

## GOVERNMENT NOTICE

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### DEPARTMENT OF TRANSPORT

No. R. 444

27 May 2015

#### CIVIL AVIATION ACT, 2009 (ACT NO. 13 OF 2009)

#### EIGHTH AMENDMENT OF THE CIVIL AVIATION REGULATIONS, 2015

I, Dipuo Peters, Minister of Transport hereby in terms section 155(1)(a) of the Civil Aviation Act, 2009, (Act No. 13 of 2009), makes the regulations set out in the Schedule hereunder.

**Dipuo Peters**

**Minister of Transport**

**Date:**

### SCHEDULE

#### CIVIL AVIATION ACT, 2009 (ACT NO. 13 OF 2009)

#### EIGHTH AMENDMENT OF THE CIVIL AVIATION REGULATIONS, 2015

#### GENERAL EXPLANATORY NOTE:

[            ] Words in bold type in square brackets indicate omissions from existing regulations.

           Words underlined with a solid line indicate insertions in existing regulations.

**Definition**

1. In this Schedule "the Regulations" means the Civil Aviation Regulations, 2011 published in the Government Notice R.425 of 1 June 2012.

**Amendment of Part 1 of the Regulations****2. Regulation 1 of the Regulations is hereby amended by—**

- (a) the insertion after the definition of "automatic dependent surveillance – contract" of the following definitions respectively:

" 'autonomous operation' means an operation during which an unmanned aircraft is operating without intervention in the management of the flight;" ;

" 'autonomous unmanned aircraft' means an unmanned aircraft that does not allow intervention in the management of the flight;" ;

- (b) the insertion after the definition of "base jumps" of the following definition:

" 'beyond visual line-of-sight' means an operation in which the remote pilot cannot maintain direct unaided visual contact with the remotely piloted aircraft to manage its flight and to meet separation and collision avoidance responsibilities visually;" ;

- (c) the insertion after the definition of "co-authority dispatch" of the following definition:

" 'command and control link' means the data link between the remotely-piloted aircraft and the remote pilot station for the purposes of managing the flight;" ;

- (d) the insertion after the definition of "communication failure procedure" of the following definition:

" 'communication link' means a digital or analogue data link to transfer voice or data between the remote crew, air traffic control, airspace users and other data users;" ;

- (e) the insertion after the definition of "disembarkation" of the following definition:

" 'down-link' means the direct or indirect communication link from the RPA;" ;

- (f) the insertion after the definition of "extended range operations with twin-engine aircraft" of the following definitions respectively:

" 'extended visual line-of-sight' means an operation below 400 ft above ground level in which an observer, maintains direct and unaided visual contact with the remotely piloted aircraft at a distance not exceeding 1000 m from the pilot;" ;

" 'extended visual line-of-sight operation' means an operation below 400 ft above ground level, in which an observer assists in the direct unaided visual contact with the RPA, in order to facilitate separation and collision avoidance requirements;" ;

- (g) the insertion after the definition of "Notice to Airmen" of the following definition:

" 'observer' means a trained and competent person designated by the operator who, by visual observation of the remotely piloted aircraft, assists the remote pilot in the safe conduct of the flight;" ;

- (h) the insertion after the definition of "passenger aircraft" of the following definition:

" 'payload' means all the elements of an RPAS that are not necessary for flight but that are carried for the purpose of fulfilling specific mission objectives;" ;

- (i) the insertion after the definition of "primary-means navigation system" of the following definition:

" 'private operation' means the use of an RPA for an individual's personal and private purposes where there is no commercial outcome, interest or gain;" ;

- (j) the insertion after the definition of "quick-donning mask" of the following definition:

" 'radio line-of-sight' means a direct electronic point-to-point contact between a transmitter and receiver;" ;

- (k) the insertion after the definition of "release to service" of the following definitions respectively:

" 'remote pilot' means the person who manipulates the flight controls or manages the flight command instructions of a RPA during flight time;" ;

" 'remote pilot station' means the station at which the remote pilot manages the flight of the RPA;" ;

" 'remotely piloted aircraft' means an unmanned aircraft which is piloted from a remote pilot station, excluding model aircraft and toy aircraft as defined in this Part;" ;

" 'remotely piloted aircraft system' 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;" ;

- (l) the insertion after the definition of "restricted category" of the following definition:

" 'restricted visual line-of-sight' means an operation within 500 m of the remote pilot and below the height of the highest obstacle within 300 m of the RPA, in

which the remote pilot maintains direct unaided visual contact with the RPA to manage its flight and meet separation and collision avoidance responsibilities;" ;

