

Regional Safety Oversight Cooperation System

Latin American Aeronautical Regulations

LAR UAS 101

**Operation of unmanned aircraft systems
(UAS) in the open category**

**First edition
March 2023**

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Amendments to LAR 101

Amendment	Origin	Topics	Approved by JG SRVSOP
First edition	Seventh Virtual Meeting of the UAS/RPAS Focal Points (RVPF-UAS-RPAS/7) Fast track acceptance and approval	Chapter A – Operation requirements	March 2023

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List of effective pages

Detail	Pages	Amendment	Dates
Preamble	iii to vi		March 2022
Chapter A: Operation requirements	A1 to A5		March 2022

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PREAMBLE

Background

Due to the increasing number of unmanned aircraft (UA) operating in **low-level** airspace that could potentially conflict with manned aviation, the International Civil Aviation Organization (ICAO) was requested to develop a global baseline of provisions and guidance material for the appropriate harmonisation of regulations for unmanned aircraft systems (UAS) that fall outside the framework of international instrument flight rules (IFR).

To regulate the operations of UA and remotely piloted aircraft (RPA), the States of the ICAO South American (SAM) Region and of the Regional Safety Oversight Cooperation System (SRVSOP) started developing the strategic planning and the regulatory framework for these operations based on documents published by ICAO, regional organisations and States.

To this end, the SAM and SRVSOP States designated their UAS/RPAS focal points to carry out such planning and to develop the concepts of operations (CONOPS) for UA and for UAS traffic management (UTM) and the associated LARs and guidance material.

En este marco, los Estados SAM y del SRVSOP, definieron los requisitos técnicos comunes de la categoría abierta y las consideraciones operacionales y administrativas a tener en cuenta en el desarrollo de sus reglamentos y materiales de orientación nacionales relacionados con esta categoría.

In order to develop the strategic planning and the regulatory framework of the SAM Region and the SRVSOP, the following UAS/RPAS focal point meetings were held:

First meeting

The First Virtual Meeting of the UAS/RPAS Focal Points of SAM and SRVSOP States (RVPF-UAS-RPAS/1) was held on 26 February 2021, and proposed the following work programme:

- UAS/RPAS strategic planning of the Region;
- regulatory framework for UAS/RPAS operations; and
- roadmap for the conduction of these activities.

Work teams and a rapporteur for each group were appointed. Likewise, it was agreed that these work teams would meet independently and that, at the Second Virtual Meeting of the UAS/RPAS Focal Points (RVPF-UAS-RPAS/2), the progress achieved would be reported.

Second meeting

The Second Virtual Meeting of the UAS/RPAS Focal Points (RVPF-UAS-RPAS/2) was held on 26 April 2021, where the following conclusions were adopted:

- further development of the UA CONOPS structure;
- establishment and implementation of a technical and administrative coordination channel to deal with requests for international RPAS operations;
- acceptance of the structure and development of the UTM CONOPS;
- acceptance of the development of the UAS regulatory framework by parts; and
- postponement of the development of the RPAS regulatory framework.

Third meeting

The Third Virtual Meeting of the UAS/RPAS Focal Points (RVPF-UAS-RPAS/3) was held on 26 July 2021. The rapporteur of the task force in charge of developing the UA CONOPS proposed to the meeting to first define the open category before developing the UA CONOPS, which was accepted by the meeting. The meeting adopted the following conclusions:

- approval of the schedule of activities for further development of the UTM CONOPS for the SAM Region and the SRVSOP;
- approval of the work schedule for the definition of the open category;
- approval of the work schedule for the development of LAR 101 and CA 101-1; and
- adoption of the format for reporting international RPAS IFR operations.

