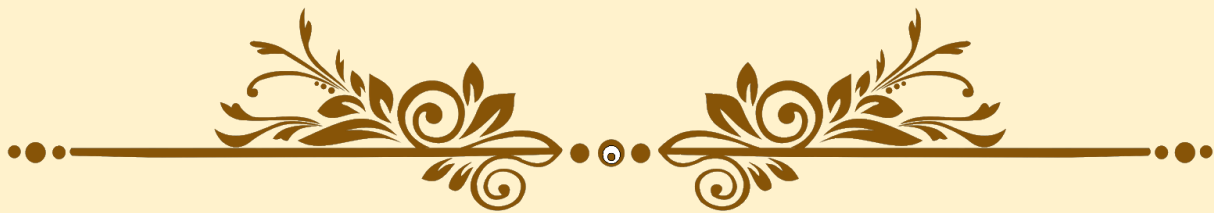


INDIA'S DRONE REGULATIONS 2021: A POLICY ANALYSIS

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ABSTRACT

The Drone Rules, 2021 has been notified by the central government by quoting it as a liberalized regime for unmanned aircraft systems. According to the new rules, a draft was released in July where the different requirements, old rules and approvals were abolished to make drone operations much simpler for civilian drone operators. The new approvals which were required were the unique Authorization number, unique prototype, manufacturing certificate, conformance certificate and import clearance. These requirements were followed by operator permit, acceptance by drone zones, student remote pilot license, instructor and drone port authorization. All these things were abolished. Apart from this, the quantum of fees which was linked to the drone size got reduced and delinked. For example Rs 3000 was the pilot license fee for a large size drone. This got reduced to Rs 100 and it became the fee for all categories of drones. The central government Drone Rules, 2021 has announced to segregate the entire Indian airspace into red zone, green zone and yellow zone having a horizontal resolution equal to 10 meters. As India has been receiving a lot of threats in the form of drones, the UAS rules 2021 has addressed the security concerns and toughened the license and approval norms.

Introduction to History of Drones in India

Compared to other countries, India has different regulations on the use of drones. Failure to do so may result in huge fines for those who fly drones. Drone pilots need to know this. Drones are rapidly bringing the next great technological revolution around the world, mainly because it has a wide range of uses, from simple drone photography to the transportation of small goods from one place to another. The list may be endless. In most cases, these drones are small and flexible, capable of penetrating areas where it is almost impossible for humans to spray pesticides on the fields and install sensors deep in the jungle to monitor the forest.¹ Even food delivering partners like swiggy and zomato are working on drone enabled delivery systems. These are just a few examples of how these drones can be helpful. Although, like any other technology, its use depends largely on the intentions of the person controlling it, criminals can use drones for illegal or destructive activities, such as the recent unmanned aerial attack in an air force base in Jammu. We cannot ignore the fact that they are also easy to fail and inadvertently cause harm to others. Therefore, it is very important to regulate its property and use. Earlier this year, the Indian government also made recommendations for UAS under the guidelines of Ministry of Civil Aviation Regulations 2021. The new laws and regulations on drones apply to all people who want to use drones' UAS in India. This is the idea of regulations on how to fly drones in the country. After approval and announcement (possible changes), the 2021 Unmanned Aircraft Regulations will replace the existing UAS regulations 2021 issued on March 12, 2021. India may have lost a bus in the helicopter; but the drone hall seems to have succeeded but still the question persists whether the new rules for UAS is exhaustive enough to control the misuse of unmanned aerial vehicles?

New Rules related to Unmanned Aerial Systems in India

Recently the Ministry of Civil Aviation issued an updated 2021 drone regulations for public opinion. The 2021 Unmanned Aircraft Regulations will replace the 2021 UAS Regulations issued on March 12, 2021. The agency said in a statement that the last public comment date was August 5, 2021. The updated rules are based on trust, self-certification and

¹ BS Web Team, *Aviation Ministry Releases Drone Rules 2021 for Public Consultation*, Business Standard, (Jul. 15, 2021, 13:01 p.m.) www.business-standard.com/article/economy-policy/civil-aviation-ministry-releases-drone-rules-2021-for-public-consultation-121071500488_1.html.

inadmissibility-the premise of invasive surveillance. The aviation ministry confirmed that a new drone corridor will be created for cargo transportation and a drone promotion will be established by the Commission to help create a regulatory system that is conducive to business.²