(m) the insertion after the definition of "tow pilot rating" of the following definition:

" 'toy aircraft' means a product falling under the definition of aircraft which is designed or intended for use in play by children;" ;

(n) the insertion after the definition of "visual flight rules flight " of the following definition:

" 'visual line-of-sight' means an operation below 400 ft above ground level in which the remote pilot, maintains direct and unaided visual contact with the RPA at a distance not exceeding 500 m; "

*Note: See pictorial view of VLOS and EVLOS in Document SA-CATS 101 Appendix A.*

#### **Amendment of Abbreviations**

3. Regulation 1 of the Regulations is hereby amended by—

(a) the substitution for the abbreviation "ATSU" of the following abbreviation:

" 'ATSU' means Air Traffic Service Unit ; " ;

(b) the insertion after the abbreviation of "BIFT" of the following abbreviations:

"BVLOS" means beyond visual line of sight; " ;

"CAMU" means Central Airspace Management Unit;" ;

(c) the insertion after the abbreviation of "CVR" of the following abbreviation:

"C2" means command and control link; " ;

(d) the substitution for the abbreviation of "CAR" of the following abbreviation:

"CAR" means Civil Aviation Regulations; "

(e) the insertion after the abbreviation of "ETOPS " of the following abbreviation:

"E-VLOS" means extended visual line of sight; "

(f) the insertion after the abbreviation of "FTE" of the following abbreviation:

"FUA" means Flexible Use of Airspace; "

(g) the insertion after the abbreviation of "MSL" of the following abbreviation:

"MTOM" means maximum take-off mass; "

(h) the insertion after the abbreviation of "OFP" of the following abbreviation:

"OpSpec" means Operational Specifications; "

(i) the insertion after the abbreviation of "RDH" of the following abbreviations, respectively:

"RLA" means an RPA letter of approval; "

"RLOS" means radio line-of-sight; "

"RMT" means RPAS maintenance technician; "

(k) the insertion after the abbreviation of "RNP" of the following abbreviations, respectively:

"ROC" means RPAS operators certificate; "

"RPA" means remotely piloted aircraft; "

"RPAS" means remotely piloted aircraft system; "

"RPL" means a remote pilot licence; "

"RPS" means remote pilot station; "

**"R-VLOS"** means restricted visual line of sight; "

(l) the insertion after the abbreviation of "VHF" of the following abbreviation:

**"VLOS"** means visual line-of-sight."

#### insertion of Part 101 of the Regulations

4. Part 101 of the Regulations is hereby inserted after Part 96 of the Regulations –

#### **"PART 101: REMOTELY PILOTED AIRCRAFT SYSTEMS"**

##### **List of regulations**

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#### SUBPART 1: GENERAL PROVISIONS

##### Applicability

##### 101.01.1 (1) This Part applies to –

- (a) Class 1 and 2 of remotely piloted aircraft, unless otherwise approved by the Director; and
- (b) persons acting as owners, operators, observers, pilots and in the performance of maintenance of RPA.

##### (2) For the purposes of this Part, RPAS may be operated for –

- (a) commercial operations;
- (b) corporate operations;
- (c) non-profit operations; and

- (d) private operations.
- (3) This Part does not apply to –
- (a) autonomous unmanned aircraft, unmanned free balloons and their operations or other types of aircraft which cannot be managed on a real-time basis during flight;
  - (b) an aircraft operated in terms of Part 94;
  - (c) a model aircraft; and
  - (d) toy aircraft.

#### **Private operations**

- 101.01.2 (1) Subject to sub-regulation (2), the provisions of Subparts 2, 3, 4 and 6 of this Part do not apply to private operation of RPAS.
- (2) Notwithstanding sub-regulation (1), the provisions of regulations 101.05.5(2); 101.05.8(1)(b), (c) and (d); 101.05.9(1)(a) and (b) do not apply to private operation of RPAS.
- (3) Private operations of RPAS shall be conducted only in R-VLOS with a Class 1A or 1B RPA.

#### **Grouping and classification**

- 101.01.3 RPAS shall be grouped in accordance with the classifications as prescribed in Document SA-CATS 101.

#### **Directives**

- 101.01.4 The Director may, from time to time, issue directives which are necessary for safe and secure operation of RPAS.

#### **RPA sales or re-sales labelling**

- 101.01.5 No RPA shall be sold within the Republic unless the seller has, by way of a packaging label, or in the case of the resale thereof, by way of written notification, notified the buyer of the requirements as prescribed in Document SA-CATS 101.

