



RPAS COMMERCIAL CERTIFICATION PROCESS

SECTION 1 GENERAL

- 1.1** Advisory Circulars of the Ghana Civil Aviation Authority (GCAA) contain advice and guidance to illustrate a means of complying with the Ghana Civil Aviation Directives (GCADs) or to explain certain regulatory requirements by providing informative, interpretative, and explanatory material. Where an AC is referred to in a Note below a Directive, the AC remains as guidance material and are not to be construed as an alternative means of compliance. ACs should always be read in conjunction with the referenced Directives.

PURPOSE

This Advisory Circular (AC) is to provide guidance to organisations and individuals regarding the certification process generally applied by the Ghana Civil Aviation Authority (GCAA) in the determination for issuance of an ROC.

1.2 STATUS OF THIS ADVISORY CIRCULAR

This document is the initial issue of this AC and has been approved by the Director-General of the GCAA.

1.3 BACKGROUND

- A. International standards for safety oversight by civil aviation authorities require an evaluation of documents and demonstrations of capability by the organisation and individuals before a required ROC is granted.
- B. The issuance of an ROC constitutes certification by the GCAA, which indicates that specified operations have been authorised in compliance with the applicable regulatory requirements and GCAA guidance.
- C. Through the issuance of an ROC, the GCAA:
 - 1. Ensures the protection of the public interest; and
 - 2. Exercises indirect influence on and control over the major aspects of the operation without encroaching upon the RPAS operator's direct responsibility for safety.

1.4 APPLICABILITY

The guidance in this AC is applicable to the following:

- A. Drone/RPAS operators who request to register a drone for commercial operations; and

- B. Clients who apply for commercial operations without presenting a drone for registration.

1.5 RELATED DIRECTIVES

The following GCAA Directives are directly applicable to the guidance contained in this Advisory Circular for commercial certification for RPAS Operations—

- Ghana Civil Aviation Directives Part 28
- Ghana Civil Aviation (Flight Standards) Directives Part 9

1.6 RELATED READING MATERIAL

For further information on this topic, organisations are advised to review the following publications and regulatory requirements –

A. Ghana Civil Aviation Authority

- | | |
|-------------|--|
| ● AC 09-001 | AOC Certification |
| ● AC 28-002 | RPAS Emergency Response Plan |
| ● AC 28-003 | Guidelines for RPAS Category of Operations (CONOPS) |
| ● AC 28-004 | Assessment of Risk for RPAS Operators (ARRO) Methodology |

B. International Civil Aviation Organization (ICAO)

- ICAO Manual on Remotely Piloted Aircraft Systems (RPAS) (Doc 10019)
- Annex 6, Part I: Appendix 5 and Attachment F and G

1.7 ACRONYMS

The following acronyms and abbreviations are used in this advisory circular—

- 1) **AC** – Advisory Circular
- 2) **BVLOS** – Beyond Visual Line of Sight
- 3) **CONOPS** – Concept of Operations
- 4) **CPC** – Certification Project Coordinator
- 5) **GCAA** – Ghana Civil Aviation Authority
- 6) **GCADs** – Ghana Civil Aviation Directives
- 7) **OPSPECS** – Operations Specifications
- 8) **POPS** – Prospective Operator Pre-Assessment Statement
- 9) **ROC** – RPAS Operator Certificate
- 10) **ROM** – RPAS Operator Manual
- 11) **RPAS** – Remotely Piloted Aircraft Systems

1.8 UNDERSTANDING THE PROCESS

This AC provides aid in understanding and applying this process.

- It is essential to understand that this process may result in a decision to not approve or not accept an applicant's proposal
- The process described is used to assist in making either positive or negative determinations

SECTION 2 PHASE ONE: PRE - APPLICATION

2.1 INITIAL INQUIRY

The first phase starts:

- A. When an individual or organisation presents a drone for registration and answers yes to question #2 on the Job Aid RP-004 (RPAS Concept of Operation).

