.

Item 8. Aircraft radio station licence number — indicate the aircraft radio station licence number. If the remote pilot station(s) contains an aircraft radio station, indicate the appropriate licence number as well.

Item 9. Noise certificate — indicate title and number of the document attesting noise certification of the RPA in accordance with the applicable Standards specified in Annex 16 — *Environmental Protection*, Volume I — *Aircraft Noise*, if applicable.

**Remote pilot(s) and RPA observer(s) information**

Item 10. Name — indicate the name(s) of the remote pilot(s) who will operate the RPAS and of any RPA observer(s).

Item 11. Type of licence or certificate and number — indicate the licences or certificates issued by the State for remote pilot(s) certifying their respective qualifications.

Item 12. Experience of remote pilot or RPA observer (detailed description) — indicate the RPA or related experience (e.g. manned) of the remote pilot(s) and, if applicable, of the RPA observer(s).

**RPA performance characteristics (including appropriate units of measurement)**

Indicate the basic performance characteristics of the RPA using the relevant units of measurement specified by the State(s).

Item 13. Type of aircraft — indicate the type of aircraft and attach a rendering or photographic depiction of the RPA.

Item 14. Maximum take-off mass — indicate the maximum certificated take-off mass.

Item 15. Wake turbulence category — indicate the appropriate wake turbulence category of the RPA, in accordance with *Aircraft Type Designators* (Doc 8643).

Item 16. Number and type of engine(s) — indicate number and type of engine(s).

Item 17. RPA dimensions (wing span/rotor diameter) — indicate the wingspan or main rotor diameter, or in the case of multirotorcraft, indicate the maximum width.

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| Item 18. | Maximum speed — indicate the maximum operating speed of the RPA. |
| Item 19. | Minimum speed — indicate the minimum operating speed of the RPA. |
| Item 20. | Cruising speed — indicate the cruising speed of the RPA. |
| Item 21. the RPA. | Typical and maximum climb rate — indicate the normal operational climb rate and maximum climb rate of |
| Item 22. | Typical and maximum descent rate — indicate the normal operational descent rate and maximum descent |

rate of the RPA.

Item 23. Typical and maximum turn rate — indicate the normal operational turn rate and maximum turn rate of the RPA.

Item 24. Maximum aircraft endurance — indicate maximum endurance of the RPA.

Item 25. Other relevant performance data or information to declare — include any other performance data needed by the approval authority or ATS unit.

Item 26. CNS capabilities (including alternate means of communication with remote pilot station(s)). Mark the applicable boxes and indicate the equipment and capabilities of the RPAS. This item may include: communication and/or surveillance capabilities between the RPA and remote pilot station, between the RPA and ATS unit, between the remote pilot station and the ATS unit, and between the RPA observer and remote pilot. It also includes operational approvals for PBN, i.e. RNAV and RNP, and reduced vertical separation minimum (RVSM), if applicable.

Item 27. Detect and avoid capabilities — describe the equipment, capabilities and any limitations.

**Operations**

Item 28. Purpose of operation — indicate the reason(s) for conducting one, or a series of, RPA flight(s): e.g. aerial survey, meteorological survey, aerial photography, scientific experiment, cargo delivery.

Item 29. Aircraft identification — indicate the call-sign to be used in radiotelephony.

Item 30. Date of flight(s) — indicate the date(s) on which the flight(s) will occur.

Item 31. Duration/frequency of flight(s) — indicate the duration of flight and also the number of flights that will be conducted within the date(s) of flight(s) indicated in Item 30.

Item 32. Flight rules IFR/VFR — mark the relevant box to denote the category of flight rules with which the remote pilot intends to comply: *I* if IFR; *V* if VFR; *Y* if IFR first; *Z* if VFR first.

Item 33. Type of operation VLOS/BVLOS — mark the relevant box.

Item 34. Number and location(s) of remote pilot station(s) — indicate the number and location(s) of the remote pilot station(s).

Item 35. Handover procedures between remote pilot stations — describe the handover procedures from one remote pilot station to another when more than one is involved.

Item 36. Point of departure — indicate the name and the ICAO four-letter designator of the departure aerodrome. In the event the departure is not conducted from an aerodrome, coordinates, in accordance with WGS-84 format, of the specific location should be included.

Item 37. Point of destination — indicate the name and the ICAO four-letter designator of the destination aerodrome. In the event that the destination is not an aerodrome, coordinates, in accordance with WGS-84 format, of the specific location should be included.

Item 38. Take-off and landing requirements — describe how the RPA will take-off (e.g. vertical, rolling, catapult) and landing (e.g. vertical, rolling, parachute deployment, net). Additional information such as deployment of safety personnel during take-off and landing phases should be included.

Item 39. Route — indicate the planned route of flight.

Item 40. Cruising level — indicate the intended level(s) to be maintained during each segment of the flight.

Item 41. Payload information/description — indicate any payload or equipment to be carried on the RPA. This includes equipment which is not flight essential but may be used for a specific purpose during the flight (e.g. photographic equipment).

*Note.*— *The operation of some equipment or carriage of dangerous goods may be subject to special legislative requirements.*

**Use of communication capabilities**

Item 42. ATS communications — specify the intended methods of communication between air traffic services and the remote pilot, e.g. VHF voice, data link, telephone.

Item 43. Command and control (C2) link — describe the type of data link to be utilized between the remotely piloted aircraft and the remote pilot station for the purposes of managing the flight.

Item 44. Communications between remote pilot and RPA observer — specify the means of communication between the remote pilot and RPA observer, if applicable.

Item 45. Payload data link — indicate specifications such as frequency and output power used for the data link between the remotely piloted aircraft and the remote pilot station (or payload station) for purposes other than those of managing the flight.

**Contingency and emergency procedures**

Item 46. Loss of C2 link (partial or total) — describe the intended procedures in the event of a loss of the C2 link such as automatic flight using preprogrammed routing, landing or activation of the flight termination plan.

Item 47. Failure of ATC communications (partial or total) — describe the intended procedures in the event of communications failure, such as use of telephone or other back-up procedures.

Item 48. Failure of remote pilot/RPA observer communications — describe the procedures in the event of a remote pilot/RPA observer communications failure, such as back-up communications possibilities or flight termination plan.

Item 49. Other emergencies — provide a copy of the emergency procedures contained in the RPA flight manual.

**Security measures associated with the RPA operation**

Item 50. Physical security of remote pilot station — indicate the measures and resources employed to ensure the safeguarding of the remote pilot station against unlawful interference during flight.

Item 51. Physical security of RPA while on the ground — if applicable, indicate the measures and resources employed to ensure the safeguarding of the remotely piloted aircraft (RPA) against unlawful interference while on the ground.

Item 52. Security of the C2 link — indicate the measures and technical procedures to protect the C2 link against unlawful or unintentional interference.

**Liability and insurance**

Item 53. Liability and insurance — indicate the insurance policy number and provide proof of adequate insurance/liability coverage.

**Attachments**

Item 54. Attachments — mark the applicable boxes and attach a copy of the relevant document(s). If including additional documents, mark the box “other attachment(s)”, describe them in the field provided and attach them to the Request for Authorization Form.