**SUBPART 2: APPROVAL AND REGISTRATION****RPAS letter of approval**

101.02.1 (1) No RPAS shall be operated within the Republic, unless such RPAS has been issued with a letter of approval by the Director.

(2) An application for the issuing or renewal of an RLA shall be made to the Director on the appropriate form and accompanied by the appropriate fee as prescribed in Part 187.

(3) The Director shall issue an RLA if the applicant complies with the requirements prescribed in regulation 101.02.2.

(4) An RLA shall be valid for a period of 12 months.

**RPAS system safety**

101.02.2 (1) An applicant for the issue of an RLA, shall provide the Director with –

- (a) documentation regarding the standard to which the RPAS was designed; or
- (b) equivalent documentation that demonstrates a level of safety acceptable to the Director; or
- (c) documentation demonstrating system safety as prescribed in Document SA-CATS 101.

**Altimeter**

101.02.3 (1) Except as provided in sub-regulation (2), an RPA shall be equipped with an altimetry system or equivalent, that is capable of displaying to the operator on the RPS, the altitude and height of the RPA above ground level.

(2) An RPA that is not equipped with an altimetry system or equivalent, required by sub-regulation (1) shall be operated under R-VLOS only.

**Registration and marking**

101.02.4 (1) No RPA shall be operated within the Republic, unless such RPA has been issued with a certificate of registration by the Director.

(2) An RPA registered on the South African Civil Aircraft Register shall be deemed to have South African nationality.

(3) An application for a certificate of registration shall be –

(a) made on the prescribed form; and

(b) accompanied by the fee prescribed in Part 187.

(4) The Director shall register an RPA, issue a certificate of registration and a registration mark if the applicant complies with the requirements of this regulation. The Director shall maintain a register of all RPAs registered in terms of this regulation.

(5) The format and specification of the nationality mark designated for use on RPA shall be as prescribed in Document SA-CATS 101.

(6) If the holder of a certificate of registration transfers to another person ownership of the RPA, such holder shall, within 30 days, notify the Director of such transfer on the appropriate form.

### SUBPART 3: PERSONNEL LICENSING

#### General

101.03.1 (1) No person shall act as a remote pilot, except when undergoing a skill test or receiving flight instruction, unless he or she is in possession of a valid remote pilot licence (RPL) in the relevant category.

(2) A remote pilot licence may be issued for the following categories:

(a) RPL (A): Remote Pilot Licence (Aeroplane);

(b) RPL (H): Remote Pilot Licence (Helicopter);

(c) RPL (MR): Remote Pilot Licence (Multi-rotor).

(3) The following ratings may be endorsed on the licence:

(a) VLOS: visual line-of-sight operations;

(b) E-VLOS: extended visual line-of-sight operations;

(c) B-VLOS: beyond visual line-of-sight operations;

#### Requirements for the Issue of an RPL

101.03.2 (1) An applicant for an RPL shall –

(a) not be less than 18 years of age;

- (b) (i) hold at least a valid Class 4 medical certificate for B-VLOS operations or operations involving RPAS classified as Class 3 or higher; or  
(ii) for all other classes or types of operation, submit a self-declared medical assessment report as prescribed in Document SA-CATS 101 for operations involving RPAS classified as Class 2 or lower: Provided that an applicant who cannot meet the requirements of the medical assessment shall submit a Class 4 medical certificate;
- (c) hold at least a restricted Certificate of Proficiency in Radiotelephony (Aeronautical);
- (d) provide proof of the ability to speak the English language at proficiency level 4 or higher, as prescribed in Part 61;
- (e) where required, have completed the flight training referred to in this Subpart;
- (f) have passed the theoretical knowledge examination referred to in this Subpart;  
and  
(g) have passed the skill test referred to in this Subpart.
- (2) An application for an RPL must be made to the Director on the appropriate form within 30 days of completing the practical skill test.

#### **Theoretical knowledge examination**

- 101.03.3 (1) The theoretical knowledge examination applicable to the category of licence sought must be passed within 90 days preceding the skill test.
- (2) The theoretical knowledge examination shall be conducted at a test centre accredited by the Director, except as provided for in sub-regulation (4).
- (3) The syllabi as well as other requirements for the examination shall be as prescribed in Document SA-CATS 101.
- (4) Approval shall be obtained from the Director before any foreign theoretical training or theoretical knowledge examination is undertaken if such training or knowledge is to be accredited towards a South African RPL.