Fourth meeting

The Fourth Virtual Meeting of the UAS/RPAS Focal Points (RVPF-UAS-RPAS/4) was held on 4 November 2021. This meeting reviewed: the progress made by the work team in charge of developing the UTM CONOPS and updating its work schedule; the progress made on the definition of the open category for unmanned aircraft systems (UA); the progress made on the draft LAR 101; and the progress made on draft Advisory Circular (AC) 101-1. After reviewing the working papers (WPs) presented, the meeting adopted the following conclusions:

- approval of the modified schedule of activities for the further development of the UTM CONOPS for the SAM Region and the SRVSOP;
- second survey with five (5) additional questions for the final definition of the open category;
- survey to define the LAR UAS regulatory framework; and
- approval of the work schedule for the final definition of the open category, definition of the LAR UAS regulatory framework, development of the CONOPS for unmanned aircraft (UA), and development of the LAR UAS(s) and associated AC.

Fifth meeting

The Fifth Virtual Meeting of the UAS/RPAS Focal Points (RVPF-UAS-RPAS/5) was held on 15 December 2021. This meeting was presented with the following: the results of the second survey conducted for the definition of the open category and the results of the survey conducted for the definition of the regulatory framework for unmanned aircraft (UA). After reviewing the working papers (WPs) presented, the meeting adopted the following conclusions:

- acceptance of the final definition of the open category for SAM and SRVSOP States; and
- acceptance of the LAR UAS regulatory framework for the open and specific categories.

Sixth meeting

The Sixth Virtual Meeting of the UAS/RPAS Focal Points (RVPF-UAS-RPAS/6), was held on 3 March 2022. The meeting was presented with the following: the progress made on the final draft of the UTM CONOPS for consideration of the meeting and the final draft of the UA CONOPS for its approval. After reviewing the working papers (WPs) presented, the meeting adopted the following conclusions:

- Acceptance of the 45-day deadline for reviewing the draft UTM CONOPS
- Acceptance of the concept of operations (CONOPS) for unmanned aircraft (UA)

Seventh meeting

The Seventh Virtual Meeting of the UAS/RPAS Focal Points (RVPF-UAS-RPAS/7) was held on 9 May 2022. The final drafts of UAS 100 and 101 LARs were presented at this meeting. After reviewing the working papers (WPs) presented, the meeting adopted the following conclusions:

- Acceptance of the UTM CONOPS
- Acceptance of LAR UASs 100 and 101
- Development of LAR UAS 102 and Advisory circulars (AC) 101-1 and 102-1

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BIBLIOGRAPHY

ICAO

ICAO model regulations Part 101 and Part 102

ICAO model advisory circular (AC) 101-1

SAM

CONOPS for unmanned aircraft in the SAM Region

CONOPS for unmanned aircraft traffic management (UTM) in the SAM Region

Chapter A: Operation requirements**101.001 Applicability**

- (a) This regulation applies to:
- (1) registration; and
 - (2) operations in the open category using an unmanned aircraft (UA) with a gross mass of less than 25 kg on take-off and throughout the duration of the operation, including all items that are on board and/or attached to the aircraft, and the UA is operated under Section 101.010.

101.005 Unmanned aircraft registration and certificate of registration

- (a) Every person lawfully entitled to the possession of a UA who will operate the UA in accordance with the requirements of LAR 101 shall register that UA and hold a valid certificate for that aircraft from:
- (1) the CAA;
 - (2) the appropriate aeronautical authority of a contracting State of ICAO; or
 - (3) the appropriate aeronautical authority of another State that is party to an agreement with the CAA of a State that provides for the acceptance of each other's registrations.

101.010 Conditions for the operation of unmanned aircraft in the open category

- (a) An UA will be operated in the open category:
- (1) within the visual line-of-sight of the person operating the UA;
 - (2) at or below a height of 400 ft (122 m) above ground level (AGL);
 - (3) when the person operating the UA is only operating that UA; and
 - (4) in accordance with Section 101.065;
- (b) An UA will not be operated:
- (1) in a prohibited area;
 - (2) in a restricted area; or
 - (3) over an area where a fire, police or other public safety or emergency operation is being conducted, without the approval of a person in charge of the operation.

