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CABY

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**CIVIL
AVIATION
BYE-LAW**

OPERATION OF REMOTELY OPERATED AIRCRAFT

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PREAMBLE: This Bye-Law is made by the Civil Aviation Authority of Botswana with the approval of the Minister of Transport and Communications under Section 8 (2) of the Civil Aviation Act, 2011.

CITATION: This Bye Law may be cited as the Civil Aviation Authority of Botswana (Operation of Remotely Operated Aircraft) Bye Law.

1. PURPOSE

The purpose of this Civil Aviation Bye-Law (07-2016) is to clarify the requirements for the operation of Remotely Operated Aircraft (RPA) in the Republic of Botswana.

2. APPLICABILITY

This Bye Law shall apply to all operators RPAs for both Private and Commercial use, with a MAUW of 20kg and are limited to Visual Line-Of-Sight (VLOS) operations and Beyond Line Of Sight (BVLOS) under Special consideration approval. The provision of this Bye Law shall not apply to model aircraft.

3. EFFECTIVITY

This Civil Aviation Bye-Law (06-2013) shall become effective immediately.

4. REFERENCES

- Civil Aviation

5. REQUIREMENTS

5.1 Definitions

For the purposes of this Part, unless the context otherwise indicates, the following definitions shall apply –

“Authority” means The Civil Aviation Authority of Botswana;

“background check” means the checking of a person’s identity and previous experience, including any criminal history as part of the assessment of an individual’s suitability to implement a security control and/or for unescorted access to a security restricted area;

“model aircraft” means a non-human-carrying aircraft capable of sustained flight in the atmosphere and used exclusively for air display, recreational, sport or competition activity;

“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;

“**operator**” means the person who is operating the controls of, or supervising the person operating the controls of RPA;

“**payload**” includes all elements of an RPAS that are not necessary for flight but that are carried for the purpose of fulfilling specific mission objectives;

“**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;

“**commercial operation**” means the use of an RPA for commercial purposes where there is reward and gain from the operation of the RPA;

“**remote pilot station**” means the station at which the remote pilot manages the flight of the remotely piloted aircraft;

“**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;

“**visual line-of-sight**” means an operation below 400 ft AGL in which the Operator maintains direct and unaided visual contact with the remotely piloted aircraft at a distance not exceeding 500 m; and

“**beyond visual line of sight**” means an operation below 400 ft AGL in which the operator under special approval has no direct unaided visual contact with the remotely piloted aircraft at a distance exceeding 500 m but limited to the distance by authority.

5.2 Abbreviations

For the purpose of this regulations, the following abbreviations shall apply –

AGL - means above ground level;

MTOM- means maximum take-off mass;

C of R- means Certificate of Registration for RPA;

RPA - means remotely piloted aircraft;

RPAS - means remotely piloted aircraft system;

RPL - means a remote pilot license **RPS** - means remote pilot station **VLOS** - means visual line of sight;

BVLOS – means beyond visual line of sight; and

VO - means visual observer.

5.3 General Requirements

- (a) An RPA shall not be flown unless the Operator is present.

- (b) An Operator shall at all times maintain visual line-of-sight (VLOS) with the RPA or beyond visual line of sight (BVLOS) under special approval This shall be accomplished unaided by any device other than corrective lenses.
- (c) RPA shall be flown below 400 ft AGL at all times and no further than 500m from the Operator at the controls of the RPA or beyond visual line of sight under special approval.
- (d) The Operator may make use of a Visual Observer (VO).
- (e) The Operator or the VO shall not fly more than one RPA at any one time.
- (f) An RPA registered in Botswana shall not be permitted to cross International Boundaries.
- (g) No person shall operate an RPA unless they have in their possession the certificate issued by the Authority for each RPA in operation and the user manual for the RPA.

Registration

- (a) The RPA shall be registered with the Authority and a numbered certificate of use shall be issued upon receipt of a fee as prescribed in Regulation 20 of the Civil Aviation (Regulations).
- (b) The certificate issued under 5.4 (a) above shall indicate the name, contact information and address of the operator/s and company if used for commercial purposes.
- (c) When operating a RPA, the Operator shall have his certificate available for inspection.
- (d) The Operator shall make available to the Authority, upon request, the RPA for inspection or testing, and any associated documents or records.
- (e) The RPA shall not be lent, sold or leased without the authorization of the Authority.
- (f) The Operator shall be citizens or residents of the Republic of Botswana.
- (g) The Operator shall be issued with an Aeronautical Information Publication (AIP) and a copy of the Civil Aviation () Regulations at their expense upon application.
- (h) The Authority shall obtain a clearance certificate for the Operator from both Botswana Police and D.I.S. as part of a background check.
- (i) Should non-citizens or non-residents wish to bring an RPA into Botswana for the purpose of flying it within the country, they shall apply to the Authority in writing giving 7 days' notice.

5.4 Age Restrictions

The Operator shall be 18 years of age or older.

5.5 Duties of the Operator

- (a) The Operator shall be accountable for safe operation of the RPAS.
- (b) The Operator of an RPA shall, on each flight, operate such aircraft in accordance with the manual, unless an unforeseen emergency dictates otherwise.
- (c) The Operator of an RPA shall be responsible for separation and avoidance of the RPA from other aircraft and any other obstacles and hazards.

- (d) The configuration of the RPA shall not under any circumstances be changed from its original configuration without the specific approval of the Authority.