#### **Flight training**

- 101.03.4 (1) The flight training syllabi for the different categories of licence shall be as prescribed in Document SA-CATS 101.

(2) The organisation conducting the training shall issue a certificate stating that flight training has been successfully completed.

(3) All flight training shall be conducted with an aircraft of the same category for which the licence is sought.

(4) Approval shall be obtained from the Director before any foreign flight training is undertaken if such training is to be accredited towards a South African RPL.

#### **Skill test**

101.03.5 (1) The skill test for an RPL shall be conducted within 60 days of completing the flight training by an examiner accredited by the Director.

(2) The skill test shall be conducted with an aircraft of the same category for which the licence is sought.

(3) The holder of the RPL shall submit the skill test form to the Director within 30 days of the skill test.

(4) The skill test shall include the applicable sections for the E-VLOS and B-VLOS ratings if one or more of these ratings is sought.

#### **Revalidation check**

101.03.6 (1) An RPL is valid until the last day of the 24th month from the date of issue.

(2) A revalidation check shall be conducted in the 90 day period before the expiry date of the validity period by an examiner accredited by the Director. The revalidation shall be valid from the expiry date for a period of 24 months.

(3) The revalidation check shall be conducted in an aircraft of the same category for which the licence is held.

(4) If a revalidation check is completed more than 90 days before expiry or within 36 months of the expiry of an RPL, the RPL shall be re-issued from the date of the check for the normal 24 month period.

(5) The holder of an RPL shall submit the revalidation check form to the Director within 30 days of the revalidation check.

### Pilot logbook

101.03.7 (1) The holder of an RPL must maintain in a pilot logbook a record of all his or her flight time, instrument time, simulation time and instruction time.

(2) Where electronic logbooks are used, the electronic data must be printed on paper at least every 90 days and the printed pages filed sequentially in a binder.

(3) The pilot must retain all pilot logbooks for at least 60 months from the date that person no longer holds a valid pilot licence.

(4) The holder of an RPL must make the logbook available for inspection upon a reasonable request by an authorised officer, inspector or authorised person.

### SUBPART 4: RPAS OPERATOR CERTIFICATE

#### General requirements

101.04.1 (1) No person shall operate an RPAS in terms of this Part unless such person is the holder of –

- (a) in the case of commercial, corporate and non-profit operations, a valid ROC including the operations specifications attached thereto; and
- (b) in the case of commercial operations, an air services licence issued in terms of the Air Services Licensing Act, 1990 (Act No. 115 of 1990).

#### Application

101.04.2 (1) An application for the issuing of an ROC or renewal or an amendment thereto, shall be –

- (a) made to the Director on the appropriate form;
  - (b) accompanied by –
    - (i) the appropriate fee as prescribed in Part 187;
    - (ii) a copy of the certificate of registration of each RPA to be operated;
    - (iii) a copy of the RLA for each device to be operated; and
    - (iv) for an initial issue, an original operations manual required by this Part.
- (2) No RPA shall be registered under more than one ROC.

### Validity

101.04.3 (1) An ROC shall be valid for 12 months from the date of issue unless –

- (a) it is surrendered by the holder thereof; or
- (b) it is suspended by an authorised officer, inspector or authorised person or cancelled by the Director.

(2) The holder of an ROC shall, at least 60 days immediately preceding the date on which such certificate expires, apply for the renewal of such certificate.

(3) The holder of an ROC which is cancelled shall, within seven days from the date on which the ROC is cancelled, surrender such document to the Director.

### Duties of the holder of an ROC

101.04.4 (1) The holder of an ROC shall –

- (a) conduct the activities granted by such certificate and ensure compliance with the provisions authorised therein;
- (b) ensure compliance with any other requirements which the Director may impose;
- (c) report to the Director any changes directly or indirectly related to the ROC that may affect continued validity of the certificate or approval or safety of persons and property; and
- (d) ensure that the RPAS operation is conducted in a safe manner.

(2) For operations approved for E-VLOS, the operator shall –

- (a) make use of at least one observer who shall not be younger than 17 years of age; and
- (b) ensure that each observer has completed the training prescribed by the operator and as approved by the Director in their operations manual.

### Operations manual

101.04.5 (1) An ROC holder shall develop for approval by the Director, an operations manual containing all the information required to demonstrate how such operator will ensure compliance with the regulations and how safety standards will be applied and achieved during such operations.

(2) An ROC holder shall set out the type and scope of operations, including the manner in which each type of RPAS and operation will be safely conducted.