101.015 Approval of areas for operation of unmanned aircraft

- (a) A person may apply to the CAA for the approval of an area as an area for the operation of:
- (1) UA generally, or a particular category of UA.
 - (i) An approval has effect from the time written notice is issued to the applicant, or a later day, or day and time stated in the approval.
 - (ii) An approval may be expressed to have effect for a particular period (including a period of less than 1 day) or indefinitely.
 - (2) The CAA may impose conditions on the approval in the interests of the safety of air navigation.

- (3) If the CAA approves an area under (a) (1) of this section, it shall publish details of the approval (including any condition) in a NOTAM, AIP supplement or amendment, as appropriate.
- (b) The CAA may revoke the approval of an area, or change the conditions that apply to such an approval, in the interests of the safety of air navigation; likewise, the CAA shall publish details of any revocation or change in NOTAM or on an aeronautical chart.
- (c) The CAA shall also give written notice of the revocation or change:
 - (1) to the person who applied for the approval of the area; or
 - (2) if that person applied for that approval as an officer of an organisation concerned with UA and no longer holds that office, to the person who now holds the office.

101.020 **Airspace**

- (a) A person shall not operate a UA:
 - (1) within segregated airspace unless the person has approval to do so from the administering authority responsible for the segregated airspace area.
 - (2) in controlled airspace (A, B, C, D and E) without authorisation from the ATS unit responsible for that airspace;
 - (3) in controlled airspace unless he or she:
 - (i) holds a relevant qualification for the use of a radio transmitter;
 - (ii) maintains a listening watch on a frequency or frequencies specified in the instructions of the ATS unit; and
 - (iii) makes broadcasts on a specified frequency or frequencies and/or maintains other ways of communication requested by the ATS unit at the specified interval giving the information specified in ATS instructions.
- (b) The CAA may direct, with respect to a particular UA or type of UA, that a person shall not operate that UA, or that type of UA, unless the person complies with the requirements of paragraph (a) (3) of this section.
- (c) A person operating a UA shall:
 - (1) maintain observation of the surrounding airspace in which the aircraft is operating for other aircraft; and
 - (2) make sure that the UA does not operate above 400 ft (122 m) AGL.
- (d) The person to whom this section applies shall comply with all of the requirements set forth herein.
- (e) For the purposes of this section, the following definitions apply:
 - (1) **Relevant qualification** means any of the following qualifications:
 - (i) a radio transmitter operator licence;
 - (ii) a remote pilot licence (or flight crew licence);
 - (iii) an air traffic controller licence; or
 - (iv) a military qualification equivalent to a licence mentioned in (1) (ii) and (1) (iii) of this paragraph.
 - (2) **Segregated airspace** means airspace of specified dimensions allocated for exclusive use of one or more specific users, with operations that cannot be safely integrated with those of other airspace users.

- (3) **Specified aeronautical frequency** for a particular airspace means a frequency specified in the AIP or by ATS as a frequency for use in the airspace.
- (4) **Specified information** for a particular airspace means information specified in the AIP or by ATS as information that must be broadcast in the airspace.
- (5) **Specified interval** for a particular airspace means the interval specified in the AIP or by ATS as the interval at which broadcasts must be made while in that airspace.

101.025 Airspace knowledge

A person to whom this requirement applies shall:

- (a) ensure that before each flight, the person is aware of the airspace designation and classification under LAR 211 and any applicable airspace restrictions in place in the area of intended operation; or
- (b) conduct the operation under the direct supervision of a person who is aware of the airspace designation under LAR 211 and the corresponding AIP, and of any applicable airspace restrictions in place in the area of intended operation.

101.030 Hazard and risk minimisation

A person operating a UA shall take all practicable steps to minimise hazards to persons, property and other aircraft.

101.035 Dropping of articles

A person operating a UA shall not allow any object to be dropped in flight if such action may create a hazard to other persons or property.

