



TECHNICAL GUIDANCE MATERIAL

for

RPAS PROVING FLIGHT AUTHORITY

SUBJECT: TECHNICAL GUIDANCE MATERIAL FOR RPAS PROVING FLIGHT AUTHORITY.

EFFECTIVE DATE: 18 July 2022

APPLICABILITY

This TGM is applicable to Designers and Manufacturers of Non-Type Certified RPAS.

PURPOSE

The purpose of this technical guidance material (TGM) is to provide procedural guidelines to applicants regarding the process and data required for RPAS Proving Flight Authority.

REQUIREMENTS

The SACAR require that all RPAS must submit a System Safety Assessment in terms of SACAR Part 101. However designers and manufacturers need to test their designs and develop data that will be submitted for System Safety.

1. REFERENCE:

- i. Part 101 Subpart 2 of the Civil Aviation Regulations
- ii. Part 24, Subpart 2,3,4 and 5 of the Civil Aviation Regulations (CAR's)

2. TERMS AND ABBREVIATIONS:

TERM	DEFINITION
Accept	means the acknowledgement by SACAA that an item or plan should lead to compliance. Applicants' tests and engineering reports are accepted;
Aeroplane	means a power-driven heavier-than-air aircraft deriving its lift in flight mainly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.
Aircraft	means an aircraft as defined in the Act, including its engines, propellers, rotor, components, parts, equipment, instruments, accessories and material;
Applicant	means the person/organization that is the legal entity on whose behalf the application was made. This will normally be the entity to which the RPAS Proving Flight Authority is issued to when the review process is completed;
Approve	means to make formal acknowledgement that a product or document meets the regulations and requirements. Within this instruction the word approve is limited to the Proving Flights.
Certificate of Registration	Means a certificate issued after the aircraft has been registered in terms of part 47
Rotorcraft	Means a power driven heavier than air aircraft supported in flight by the reactions of the air on one or more rotors.
Remote Pilot Station (RPS)	means the station at which the remote pilot manages the flight of the RPA;

Remotely Piloted Aircraft (RPA)	means an unmanned aircraft which is piloted from a remote pilot station, excluding model aircraft and toy aircraft;
Remotely Piloted Aircraft System (RPAS)	means a set of configurable elements consisting of a remotely piloted aircraft, its associated remote pilot station(s), the required command and control links and any other system elements as may be required at any point during flight operation;

ABBREVIATION	DESCRIPTION
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ATSU	means Air Traffic Service Unit;
CAMU	means Central Airspace Management Unit;
ICAO	means International Civil Aviation Organization;
RPAS	Remotely Piloted Aircraft Systems
RPL	Remote Pilot License
RPA	Remotely Piloted Aircraft
SACAA	South African Civil Aviation Authority
SACAR	South African Civil Aviation Regulations of 2011, as amended
SACATS	South African Civil Aviation Technical Standards
TGM	Technical Guidance Material

3. General Requirements

- 3.1. Proving flights shall be conducted by the holder of an appropriate RPL.
- 3.2. RPAS shall be issued with an RPAS proving flight authority for a period determined by the director.
- 3.3. The RPA must have a certificate of registration.

4. Applicant Requirements

- 4.1. The minimum data required for RPAS Proving flights includes:
 - 4.1.1. Statement specifying the purpose of the proving flights.
 - 4.1.2. Data defining the scope of the tests and the manner in which the RPA will be safely operated.
 - 4.1.3. A Safety Statement signed by the person responsible and accountable for the safe conduct of the company's operations in the proposed environment. The statement should include the commitment to report occurrences that may prejudice the safety of other airspace users, third parties or people on the ground.
 - 4.1.4. The proposed dates and times for the test flights.
 - 4.1.5. Data defining the operational area including the take-off and landing sites, emergency landing sites, height/altitude, Map showing the area as well as the airspace within which it is located.
 - 4.1.6. Permission from the relevant authorities, e.g., CAMU, ATSU, landowner for duration of the tests.
 - 4.1.7. Draft Operating/flight Manuals, Maintenance Manuals or such documents relating to the operation of the RPA.
 - 4.1.8. Sufficient data to identify the RPA including photographs.

- 4.1.9. Data demonstrating system safety as prescribed in SACATS 101.02.2 all relevant sections to the extent available.
- 4.1.10. Establish a system of record keeping that allows the adequate storage and reliable traceability of activities.
- 4.1.11. Records should be stored in a manner that ensures protection against damage, unauthorized alterations and theft.
- 4.1.12. These records shall be made available to the SACAA for inspection.
- 4.1.13. Required ICASA Radio licenses for the tests flight.
- 4.1.14. Proof of third-party liability insurance.
- 4.1.15. Equipment List.
- 4.1.16. Evidence of a compass swing (if the compass is installed)
- 4.1.17. Evidence of Pitot Static tests if applicable.
- 4.1.18. The RPAS must be inspected and declared safe for the intended operation by a competent person.

5. Applicant Consideration

- 5.1. The RPAS may be subject to an inspection by SACAA personnel.
- 5.2. The content shall be commensurate with the complexity and scope of the flights.
- 5.3. A proving flight authority shall be valid only for flights within the borders of the Republic.
- 5.4. The documentation shall reflect all operational and legislative activities and obligations which the applicant is obliged to meet
- 5.5. The applicant for the issuance of an RPAS proving flight authority shall submit a fully completed application form in accordance with the requirements of part 24.02.1 of the SACAR and the associated SACATS.
- 5.6. The completed application form CA 24-01 shall also be accompanied by the appropriate fee as stipulated in Part 187 of the SACAR.
- 5.7. The allocated inspector/engineer will acknowledge receipt of the application and request substantiating data.
- 5.8. The applicant shall provide a complete substantiating data pack to the allocated inspector/engineer.
- 5.9. The allocated inspector/engineer will review the submitted data and provide feedback to the applicant.

Note: Only RPAS designers and manufacturers can apply.

6. Issuance

- 6.1. After a review of the relevant substantiating data and once compliance has been verified.
- 6.2. An hourly rate invoice will be sent to the client for the time spent on the project.
- 6.3. Once payment has been verified by our finance, an RPAS Proving Flight Authority shall be issued in terms of CAR part 24.02.3 and may be subjected to conditions.

7. Period of Validity

- 7.1. An RPAS Proving Flight Authority shall be issued for a period determined by the director.
- 7.2. Proving Flight Authority shall be valid until (CAR 24.02.6(1):
 - 7.2.1. the expiry date;
 - 7.2.2. it is surrendered by the holder thereof, or is suspended by an authorized officer, inspector or authorized person;
 - 7.2.3. cancelled by the Director;
 - 7.2.4. a major modification is effected to the aircraft; or
 - 7.2.5. the aircraft is involved in an incident or accident that results in major damage to its primary structure.

8. Transferability

Transferability of the RPAS Proving Flight Authority shall be carried out in accordance with CAR 24.02.9.

9. Effective Date

This guidance material is effective from the day of publication.

10. Queries

For any queries or feedback regarding this Technical Guidance Material please contact:

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11. Document Authorization

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