(3) The operations manual, or system of manuals, should reflect all operational and legislative activities and obligations which the ROC holder is obliged to meet, such that the content is commensurate with the size and scope of the operation.

(4) The operator shall submit amendments to the Director for approval –

(a) prior to a change in any proposed aspect, type or scope of the operator's operation;

(b) where the operations manual no longer meets the requirements of these regulations or associated technical standards;

(c) on determining that any part or component thereof is, or becomes, inadequate;  
or

(d) as required by the Director.

(5) Upon the approval of the operations manual amendments by the Director, the operator shall make such changes available to all persons engaged in the operation, deployment, handling, security, transportation and storage of any RPAS operated by such ROC holder and ensure that they are made aware, and where necessary trained in accordance with any relevant aspect relating to such amendment.

(6) The structure and contents of the operations manual shall be as prescribed in Document SA-CATS-101.

#### **Documentation and records**

101.04.6 (1) An RPAS operator shall establish a system of record-keeping that allows adequate storage and reliable traceability of all activities developed, covering in particular –

(a) lines of responsibility and accountability;

(b) safety policy;

(c) identification of aviation safety hazards encountered by the activities of the operator, assessment and mitigation of the associated risks, including taking actions and verifying their effectiveness

(d) personnel training and competence

(e) quality, safety and security management records.

(2) The format of the records shall be specified in the ROC holder's operations manual.

(3) Records shall be stored for at least 5 years in a manner that ensures protection from damage, alteration and theft.

### Safety management

101.04.7 (1) The holder of an ROC shall establish a safety management system commensurate with the size of the organisation or entity and the complexity of its operations.

(2) The safety management system established in terms of sub-regulation (1) shall include –

- (a) a process to identify actual and potential safety hazards and assess the associated risks;
- (b) a process to develop and implement remedial action necessary to maintain an acceptable level of safety;
- (c) provision for continuous and regular assessment of the appropriateness and effectiveness of safety management activities.

### Security

101.04.8 (1) The holder of an ROC issued under this Part shall –

- (a) conduct background checks on all personnel recruited for deployment, handling and storage of any RPAS;
- (b) conduct criminal record checks every 24 months on all personnel employed in the deployment, handling, and storage of RPAS;
- (c) ensure that RPAS not in use are stored in a secure manner to prevent and detect unauthorised interference or use;
- (d) ensure that the RPAS is protected from acts of unlawful interference;
- (e) ensure that the RPA is stored and prepared for flight in a manner that will prevent and detect tampering and ensure the integrity of vital systems;
- (f) designate a security coordinator responsible for the implementation, application and supervision of the security controls; and
- (g) ensure that all personnel employed in the deployment, handling, and storage of RPAS have received security awareness training as prescribed in Part 109.

(2) The holder of an ROC shall include in the operations manual referred to in regulation 101.04.5 the security aspects of the RPA operations as prescribed in this regulation and Document SA-CATS 101.

#### **Surveillance, safety and security audits and Inspections**

101.04.9 (1) An applicant for the issuing of an ROC shall permit an authorised officer, inspector or authorised person to carry out such safety and security inspections, audits and oversight as may be necessary to verify the validity of any application made in terms of regulation 101.04.2.

(2) The holder of an ROC issued in terms of regulation 101.04.2, shall permit a person authorized by the Director to carry out such safety and security inspections, audits and oversight, including safety or security inspections and audits of its partners or subcontractors, as may be necessary to determine continued compliance with the provisions of regulations and the privileges granted by the certificate.

#### **Register of operating certificates**

101.04.10 The Director shall maintain a register of all certificates issued in terms of this subpart.

#### **Transferability**

101.04.11 An ROC issued in terms of this Part shall not be transferable.

#### **Insurance**

101.04.12 An ROC holder shall at all times be adequately insured for third party liability.

### **SUBPART 5: RPA OPERATIONS**

#### **Weather conditions**

101.05.1 No person shall operate an RPAS in weather conditions that do not allow unobstructed visual contact to be maintained with the RPA by other airspace users and by the operator unless in B-VLOS or night operations approved by the Director in their operations manual.

#### Landing on roads

101.05.2 No person shall use a public road as a place of landing or take-off of an RPA, except:

- (a) by the holder of an ROC and as approved by the Director in the operator's operations manual; and
- (b) when approved by the relevant local authority.

#### Controlled airspace

101.05.3 (1) No RPAS may be operated in controlled airspace, except by the holder of an ROC and as approved by the Director in the operators' operations manual.