Note: In the meantime, the registration of the RPAS proceeds as usual. However, certificate given would be in the recreational category till certification is completed

- B. When an individual or organisation enquires about or states a need for commercial certification or approval

2.2 APPLICANT'S STATEMENT OF INTENT

- A. In either scenario, the individual or organisation is given a POPS Form to complete and guidance (AC 28-002; AC 28-003) towards the preparation of a CONOPS.
- B. Completion of the POPS Form and submission of a CONOPS demonstrates the applicant's intention to continue with the certification process.

Note: Even though an individual may make the initial enquiries, only a registered company under the laws of Ghana can complete the certification process leading to grant of an ROC.

2.3 THE CERTIFICATION TEAM

- A. Upon submission of the POPS Form and CONOPS, a certification team shall be set up by the Director, Safety Regulation to guide the applicant through the certification process.
- B. The Certification Team is not intended to bear the responsibility for successful completion of the certification. This remains the sole responsibility of the applicant.
- C. All correspondence between the applicant and GCAA shall be channeled through the CPC.

Note: Any and all attachments and documents submitted to the GCAA or from the GCAA to the applicant shall be accompanied by a cover letter.

2.4 PRE-APPLICATION MEETING

- A. The POPS Form is reviewed for completeness. Incomplete forms shall be returned to the applicant for necessary correction.
- B. The CONOPS is reviewed by the certification team as per AC 28-004.
- C. The CPC shall invite applicant for Pre-Application meeting. All members of the certification team and all post holders of the applicant, as indicated on the POPS Form, shall be present at the meeting.
- D. If meeting is satisfactory, the applicant is informed in writing that the second phase of the certification may begin.

2.5 PURPOSE OF PRE-APPLICATION MEETING

- A. The purpose of the pre-application meeting is for the certification team to confirm the information on the POPS and to provide the applicant with an application package that contains critical RPAS operator certification information.
- B. This meeting gives team members their first exposure to the applicant's organisation, capabilities, and resources. It sets the tone for how the certification process will be conducted.

SECTION 3 PHASE TWO: FORMAL APPLICATION

3.1 INITIATION OF FORMAL APPLICATION

- A. The Formal Application commences when the prospective ROC Operator submits the completed Formal Application Form and the following documents as applicable:
- Schedule of Events
 - Initial Statement of Compliance
 - Resume of management, key staff and pilots
 - Operations Manual (1 hard copy and PDF copy)
 - Third Party Liability Insurance
 - Documents of purchase/lease agreements/contracts/Letters of Intent
 - Draft ROC and OPSPECS
 - List of RPAS
 - RPAS Flight /Operation Manual
 - Aerodromes and/or areas of operation
 - Safety Management Manual
 - Training Manual
 - Maintenance Control Manual
 - Dangerous Goods Manual
 - RPAS Maintenance Programme/Schedule
 - Method of Control and Supervision of Operations including dispatch, flight watch or flight following, and communication procedures

3.2 REVIEW OF A FORMAL APPLICATION

- A. The certification team will review the application to determine that it contains the required information and attachments. If there are significant omissions or errors, the formal application and all attachments will be returned with a letter outlining the reasons for its return.
- B. If the application is acceptable to the certification team, the CPC will schedule the formal application meeting.

3.3 FORMAL APPLICATION MEETING

- A. The applicant's key management personnel should attend the formal application meeting.
- B. The purpose of the meeting is to discuss the formal application and resolve omissions, address deficiencies, and answer questions from either party. This meeting would also be used to reinforce open communication and working relationships

3.4 ACCEPTANCE OR REJECTION OF A FORMAL APPLICATION

- A. If the formal application meeting is successful, the applicant is provided with a letter acknowledging receipt and acceptance of the package. GCAA's acceptance of a formal application does not constitute approval or acceptance of individual attachments. These documents will be evaluated thoroughly during subsequent phases of the certification process.
- B. If the formal application is not accepted, it will be returned with a written explanation of the reasons for its return.

