

**Drone Regulation 1.0: Regulating the use of Unmanned Aerial Vehicles (UAVs) and Remotely Piloted Aircrafts (RPA) – recent developments in India**

The Directorate General of Civil Aviation (DGCA), *vide* its notification no. 05-13/2014-AED dated 07.10.2014, while taking into account the rise in the civil use of Remotely Piloted Aircrafts (RPAs) in India *vis-à-vis* the threats of air collision/accidents and security posed by them due to lack of operating procedures/standards and regulations, prohibited the use of RPAs in Indian Civil Airspace till the time regulations for certification and operation of RPAs were formalized. More recently, the DGCA has finally adopted such regulatory framework. Indeed, on 27.08.2018 the DGCA notified the procedure for obtaining a Unique Identification Number (UIN), an Unmanned Aircraft Operators Permit (UAOP) and other operational requirements for civil RPAs *vide* its Civil Aviation Requirements (CAR) Section 3- Air Transport Series X Part I Issue I (RPA Framework), issued under the provisions of Rule 15A and Rule 133A of the Aircraft Rules, 1937. This RPA Framework came into force on **01.12.2018**.

As per the RPA Framework, the civil RPAs have been classified on the basis of maximum weight (including payload) as **Nano**: less than or equal to 250 grams; **Micro**: greater than 250 grams and less than or equal to 2 kg; **Small**: greater than 2 kg and less than or equal to 25 kg; **Medium**: Greater than 25 kg and less than or equal to 150 kg; **Large**: Greater than 150 kg.

The owners/operators of either an imported or domestic drone are required to follow a set procedure through the Digital Sky Platform before obtaining a UIN and UAOP. The application procedure for Imported and Domestic RPAs Procedure is as follows:

<b><u>Imported RPAs</u></b>	<b><u>Domestic RPAs</u></b>
Entity importing the RPA would require the following approvals:  i. Equipment Type Approval (ETA) from the Wireless Planning and Coordination Wing, Department of Telecommunication for operating the said RPA in de-licensed frequency band(s); i. Import clearance from the DGCA; and i. Import License from DGFT.	Applicant shall ensure that the domestically purchased RPA has a model specific ETA, for operating in the de-licensed frequency band(s).
After obtaining the aforementioned approvals/licenses, the applicant will have to apply for a UIN/UAOP.	Applicant should submit requisite information with application for issue of UIN/UAOP.

**Unique Identification Number (UIN) and Unmanned Aircraft Operator Permit (UAOP)**

All RPAs, except for Nano RPAs and RPAs owned by the National Technical Research Organisation (NTRO), the Aviation Research Centre (ARC) and the Central Intelligence Agencies (CIAs), are required to obtain a UIN by submitting their application through the Digital Sky Platform. The RPA Framework provides that a UIN will be granted where the RPA is wholly owned either by:

1. A citizen of India; or
2. The Central Government or any State Government or any company or corporation owned or controlled by either of the said Governments; or
3. A company or a body corporate;
  - (a) which is registered and has its principal place of business within India;
  - (b) whose Chairman and at least two-thirds of its Directors are citizens of India;
  - (c) Its substantial ownership and effective control is vested in Indian nationals; or

4. Which is registered elsewhere than in India, provided that such company or corporation has leased the RPA to any organization mentioned in paragraphs (2) or (3) above.

The UIN would be issued by the DGCA within 2 working days from the date of application, provided the application as well as the documents submitted are complete in all respects.

#### **Unmanned Aircraft Operator Permit**

The RPA Framework, provides that the civil RPA operators, i.e. a person or an organization engaged in RPA operation (the “**Operator**”), except for Nano RPAs operating below 50 feet AGL, Micro RPAs operating below 200 feet Above Ground Level (AGL), RPAs owned by NTRO, ARC and CIA, are required to obtain a UAOP. The application is to be accompanied by the following documents:

- i. **Standard Operating Procedure** contain, *inter alia*, procedures with respect to take-off/landing, collision avoidance, noise abatement, local airspace restriction, right-of-way, safe recovery of RPA through controlled airspace in case of an RPA system failure precludes the ability to remain outside controlled airspace, etc.
- ii. **Permission of land/property owner** of the area used for the take-off and landing of the RPA;
- iii. **Details of remote pilot(s)**, along with security clearance from the Ministry of Home Affairs (MHA) or self-attested copies of at least two out of three valid identity proofs of Passport, Driving License or Aadhaar Card along with the training records;
- iv. **Insurance Details;**
- v. **Security programme** as approved by BCAS.