(2) The Director may approve an RPA operation in controlled airspace as contemplated in sub-regulation (1) only in –

- (a) VMC in an ATZ and CTR below 400ft; and
- (b) subject to compliance with the conditions prescribed in Document SA-CATS 101.

#### Releasing object or substance

101.05.4 No object or substance shall be released, dispensed, dropped, delivered or deployed from an RPA except by the holder of an ROC and as approved by the Director in the operators' operations manual.

#### Dangerous goods

101.05.5 (1) Subject to sub-regulation (2), no RPA shall carry dangerous goods as cargo, except by the holder of an ROC and as approved by the Director in the operations manual.

(2) The provisions of Part 92 apply, with the necessary changes, to the conveyance of dangerous goods by an RPA.

**Accidents and incidents**

101.05.6 (1) All accidents and incidents involving an RPA shall be reported as prescribed in Part 12, where there is –

- (a) any injury or death to a person;
- (b) damage to property; or
- (c) destruction of the RPA beyond economical repair.

(2) All incidents involving an RPA where loss of control occurred shall be reported to the holder of the ROC.

**Consumption of alcohol and drugs**

101.05.7 No remote pilot, observer or RMT shall –

- (a) consume alcohol less than 8 hours prior to reporting for duty;
- (b) commence a duty period while the concentration of alcohol in any specimen of blood taken from any part of his or her body is more than 0.02 grams per 100 millilitres;
- (c) consume alcohol or any psychoactive substance during the duty period or whilst on standby for duty; or
- (d) commence duty period while under the influence of alcohol or any psychoactive substance having a narcotic effect.

**C2 operational requirements**

101.05.8 An RPAS shall comply with C2 operational requirements as prescribed in Document SA-CATS 101.

**Precautions and safety considerations**

101.05.9 (1) No person shall operate an RPAS unless –

- (a) the RPA is in a fit-to-fly condition;
- (b) the pilot is the holder of a licence issued in terms of this Part;

- (c) the remotely piloted aircraft station is compatible and interoperable with the aircraft it is connected to in all phases of flight; and
  - (d) the RPA is being controlled by only one RPS at any given moment in time.
- (2) No person shall operate an RPAS in a negligent or reckless manner so as to endanger the safety of any person, property or other aircraft in the air or on the ground.
- (3) The operator shall, in the best interest of safety, ensure that certain RPAS operations are supplemented with additional personnel for non-flying duties, such that the remote pilot can maintain control and situational awareness in respect to positioning and collision avoidance.

### **General restrictions**

101.05.10 (1) No person shall operate an RPA unless they have in their possession –

- (a) a valid RPA Pilot Licence;
- (b) a copy of the ROC and associated OpSpec;
- (c) the certificate of registration for each RPA in operation;
- (d) a copy of the RLA; and
- (e) user manual for the RPA and the remote pilot station.

(2) No RPA shall –

- (a) tow another aircraft;
- (b) perform aerial or aerobatic displays;
- (c) be flown in formation or swarm;

(3) Except by the holder of an ROC, and as approved by the Director, no RPA shall be operated –

- (a) above 400 ft above the surface;
- (b) within a radius of 10 km from an aerodrome;
- (c) within restricted or prohibited airspace; or
- (d) adjacent to or above a nuclear power plant, prison, police station, crime scene, court of law, national key point or strategic installation.

### **Beyond visual line-of-sight**

101.05.11 (1) An RPA shall not be operated beyond visual-line-of-sight unless by the holder of an ROC and as approved by the Director in the operations manual.

(2) The Director may approve B-VLOS operation subject to the operator meeting the requirements prescribed in Document SA-CATS 101.

(3) Approved B-VLOS operations may only be conducted in VMC, below 400 ft above surface level, unless otherwise approved by the Director.

### **Night operations**

101.05.12 (1) An RPA may not be operated at night except –

(a) in R-VLOS operation; or

(b) by the holder of an ROC, and as approved by the Director in terms of sub-regulation (2).

(2) The holder of an ROC intending to operate an RPA at night, shall, as a minimum have each RPA approved under their ROC for night operations subject to compliance with the requirements prescribed in Documents SA-CATS 101.

(3) An RPA may not be operated at night in controlled airspace except as approved by the Director as prescribed in regulation 101.05.3.

### **Operations in the vicinity of people**

101.05.13 No person shall operate an RPA directly overhead any person or group of people or within a lateral distance of 50 m from any person, unless –

(a) the operator is the holder of an ROC and the operation has been approved by the Director in their operations manual; or

(b) such person is the operator of the RPA or such person is under the direction of the operator of the RPA; or

(c) such person or group of people forms part of the operations of the RPA, and is under control of the operator of the RPA, and adequate provisions have been made for their safety.