SECTION 4 PHASE THREE: DOCUMENT EVALUATION

4.1 REVIEW OF DOCUMENTS AND MANUALS

- A. After the formal application has been accepted, inspectors will begin a thorough evaluation of all the manuals and documents that are required by GCADs to be submitted to GCAA.
- B. The CAA will endeavor to complete these evaluations in accordance with the Schedule of Events.
- C. If a manual or document is incomplete or deficient, or if noncompliance with the regulations or safe operating practices is detected, the manual or document will be returned for corrective action.
- D. If the manuals and documents are satisfactory, they will be granted an initial approval or acceptance, as required by GCADs, pending their validation at the next phase. Approvals may be indicated by letter as appropriate or by approval of the OPSPECS when issued. Acceptance of information that does not require formal approval will be indicated by letter or by the lack of GCAA's objection to the information

Note: While CAA Certification Team members may furnish informal guidance and advice during the preparation of required documents and manuals, the production of acceptable documents and manuals is solely the responsibility of the applicant

SECTION 5 PHASE FOUR: DEMONSTRATION AND INSPECTION

5.1 DEMONSTRATION OF ABILITY TO COMPLY WITH GCADS

- A. The GCADs require an operator to demonstrate its ability to comply with Directives and safe operating practices before beginning actual revenue operations. These demonstrations shall include actual performance of activities and/or operations while being observed by the certification team.
- B. During these demonstrations and inspections, the certification team evaluates the effectiveness of the policies, methods, procedures, and instructions as described in the applicant's manuals and other documents.
- C. Deficiencies that cannot be resolved in situ will be brought to the attention of the applicant in writing and corrective action must be taken before a certificate is issued.

5.2 AREAS TO BE EVALUATED DURING DEMONSTRATION

- A. Although the Document Evaluation and the Demonstration and Inspection Phases are separate and distinct phases, in actual practice, these phases may overlap or are accomplished simultaneously.
- B. The following list provides examples of the types of items, equipment, facilities, and activities evaluated during the Demonstration and Inspection Phase:
 - Conduct of training programmes (classroom, simulators, RPAS, flight, and ground personnel training)
 - RPAS Pilots testing and certification
 - Facilities (equipment, procedures, personnel, fueling/defueling, technical data)
 - Record keeping procedures (documentation of training, flight and duty times, flight papers)
 - Flight control (flight supervision and monitoring system or flight following system)
 - Maintenance and inspection programmes (procedures, record keeping)
 - RPAS (conformity inspections, RPAS maintenance records, etc.)
 - Demonstration flights, including simulation of revenue operations to demonstrate the ability to operate independently, safely, and in compliance with all applicable GCADs
- C. A minimum of two Inspectors shall be present to observe each demonstration as required by the Directives.
- D. The demonstrations and inspections required by this phase shall be judged as being satisfactory or not; present or absent. There shall be no graded assessment of competency or capability.

SECTION 6 PHASE FIVE: CERTIFICATION PHASE

6.1 FINAL APPROVAL/ACCEPTANCE OF DOCUMENTS AND MANUALS

- A. Final approval or acceptance of the documents and manuals shall be granted only after successful completion of their respective areas of demonstration.
- B. In a case where the applicant shows that it cannot satisfactorily demonstrate a required competency or capability, the associated manual or document shall be subsequently amended to reflect this “degraded” competency or capability.
- C. The requested final rating, if also affected, shall be amended accordingly.

For example: An applicant requests to have a BVLOS rating as part of its OPSPECS. However, at the fourth phase, the applicant shows that it does not have the capability to provide safe BVLOS operations. Consequently, all references to having BVLOS operations or capabilities shall be expunged from their manuals and documents. Although, the ROC may be granted, provided the applicant demonstrates competency in the other areas, the rating for BVLOS shall be omitted from the OPSPECS.

6.2 FINAL PREPARATION FOR THE ISSUANCE OF AN ROC AND OPERATIONS SPECIFICATIONS

After the Document Evaluation Phase and the Demonstration and Inspection Phase have been completed satisfactorily GCAA will prepare an ROC and OPSPECS that contain authorisations, limitations, and privileges specific to an applicant’s operation. The applicant must acknowledge receipt of these documents in writing.

In addition to the Certificate and OPSPECS, an ROC Complexity Tables shall be attached.