The UAOP issued by the DGCA is non-transferable, and renewal of the UAOP shall be subject to a fresh security clearance from the MHA.

**Remote Pilot Training Requirements:** The Remote Pilot of the RPA, except for Nano RPAs and Micro RPAs is required to have:

- a) attained 18 years of age and should have passed 10th Class examination in English language.
- b) undergone ground/practical training from any DGCA approved Flying Training Organisation. The training shall be theoretical and practical.

**Equipment Requirements:** All RPAs except for Nano RPAs operating below 50 feet AGL, depending upon the height of the intended flight of the RPA, are required to:

- a) Incorporate certain serviceable components such as global navigation satellite system, autonomous flight termination or return to home option, flashing anti-collision strobe lights, RFID and GSM SIM card, or
- b) A no-permission no take-off compliant APP based real time tracking, fire resistant identification plate inscribed with UIN and a flight controller with flight data logging capability.

**Operating Requirements:** Apart from the SOP as discussed above:

- a) All RPAs shall only be operated during day time, within the visual line of sight subject.
- b) The Remote Pilots operating RPAs, except Nano RPAs below 50 feet AGL, are required to obtain permission from DGCA (via Digital Sky Platform) before each flight and are also required to inform the concerned local police station in writing before a flight.
- c) The said RPA Framework establishes a no permission no take-off rule for the operation of RPAs.

The Remote Pilot is required to maintain a constant communication with the ATC before entering into a controlled airspace and shall begin the RPA call-sign with the word “**Unmanned**” while vocally communicating with the ATC which is mandated to be in ICAO phraseology. While operating an RPA, the remote pilot is to ensure, *inter alia*, the following:



1. Right of way is given to all manned aircrafts at all times;
2. No discharge or drop of any substance takes place unless the same is specifically mentioned under the UAOP;
3. The payload, if any, should not consists of any hazardous or explosive material or any animal or human;
4. The flight of the RPA shall not be in a manner so as to cause danger to any person or property.

**Restrictions on Flight operations**

The RPA Framework has divided the airspace into the following different zones:

No Fly Zone	Restricted Fly Zone	Unrestricted Fly Zone
Airspace where flying is not permitted.	Airspace where permission required before flying (controlled airspace).	Airspace where automatic permission is granted (uncontrolled airspace).

**Consequences for violation of RPA Framework**

As per the RPA Framework, violation by any Operator or Remote Pilots of any provision, the Operator or the Remote Pilot as the case may be, the UIN/UAOP of the said Operator shall be suspended/ cancelled by the DGCA. The framework also provides for penal action, under sections 287 (Negligent conduct with respect to machinery), 336 (Act endangering life or personal safety of others), 337 (Causing hurt by act endangering life or personal safety of others) and 338 (Causing grievous hurt by act endangering life or personal safety of others) etc. of the Indian Penal Code and also incorporates the penal provisions of the Aircraft Act 1934 and Aircraft Rules 1937.

**Digital Sky Platform**

The Digital Sky Platform is the first-of-its-kind national unmanned traffic management (UTM) platform that implements “no permission, no take-off” (NPNT). Users will be required to do a one-time registration of their RPAs/Drones, pilots and owners. For every flight (exempted for the Nano RPAs), users will be required to ask for permission to fly on a mobile app and an automated process permits or denies the request instantly. The UTM operates as a traffic regulator in the RPA airspace and coordinates closely with the defence and ATCs to ensure that RPAs/drones remain on the approved flight paths.

**Observations**

It is observed that the RPA Framework exempts Nano and Micro RPAs, intending to fly below 50 ft. and 60 ft. above ground level (AGL) respectively. Further, it is observed that the RPA Framework permits the foreign entity to apply for a UIN provided the RPA is leased to the entities but prohibits foreign nationals and foreign companies along with its subsidiaries to own and operate RPAs in India which might prove to be a deterrent to the investment by foreign entities in the Indian RPA Sector. The DGCA has along with the RPA Framework, issued the first edition of RPAs Guidance Manual dated 09.11.2018. The said framework is the first step taken by the Ministry of Civil Aviation (MoCA) to regulate the civil use of RPAs/drones. There is a need of constant reforming of the said RPA Framework. Accordingly, The MoCA via a press release dated 27.08.2018 has termed the RPA Framework as **Drone Regulation 1.0**. With the introduction of Digital Sky Platform a promising and effective digital aviation infrastructure is in the making and would complement the RPA Framework. With the regulated use of RPAs, the DGCA has ensured that a new sector of aviation with promising new commercial opportunities is set up.