According to the new rules, unique authorization number, prototype unique ID, qualification certificate, maintenance certificate, import license, existing drone acceptance, operator license, R&D organization license, remote pilot student license, remote instructor pilot Authorization, drone port authorization, etc. are mandatory and the number of forms has been reduced from 25 to 6. The department stated that the amount of the fee has been reduced to a nominal amount, and there is no indication of the size of the drone.³ No permission, no takeoff (NPNT) policy, real-time tracking beacons, geofencing and other security features are also to be included under these new rules. The new rules for UAS in India provide for a six-month compliance period. As a business-friendly online system with a window, the digital sky platform will have a minimal user interface, and most resolutions will be automatically generated. An interactive airspace map with green, yellow and red areas will now be displayed on the digital sky deck. The yellow area moved from 45 kilometers to 12 kilometers from the airport. It does not need to fly more than 400 feet in the green area and less than 200 feet from 8 to 12 kilometers around the airport as no flight permit is required. R & D Space does not require pilot licenses organized by Microdrones (for non-commercial use), Nano Drones, and R & D.

The restrictions on the operation of drones by foreign companies registered in India have also been lifted, and the import of drones and drone components has been supervised, without the need to obtain authorization before registration or licensing. It also does not require the R & D organization's airworthiness certificate, unique identification number, prior authorization

² KP Sanjeev Kumar, *A Bold, New Beginning: Why India's New Drone Rules Open Up New Vistas*, The Quint (Jul. 19, 2021, 11:22 a.m.), www.thequint.com/voices/opinion/india-drone-policy-2021-explained-rules-and-regulations-of-commercial-drone-use-in-india.

³ Ishveena Singh, *20 historic changes in India's new draft drone rules 2021*, Drone DJI (Jul. 15, 2021, 2:09 a.m.), dronedji.com/2021/07/15/india-drone-rules-2021/.

and remote pilot's license.⁴ According to the new regulations, starting from 2021, the use range of drones will be increased from 300 kg to 500 kg, this will also be applicable to driverless taxis. All drone training and testing are conducted by licensed drone schools. The maximum fine for drone regulations in 2021 has been reduced to 100,000. However, this does not apply to fines for violation of other laws.

Who is authorised to fly unmanned aerial vehicles in India?

The ability to fly a drone in India depends on the type of drone and the required permits and licenses. The announcement on new rules for UAS lists the following categories based on drone size:

- Nano drones: drones weighing no more than 250 grams fall into this category. The UAV Regulations 2021 stipulate that no license or permit is required to operate such UAVs.⁵
- Micro and small drones: Micro drones are those that weigh more than 250 grams but less than 2 kilograms. The latter, Small Drones, refers to drones weighing more than 2 kg but less than 25 kg. The pilots of these drones need to obtain a UASI (UAOPI) operator license to perform all flights. UAV pilots must follow the Standard Operating Procedures (SOP) of the General Administration of Civil Aviation (DGCA). This permit enables these unmanned aerial vehicles to be used within sight without a payload.⁶
- Medium and large drones: The recommended medium drones refer to drones weighing more than 25 kg and below 150 kg, while large drones refer to drones weighing more than 150 kg. They require a license from the UAS II (UAOPII) operator.

⁴ Jean-Paul Yaacoub et al., *Security analysis of drones systems: Attacks, limitations, and recommendations*, EPHEC, NCBI (May 8, 2020), www.ncbi.nlm.nih.gov/pmc/articles/PMC7206421/.

⁵ Pradyumna Kalagi, *A complete guide to flying drones in India, drone classes, licences, and more*, MSN (Jun. 9, 2021), www.msn.com/en-in/lifestyle/other/a-complete-guide-to-flying-drones-in-india-drone-classes-licences-and-more/ar-AALXsab.

⁶ Sarthak Dogra, *Drones in India: Who can buy them, what are usage conditions and how govt is controlling drone use*, India Today (Jun. 28, 2021, 5:40 p.m.), <https://www.indiatoday.in/technology/features/story/drones-in-india-who-can-buy-them-what-are-usage-conditions-and-how-govt-is-controlling-drone-use-1820325-2021-06-28>.