101.040 Aerodromes

- (a) A person shall not operate a UA on or within the established boundaries of:
 - (1) an uncontrolled aerodrome, unless:
 - (i) the operation is undertaken in accordance with an agreement with the aerodrome operator;
 - (ii) each remote pilot has a UA observer in attendance while the aircraft is in flight.
 - (2) a controlled aerodrome, unless it is operated in accordance with an authorisation from the relevant ATS unit.
 - (3) any aerodrome, unless the person:
 - (i) is the holder of, or is under the direct supervision of the holder of, a remote pilot qualification that is acceptable to the CAA;
 - (ii) is under the direct supervision of a person appointed to give instruction in the operation of a UA by a person or organisation acceptable to the CAA; or
 - (iii) is the holder of a remote pilot licence or certificate issued under 102.05.
- (b) Paragraph (a) of this section does not apply to an operation that is conducted in airspace that is physically separated from the aerodrome by a barrier that is capable of arresting the flight of the UA.

101.045 Visual line-of-sight (VLOS) operations

- (a) A person shall not operate a UA to which this requirement applies in:
- (1) any area in which the person's view of the surrounding airspace in which the UA will operate is obstructed; or
 - (2) meteorological conditions that obstruct the person's ability to maintain visual line-of-sight of the aircraft.
- (b) A person who operates a UA to which this requirement applies shall at all times:
- (1) maintain visual line-of-sight with the UA or be in direct communications with a UA observer that maintains visual line-of-sight with the UA;
 - (2) be able to see the surrounding airspace in which the UA is operating; and
 - (3) operate the UA below any cloud base.
- (c) For the purposes of this section, visual line-of-sight means a straight line along which the remote pilot or UA observer has a clear view and which may be achieved with the use of spectacles, contact lenses, or a similar device used for vision correction of the user to no better than normal vision but not the use of an electronic, mechanical, electromagnetic, optical, or electro-optical instrument.

101.050 Weather and day limitations

- (a) A person shall not operate a UA:
- (1) in or into a cloud;
 - (2) at night; or
 - (3) in conditions other than visual meteorological conditions (VMC), unless permitted by another provision of this regulation, or in accordance with an air traffic control clearance.

101.055 Night operations

- (a) A person shall not operate a UA at night unless the operation is:
- (1) indoors; or
 - (2) a shielded operation.

101.060 Right-of-way

A person who is operating a UA shall give way to and remain clear of all manned aircraft on the ground and in flight.

101.065 Operation over or near people

- (a) No person shall operate a UA over a person unless that person is:
- (1) directly participating in the operation of the UA;
 - (2) located under a covered structure or inside a stationary vehicle that can provide reasonable protection; or
 - (3) directly associated with the operation of the UA or the UA is operated no closer than 30 m, measured horizontally from a second person not directly associated with the operation of the UA.

- (4) (a) (3) does not apply if the second person is standing behind a fixed wing UA while the fixed wing UA is taking off;
- (b) (a) (1), (a) (2) or (a) (3) of this section do not apply if:
 - (1) the person has consented that the UA is allowed to fly over or near him or her; or
 - (2) the UA is operated by the police, fire brigade, civil defence or other public institution authorised by the CAA.

101.070 Knowledge for acting as a remote pilot

For operations under LAR 101 conducted within the established boundaries of an aerodrome, the remote pilot shall have knowledge of the use of aeronautical charts and of the airspace.

101.075 Prohibited UAS operations

- (a) No person shall operate a UA in such a careless or reckless manner as to endanger or be likely to endanger aviation safety or the safety of any person or property.
- (b) No person shall operate a UA while operating a moving vehicle, vessel or manned aircraft.

101.080 Psychoactive substances

- (a) No person shall act as a remote pilot, member of a flight operation or a UA observer:
 - (1) within 8 hours after consuming an alcoholic beverage;
 - (2) while under the influence of alcohol; or
 - (3) while using any psychoactive substance that impairs the person's faculties to the extent that aviation safety or the safety of any person is endangered or likely to be endangered.