6.3 COMPLIANCE WITH AND AMENDMENT OF ROC

- A. The certificate holder is responsible for continued compliance with GCADs and the authorisations, limitations, and privileges of its certificate and OPSPECS.
- B. As a certificate holder’s operation changes, the OPSPECS shall be amended accordingly. The process for amending OPSPECS is similar to the certification process.
- C. In some cases, it may be a less complex procedure depending on the subject of the amendment.
- D. The CAA is responsible for conducting periodic inspections of the certificate holder’s operation to ensure continued compliance with the GCADs and safe operating practices.
- E. The certificate holder shall ensure that authorized GCAA personnel are granted access to its facilities, operations, documents and contracted services. Denial of access shall warrant the suspension or revocation of the certificate holder’s authorization.

SECTION 7 LIST OF APPENDICES

7.1 JOB AID RP-004



GHANA CIVIL AVIATION AUTHORITY

JOB AID RP-004 Concept Of Operations (CONOPS)

Date		Control #	
Action #		Record ID#	
Inspector(s) Name & ASI #		Org Identifier	
Location		Project#	
Action Taken		RPAS REG. #	

IF OPERATOR OR APPLICANT SELECTS YES TO ANY OF THE ITEMS BELOW, A SUBMISSION OF CONOPS SHALL BE REQUIRED.				
REFERENCE		DESCRIPTION	YES	NO
	1	Is the MTOW of RPA for the operation greater than 7kg		
	2	Is the RPAS operation meant for commercial purposes		
	3	Will the RPAS operation require a special authorisation as captured in GCAD Part 28		
	4	Is the RPAS operation considered as a BVLOS		
	5	Will the RPAS operation involve flights above 400ft A.G.L.		
	6	Will the RPAS operation involve flights within 10km radius of a helipad/airport if there is a published Instrument Flight Procedure (IFP) and 5km radius of a helipad/airport if there is no published IFP		
	7	Will the RPAS operation involve flights closer than 30m (98ft) to vehicles, boats, buildings or people not in the Operator's control or without explicit permission from the relevant persons or owners		
	8	Will the RPAS operations involve flights over any populous area such as beaches, other people's backyards or heavily populated parks		





Remote pilot(s) and RPA Observer(s) Information

10. Name:	11. Type of licence or certificate and number (attach copy of licences or certificates):	12. Experience of remote pilot or RPA observer (detailed description):
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/rotor diameter): _____ 18. Maximum speed: _____

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: _____

25. Other relevant performance data or information to declare (maximum operating altitude): _____

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26. 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: _____

27. Detect and avoid capabilities: _____

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Operations

28. Purpose of operation: _____
29. Aircraft identification to be used in radiotelephony, if applicable: _____
30. Date of flight(s): _____ 31. Duration/frequency of flight(s): _____
32. Flight rules: ☐ I ☐ V ☐ Y ☐ Z ☐ 33. Type of operation: VLOS ☐ BVLOS ☐
34. Number and location(s) of remote pilot station(s): _____

35. Handover procedures between remote pilot stations: _____
36. Point of departure: _____ 37. Point of destination: _____
38. Take-off and landing characteristics: _____

39. Route: _____
40. Cruising altitude: _____
41. Payload information/description: _____

Use of Communication Capabilities

42. ATS communications: _____
43. Command and control (C2) link: _____
44. Communications between remote pilot and RPA observer, if applicable: _____
45. Payload data link: _____

Contingency and Emergency Procedures

46. Loss of C2 link (partial or total): _____
47. Failure of ATC communications (partial or total): _____
48. Failure of remote pilot/RPA observer communications: _____
49. Other emergencies: _____

Security Measures Associated with the RPA Operation

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50. Physical security of remote pilot station(s): _____

51. Physical security of RPA while on the ground: _____

52. Security of C2 link: _____

Liability and Insurance

53. Document number of insurance policy (*attach copy of liability and insurance document*): _____

54. 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)

55. **Signature of Applicant:** _____

56. **Date:** _____



Remotely Piloted Aircraft Systems (RPAS)

INFORMATION REQUIRED FOR THE COMPLETION OF RPAS APPLICATION 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 Indicate if business or trading name is different from item 1.
- Item 3 Indicate physical location of main and secondary bases of operation. GhanaPostGPS Address may be used.
- Item 4 Mailing address — indicate the current contact mailing address of the operator.
- Item 5 Proposed date when operations are planned to begin.
- Item 6 Names of key company personnel as applicable in Part 9 of Ghana Civil Aviation (Safety) Regulations L. I. 2000 subsection 9.2.2.2

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 or serial number in the absence of the former. 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).