Drone Attacks on Indian Air Force Base in Jammu & Kashmir Underscore

This is the first time in history where a drone has been used as a weapon to target military installations in our country. The military officials noticed two drones which were flying above Kashmir (Indian controlled) on Monday. It was suspected a day after that these drones had explosives which were used to attack an air base in a disputed region. It was found in early midnight that there were two drones in the outskirts of Jammu city. They were flying above Kaluchak Military Base. But the thing was that both drones were flying separately. On seeing the situation, fast actions were taken. The military were on high alert and started firing but unfortunately the drones went away. The troops were on high alert and the Indian officials gave a statement that India has faced this kind of situation for the first time in history. Two soldiers were also injured in these explosions. It also resulted in damaging of a building but no military equipment was destroyed. The air base which was attacked was a civilian airport but it was not harmed. Even no civilian flights were disrupted. This incident was said to be carried out by Anti Indian Rebels which was very strategic and marked it against New Delhi. This attack was totally done by using classic guerrilla tactics like hit and run attacks, ambushes and car bombings.

The main issue is that muslim majority Kashmir is divided between India and Pakistan. The Muslim kashmiris there either want to be a separate country or be under Pakistan. These rebels have been fighting for Kashmir since 1989. New Delhi calls the Kashmir military as Pakistan sponsored terrorism. Indian authorities have raised drone attacks and their possibility and have accused Pakistan repeatedly for using Chinese made drones to drop weapons packages.

India's Drone Laws in India, 2021

Regulations

As per Ministry of Civil Aviation, flying of a drone is legal in India but there are some drone regulations⁷ which we all should be aware of.

- Foreigners who are staying in India are not allowed to fly a drone. If it is an emergency for commercial purposes, they have to lease a drone to an Indian. That Indian will have to take his or her required documents and unique identification number or the SSN from the foreigners.

There are some general rules and regulations for flying a drone:

- The drones which one would fly should require a unique identification number before flying and must be registered under that. This does not apply for the drones of Nano Category.
- The drones pilots require a permit along with a visual line of sight while flying. And drones cannot be flown above 400 feet.
- The areas which are mentioned as "No fly Zones" are strictly prohibited for drones to fly. This includes airlines, airports, state capitals, Vijay Chawk in Delhi as well as military installations.
- If someone wants to fly a drone in a controlled airspace, they have to take permission and obtain ADC (Air Defence Clearance) or FIC (Flight Information Centre).

There are strict drone requirements in India and it should be properly followed. India has their own requirements for flying a drone along with specific features which should be followed. These include GPS, Anti collision light, Return to home (RTH)⁸, ID plate, flight controller with its logging capability. The most important thing is the RF ID along with Sim No Permission No takeoff.

This permission take off means that every drone pilot who is flying a drone has to take a permission to fly using a mobile app which will automatically be processed and either it will

⁷ (Section 3–Air Transport, Series X, Part I).

⁸ Department of Mechanical Engineering, New Mexico Tech, Socorro, NM 87801, USA.

be granted or rejected. Taking permission from a Digital Sky Platform is very necessary. If not taken, they will not be allowed to fly.

There must be a **certificate of airworthiness**- this is very mandatory for all the drones weighing above 250 g and less than 500 kg.

Motor Vehicles Act , 1988 for Drones - This act is for victims involved in drone accidents. The **Draft Drone Rules 2021** says that there will be no restrictions on drone companies. DGFT will regulate all the import of drones and its components. It includes tracking beacon and geo fencing for compliance.

These rules also state an airspace map will be there in the digital sky platform marked with green, yellow and red zones. Security clearance is not needed before license insurance. The flying of drones in the yellow zone has been reduced to 12 km from 45 km, it is 400 feet in green zones. The coverage has been increased from 300 kg to 500 kg which includes drone taxis.

Objectives of Drone Regulations 2021

- New draft rules introduced along with Beyond Visual Line of sight. New drone ports were created which brought drone traders into stakeholders. This needed accreditation from DGCA.
- Different authorities and organisations were to be tested by laboratories and also by the DGCA.
- There was one more factor of proposed rules which was introduced. This allowed the government to provide exemptions either in general or written order specifically for organisations.
- The NPNT system was something which was very applicable here. The no permission no takeoff system helps in getting a manufacturing certificate which gets integrated to that system.

Conclusion

The ministry of civil aviation has decided to liberalize the drone policy after seeing the drone incidents which happened in Jammu Outsorce. This step shows the government's approach to use drones and also concentrate on counter drone technology⁹.



⁹ Drone Federation of India, <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1755157>.