5.6 Precautions and safety considerations

- (a) No person shall operate an RPAS unless –
- (i) The RPA is in a fit-to-fly condition;
 - (ii) The remotely piloted aircraft station is compatible and interoperable with the RPA it is connected to in all phases of flight; and
 - (iii) The RPA is being controlled by only one RPS at any given moment in time.
- (b) No person shall operate an RPA in a negligent or reckless manner that may endanger the safety of any person, property or other aircraft in the air or on the ground.
- (c) The operator shall use the services of a VO if the RPA is being flown using the first person view camera (FPV) or at any time the operator cannot maintain visual contact for whatever reason. The use of the VO in these circumstances is to satisfy the see and avoid requirement.

5.7 Pre-flight preparation

An Operator shall complete the pre-flight preparations prior to each flight, and ensure that the RPA is serviceable and capable of flight as per the manufacturer's standards and specifications.

5.8 Flight operations

- (a) The RPAS shall be operated in such a way that appropriate separation from other aircraft is maintained and that adequate obstacle clearance is ensured, during all phases of the flight.
- (b) The Operator shall ensure that the take-off and landing area is safe and of the appropriate dimensions.

5.9 Restricted areas of operation

- (a) No person shall fly in RPA:
 - (i) Within a controlled airspace unless with the specific permission of the relevant ATC authority and then only if two way communication with that authority can be maintained;
 - (ii) Within a 3km radius of an unmanned airfield unless the operator can monitor the unmanned airfields frequency of 125.5 MHz;
 - (iii) Over national game parks and wild life sanctuaries;
 - (iv) Over any tourism facility (hotels, lodges and campsites etc.);
 - (v) Over any wildlife in a manner in which the RPA may disturb such wildlife;
 - (vi) Within a lateral distance of 200m from any Power Line;
 - (vii) If the RPA is registered in Botswana, across an international boundary;

- (viii) Over any prohibited and restricted airspace specified in an AIP;
- (ix) Take-off, land or fly over any major public roads;
- (x) Over any moving vehicular traffic;
- (xi) adjacent to or above a prison, police station, crime scene, court of law, and Government facilities including, military and security installations;
- (xii) Over any private property unless with the specific permission of the owner;
- (xiii) Over built up areas; and
- (xiv) Over public gatherings or in any way that might cause injury to people or damage to property on the ground should the RPA suffer a failure.

5.10 If special permission is required, for the purposes of aerial work, to overfly any of the areas mentioned at paragraph 5.10 above, permission shall be requested from the CAAB or the relevant authority, in writing, giving the following details:-

- (a) Certificate of registration number for the RPA;
- (b) Date and time of proposed flight of RPA; and
- (c) Reason for proposed flight of RP.

5.12 Accidents and Incidents

All accidents and incidents involving an RPA shall be reported to the Authority within 10 days, where there is –

- (a) Any injury to a third party person;
- (b) Damage to third party property; or
- (c) Destruction of the RPA beyond economical repair requiring deregistration of the RPA.

5.13 Right of way

- (a) An RPA shall give way to manned aircraft.
- (b) An RPA shall not pass over, under or in front of any manned aircraft.
- (c) When two RPAs are approaching head-on or approximately so and there is danger of collision, each RPA shall alter its heading to the right.
- (d) When two RPA's are converging at approximately the same level, the RPA which has the other RPA on its right, shall give way.
- (e) An RPA which is being overtaken has the right-of-way, and the one overtaking shall alter its heading to keep well clear

5.14 Night operations

An RPA shall not be flown at night.

5.15 Visual line-of-sight

- (a) No person shall operate an RPA in weather conditions that do not allow unobstructed visual contact to be maintained with the RPA by other airspace users and by the operator.
- (b) RPA operations shall be conducted below 400 ft AGL.
- (c) The Operator shall maintain direct and unaided visual contact with the RPA at a distance not exceeding 500 m, unless authorized under special condition approval to operate beyond line of sight (BVLOS).
- (d) Visual contact shall be maintained unaided by any device other than corrective lenses, unless authorized under special condition approval to operate beyond line of sight (BVLOS).
- (e) The Operator may use an Observer but this is not requirement.
- (f) The Operator shall have an Observer when using the first-person view camera (FPV) to fly an RPA.

5.16 Consumption of alcohol and drugs

No Operator or Observer shall

- (a) Consume alcohol or any psychoactive substance during the operation of an RPA; and
- (b) Operate an RPA while under the influence of alcohol or any psychoactive substance having a narcotic effect.

5.17 Carriage of Payload, Cargo and Dangerous goods

- (a) An RPA shall not be used to carry any load other than the load it was originally intended as per the manufacture's design specifications.
- (b) No RPA shall carry dangerous goods as cargo.

5.18 Releasing object or substance

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 Authority in the Operations Manual.

5.19 Penalties

- (a) The penalty or infringing any of the above requirements shall be a maximum of BWP 5,000 and/or confiscation of the RPA.



- (b) In the event the RPA is used in the commission of any crime the maximum penalty shall be BWP 50,000 and/or 2 years imprisonment and/or confiscation of the RPA.

5.20 Fees

An application to operate an RPA shall be accompanied by an application fee in the amount of Two Hundred and Fifty Pula (P250.00) for private operations and Five Hundred Pula (P500.00) for commercial operations.

5 GUIDANCE

This Bye-Law shall be read together with the Civil Aviation (Air Operator Certification and Administration) Regulations.

Approved on this 22nd Day of MAY 2018

Onkokame K. Mokaila
Minister
Ministry of Transport and Communications

Made on this 22nd Day of MAY 2018

Puseletso G. Moshabesha
Chief Executive Officer
Civil Aviation Authority of Botswana