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- 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.
- 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 Typical and maximum climb rate — indicate the normal operational climb rate and maximum climb rate of the RPA.
- 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 pertinent performance data.
- 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 if known.
- 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.

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- 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: / 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.

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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.



Remotely Piloted Aircraft Systems (RPAS) Application

Acronyms and Abbreviations

ACAS	airborne collision avoidance system
ADF	automatic direction finder
ADS-B	automatic dependent surveillance — broadcast
ADS-C	automatic dependent surveillance — contract
ATS	air traffic services
C2	command and control
CNS	communication, navigation and surveillance
CPDLC	controller-pilot data link communications
DME	distance measuring equipment
GBAS	ground-based augmentation system
GNSS	global navigation satellite system (GPS, GLONASS, Galileo, etc)
HF	high frequency
I	the entire flight will be operated under the IFR
IFR	instrument flight rules
ILS	instrument landing system
PBN	performance-based navigation
RNAV	area navigation
RNP	required navigation performance
RPA	remotely piloted aircraft
RPAS	remotely piloted aircraft system
RVSM	reduced vertical separation minimum
SATCOM	satellite communication
UHF	ultra high frequency
V	the entire flight will be operated under the VFR
VFR	visual flight rules
VHF	very high frequency
VOR	VHF omnidirectional radio range
Y	the flight initially will be operated under the IFR, followed by one or more subsequent changes of flight rules
Z	the flight initially will be operated under the VFR, followed by one or more subsequent changes of flight rules

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7.3 Formal Application Form



RPAS OPERATOR CERTIFICATION FORMAL APPLICATION FORM

SECTION A - RPAS OPERATOR ORGANIZATION INFORMATION						
BUSINESS / ORGANIZATION NAME		BUSINESS TELEPHONE	BUSINESS ADDRESS			
SECTION B - BASE & OFFICIAL RECORDS LOCATION INFORMATION						
TYPE OF BASE	LOCATION	TYPE OF RECORD	LOCATION	CONTACT PERSON	TELEPHONE	EFFECTIVE DATE
Primary Place of Business		Operations Flight Records				
Principal Operations Base		Operations Flight Crew Records				
Main Base for Maintenance		Aircraft Maintenance Records				
SECTION C - RPAS OPERATOR CONTACT INFORMATION						
MANAGEMENT POSITION	NAME	ACTUAL TITLE	LOCATION	TELEPHONE	REMARKS	

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SECTION D - EXEMPTIONS & DEVIATIONS REQUESTED				
REGULATION	DESCRIPTION OF EXEMPTIONS AND DEVIATION REQUESTED	EFFECTIVE DATES	BASIS	
SECTION E - LISTING OF AIRCRAFT AUTHORISED REQUESTED				
AIRCRAFT MMS	REGISTRATION	EFFECTIVE DATE	SERIAL NUMBER	
SECTION F - AREAS & ROUTES OF OPERATIONS REQUESTED				
AREA OF OPERATION	DATES/TIMES OF OPERATION	AIRCRAFT AUTHORISED	SPECIAL AUTHORISATIONS	LIMITATIONS
SECTION G - OPERATIONAL AUTHORISATIONS REQUESTED				
TYPE OF APPROVAL		LIMITATIONS	PREVIOUS APPROVALS	
SECTION H- AERODROME AUTHORISATIONS REQUESTED				
AERODROME	TYPE OF APPROVALS	DATES/TIMES	LIMITATIONS	

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SECTION I- SPECIAL AUTHORISATIONS REQUESTED					
AUTHORISATIONS		LOCATION	DATES/TIMES	RPAS	LIMITATIONS