### **Operations in the vicinity of property, structures and buildings**

101.05.14 (1) No RPA shall be operated within a lateral distance of 50 m from any structure or building, unless –

- (a) the operator is a holder of an ROC and the operation has been approved by the Director in their operations manual; or
- (b) permission is obtained from the owner of such structure or building.

(2) An operator conducting an operation as contemplated in sub-regulation (1) shall take such measures as are necessary to ensure the safety of all persons on the ground accessing such building or in the vicinity of such structure.

#### **Operations in the vicinity of public roads**

**101.05.15** No person shall operate an RPA over a public road, along the length of a public road or at a distance of less than 50 m from a public road unless –

- (a) such person is the holder of an ROC and the operation has been approved by the Director in the operator's operations manual; or
- (b) in the case of operations over a public road, such road has been closed for public use; and
- (c) reasonable care has been taken to ensure the safety of road users and pedestrians in the event of loss of control of the RPA.

#### **Radio communication requirements**

**101.05.16 (1)** Except for R-VLOS operations, no RPAS shall be operated unless the pilot has a functioning air-band radio in his possession, tuned to the frequency or frequencies applicable to the ATSU providing services or controlling such area or airspace or to aircraft in such area or airspace.

(2) The air-band radio shall have the required output and be configured in such a way that the range, strength of transmission and quality of communication extends beyond the furthest likely position of the RPA from the pilot.

(3) For VLOS, E-VLOS and B-VLOS operations, the pilot shall, using the registration of the RPA as a call-sign, make the required radio calls, indicating the altitude, location and intended operation of the RPA in that area and at such intervals as are required in order to ensure adequate separation from other aircraft is maintained.

(4) For approved RPA operations in controlled airspace, the pilot shall maintain radio contact, using the registration of the RPA as a call-sign, with the relevant ATSU, and acknowledge

and execute such instructions as the ATSU may give at any time during the operation of the RPA.

#### **Pre-flight preparation**

101.05.17 A pilot shall complete the pre-flight preparations prior to each flight, as prescribed in Document SA-CATS 101.

#### **Duties of the pilot**

101.05.18 (1) The pilot is accountable for safe operation of the RPAS.

(2) The pilot of an RPA shall, on each flight, operate such aircraft in accordance with the manual.

(3) The pilot of an RPA is responsible for separation and avoidance of the RPA from other aircraft and any other obstacles and hazards.

(4) The pilot of an RPA shall pilot such RPA in a manner so as to minimize hazards to persons and property on the ground, and other aircraft in the air.

(5) The pilot shall ensure that at least one observer is used for E-VLOS operations.

#### **Flight operations**

101.05.19 (1) The RPAS shall be operated in such a way that safe separation from other aircraft is maintained and that adequate obstacle clearance is ensured, during all phases of the flight.

(2) The pilot of an RPA shall ensure that the take-off and landing area is safe and of the appropriate dimensions, free from obstacles and has adequate surface conditions, with regard to the type of operation, the size of the aircraft, the aircraft's performance and external factors.

### Right of way

101.05.20 (1) Notwithstanding the provisions of sub-regulations (2) to (5), an RPA shall give way to manned aircraft.

(2) The RPA shall avoid passing over, under or in front of manned aircraft, unless it passes well clear and takes into account the effect of aircraft wake turbulence.

(3) When two aircraft are approaching head-on or approximately in a way that there is danger of collision, each aircraft shall alter its heading to the right.

(4) When two aircraft are converging at approximately the same level, the aircraft which has the other aircraft on its right, shall give way.

(5) An aircraft which is being overtaken has the right of way, and the one overtaking shall alter its heading to keep well clear.

### Use of time

101.05.21 (1) For the purposes of reporting and recording time, Co-ordinated Universal Time (UTC) shall be used and shall be expressed in hours and minutes and, when required, seconds of the 24-hour day beginning at midnight.

(2) A pilot shall have a time piece synchronised with UTC prior to operating a RPAS in controlled airspace and at such other times during the flight as may be necessary.

(3) Wherever time is utilised in the application of data link communications, it shall be accurate to within 1 second of UTC.

### Flight folio

101.05.22 (1) The owner or operator of an RPA shall ensure that the RPA has a flight folio or any other similar document which meets the requirements of and contains the information as prescribed in Document SA-CATS 101, and the flight folio shall be accessible at the remote pilot station all times during flight.