SECTION J - SERVICE PROVIDER ARRANGEMENTS				
Dispatch of RPAS Arrangements (BVLOS)				
TYPE OF APPROVAL	AIRPORT/AERODROME	SERVICE PROVIDER	RPAS MMS	EFFECTIVE DATE
Flight Planning				
Documents				
Weather Documents				
Load Manifest				

SECTION K - MAINTENANCE ORGANIZATION ARRANGEMENTS				
TYPE OF MAINTENANCE	RPAS MMS	LOCATION	SERVICE PROVIDER	

SECTION L - TRAINING ARRANGEMENTS		
A. TRAINING:		
SUBJECTS	TRAINING ORGANISATION	LOCATION

B. FLIGHT SIMULATION TRAINING DEVICES:				
RPAS MMS	LEVEL	SIMULATOR PROVIDER	LOCATION	SIMULATOR APPROVAL

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INSTRUCTIONS

Please chose from below all applicable for Section G supra:

1. Visual Line of Sight
2. Beyond Visual Line of Sight
3. Above 400 feet above ground level
4. Others (Specify)

Please chose from below all applicable for Section I supra:

1. Dangerous Goods
2. Category II Instrument Approaches
3. Category III Instrument Approaches
4. Low Visibility Takeoffs
5. RVSM
6. Continuing Airworthiness Maintenance Programme
7. Use of Minimum Equipment List
8. Approval of Cargo Loading System
9. Night Operations
10. Banner Towing
11. Cross Border Operations
12. Hazardous Operations
13. Dropping and Discharging of Things
14. Acrobatic, Formation and Racing Flights
15. Operations in Restricted Areas of Aerodromes
16. Operations in Areas of High RF Transmission and Interference
17. Others (specify)

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7.4 SAMPLE ROC


 <div style="text-align: center;"> Republic of Ghana Ministry of Aviation GHANA CIVIL AVIATION AUTHORITY REMOTELY PILOTED AIRCRAFT SYSTEMS OPERATOR CERTIFICATE </div> 		
A. ROC INFORMATION:		
1. ROC NUMBER:	3. EFFECTIVE DATE:	
2. STATE OF THE OPERATOR: Ghana	4. EXPIRY DATE:	
B. AIR OPERATOR INFORMATION & OPERATIONAL POINT OF CONTACT:		
1. RPAS OPERATOR OFFICIAL NAME:	5. RPAS OPERATOR PRIMARY BASE OF OPERATIONS: (City and Country)	
2. RPAS OPERATOR TRADING NAME:	6. RPAS OPERATOR DIRECTOR OF OPERATIONS E-MAIL CONTACT:	
3. RPAS OPERATOR CONTACT TELEPHONE:	7. RPAS OPERATOR MAILING ADDRESS: (Street or PO Box Number)	
4. RPAS OPERATOR CONTACT FAX:	8. RPAS OPERATOR MAILING ADDRESS: (City, State, Postal Code)	
C. ISSUING AUTHORITY INFORMATION		
1. CAA ORGANIZATION: Ghana Civil Aviation Authority	4. CAA E-MAIL CONTACT: info@caa.com.gh safetyreg@caa.com.gh	
2. CAA TELEPHONE: +233 30 2776171	5. CAA MAILING ADDRESS: (Number, Street or Postal Box) PMB – KIA	
3. CAA FAX: +233 30 2773293	6. CAA MAILING ADDRESS: (City, State, Postal Code) Accra, Ghana	
D. CERTIFICATE APPROVAL INFORMATION		
This certificate certifies that the operator listed in this RPAS Operator Certificate is authorized to perform commercial RPAS operations, as defined in the Operations Specifications issued to this operator, in accordance with the provisions of the approved Operations Manual and Ghana Civil Aviation Directives.		
1. DATE OF ISSUE:	2. SIGNATURE OF ISSUING AUTHORITY:	3. PRINTED NAME & OFFICIAL TITLE: Charles Kraikue Director - General Ghana Civil Aviation Authority