(2) The flight folio shall be kept up-to-date and maintained in a legible manner by the remote pilot.

(3) All entries shall be made immediately upon completion of the occurrence to which they refer.

(4) In the case of maintenance being undertaken on the RPA, the entry shall be certified by the person responsible for the maintenance.

(5) Without detracting from the generality of sub-regulation (1), the remote pilot shall –

(a) maintain fuel or charging records to enable the Director to ascertain that, for each flight under his or her control, the requirements of regulation 101.05.23 are complied with;

(b) enter the fuel, charging and oil records referred to in sub-regulation (5)(a) in the flight folio; and

(c) maintain oil records to enable the Director to ascertain that trends for oil consumption are such that an RPA has sufficient oil to complete each flight.

#### **Power reserves**

101.05.23 (1) During VLOS operations, the remote pilot shall ensure that the aircraft has enough fuel or electrical charge to complete the flight, plus a reserve of at least 10%.

(2) During B-VLOS operations, the remote pilot shall ensure that the aircraft has enough fuel or electrical charge to complete the intended flight plus a reserve of at least 10%.

#### **First aid kits**

101.05.24 (1) No owner or operator of an RPA shall operate the aircraft unless a first aid kit consisting of the medical supplies as prescribed in Document SA-CATS 91 is available within the remote pilot station and within 300 m of the take-off and landing points. A single kit may be used to comply with both these requirements.

(2) The owner or operator shall carry out periodical inspections of the first aid kit to ensure that, as far as practicable, the contents thereof are in a condition necessary for their intended use.

(3) The contents of the first aid kit shall be replenished at regular intervals, in accordance with instructions contained on their labels, or as circumstances require.

(4) The first aid kit shall be readily accessible to all crew members involved in the operation.

### Hand-held fire extinguishers

101.05.25 No owner or operator of an RPA shall operate the RPA unless –

- (a) a hand-held fire extinguisher is available at the remote pilot station and within 300 m of the take-off and landing points;
- (b) a hand-held fire extinguisher suitable for use with electronic equipment and any power generating equipment in use is available in the remote pilot station; and
- (c) a hand-held fire extinguisher suitable for use on the RPA is available within 300 m of the take-off and landing points.

### SUBPART 6: MAINTENANCE

#### Continued system maintenance

101.06.1 (1) An RPAS shall be compliant with the manufacturer's instructions for continued equipment maintenance through actions or inspections.

(2) The owner shall submit to the Director for approval, a maintenance programme for the RPAS.

#### RPAS maintenance

101.06.2 (1) The maintenance on an RPA or any component thereof shall be carried out by the following persons:

- (a) In respect of an RPA classified as a Class 3 and higher, the holder of a valid RMT authorization; or
- (b) In respect of an RPA classified as Class 2 and lower, the ROC holder: provided that the holder can demonstrate to the satisfaction of the Director, its ability to perform the required maintenance on the RPA.

#### Issuing of an RMT authorisation

101.06.3 (1) An applicant for the issuing or renewal of an RMT authorisation shall –

- (a) be not less than 18 years of age; and

- (b) be a South African citizen or in possession of a valid permanent residence permit or valid temporary work permit with a letter of employment; and
  - (c) shall have successfully completed appropriate training, provided by –
    - (i) an organisation approved by the competent authority in the country where the training organisation is located;
    - (ii) training provided by an approved original equipment manufacturer; or
    - (iii) a training facility approved by the Director; or
  - (d) demonstrate to the Director, the ability to perform maintenance functions where no training for the particular RPA is offered or available.
- (2) An application for the issuing of an RMT authorisation shall be made to the Director in the appropriate form and accompanied by the appropriate fee as prescribed in Part 187.
- (3) The Director shall issue an RMT authorisation if the applicant complies with the requirements prescribed in sub-regulation (1).
- (4) The holder of an RMT authorization shall not exercise privileges other than the specific privileges for which the authorization is issued.
- (5) An RMT authorisation shall be valid for a period of 24 months.

#### **RMT logbook**

- 101.06.4 (1) Any person responsible for maintenance of RPAS shall maintain a personal logbook and shall record therein all work carried out on an RPAS and its components.
- (2) The form of and information to be contained in a logbook referred to in sub-regulation (1), and the manner in which such logbook shall be maintained, are as prescribed in Document SA-CATS 101.
- (3) No alterations of a logbook shall be made once it is signed off by a designated person" .

#### **Short title and commencement**

5. These Regulations are called Eighth Amendment of the Civil Aviation Regulations, 2015 and come into effect on 1 July 2015.