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7.5 SAMPLE OPSPECS

 OPERATIONS SPECIFICATIONS Ghana RPAS Display Condensed Copy		Notice: This document is issued as a valid synopsis of the Operations Specifications authorisations Issued to this ROC holder for the RPAS model listed below. This document must be made available, on request, to any civil aviation authority.
SUBJECT TO THE APPROVED CONDITIONS IN THE OPERATIONS MANUAL:		
A. GCAA AUTHORIZED PERSON CERTIFICATION:		
I hereby certify that these condensed operations specifications contain the primary authorizations issued by the Republic of Ghana to the ROC holder in the GCAA master operations specifications for the operation of the stated RPAS model.		3. OFFICIAL STAMP/SEAL:
1. EFFECTIVE DATE:	2. SIGNATURE OF CERTIFYING AUTHORITY:	
B. ISSUING AUTHORITY CONTACT DETAILS		
1. GCAA TELEPHONE:NUMBER +233 30 2776171	2. GCAA FAX:NUMBER +233 30 2773293	3. GCAA E-MAIL ADDRESS info@gcaa.com.gh safetyreg@gcaa.com.gh
C. ROC INFORMATION:		
1. ROC NUMBER:	2. OPERATOR NAME:	3. TRADING NAME:

 OPERATIONS SPECIFICATIONS Ghana RPAS Display Condensed Copy		Notice: This document is issued as a valid synopsis of the Operations Specifications authorisations Issued to this ROC holder for the RPAS model listed below. This document must be made available, on request, to any civil aviation authority.
D. AUTHORISED AIRCRAFT:		
1. RPAS MAKE/MODEL/SERIES:	2. RPAS REGISTRATION:	
E. AUTHORISED TYPES OF OPERATION		
1 <input checked="" type="checkbox"/> VISUAL LINE OF SIGHT 2 <input type="checkbox"/> BEYOND VISUAL LINE OF SIGHT 3 <input type="checkbox"/> ABOVE 400 FEET AGL 4 <input checked="" type="checkbox"/> OTHER: NIGHT FLYING, OPERATIONS 30M TO PEOPLE, BUILDINGS, STRUCTURES AND PUBLIC ROADS		
F. AREA OF OPERATIONS & SPECIAL LIMITATIONS:		
1. AUTHORISED AREAS OF OPERATIONS:		
REPUBLIC OF GHANA		
2. SPECIAL LIMITATIONS:		
N/A		
Section G Special Authorizations Provided on Page 2		

 OPERATIONS SPECIFICATIONS Ghana RPAS Display Condensed Copy		Notice: <small>This document is issued as a valid synopsis of the Operations Specifications authorisations Issued to this ROC holder for the RPAS model listed below. This document must be made available, on request, to any civil aviation authority.</small>	
G. SPECIAL AUTHORISATIONS:	APPROVAL	Specific Approvals: Limited	Control Number
1. Dangerous Goods			
2. Category II Instrument Approaches			
3. Category III Instrument Approaches			
4. Low Visibility Takeoffs			
5. RVSM			
6. Continuing Airworthiness Maintenance Prog			
7. Use of Minimum Equipment List			
8. Approval of Cargo Loading System			
9. Night Operations			
10. Banner Towing			
11. Cross Border Operations			
12. Hazardous Operations			
13. Dropping and Discharging of Things			
14. Acrobatic, Formation and Racing Flights			
15. Operations in Restricted Areas of Aerodromes			
16. Operations in Areas of High RF Transmission and Interference			
17. Operations within 30m of people			
18. Operations in restricted, prohibited, danger areas and Special Use Areas (SUA)			
19. Flights up to 1000 feet AGL			
20. NOT SPECIFIED	N/A	[Reserved]	
21. NOT SPECIFIED	N/A	[Reserved]	
22. NOT SPECIFIED	N/A	[Reserved]	

SECTION G EFFECTIVE DATE:	SIGNATURE OF CERTIFYING AUTHORITY:	NAME AND TITLE: Daniel Acquah Director, Safety Regulation Ghana Civil Aviation Authority
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End of Advisory Circular