

AN OVERVIEW OF THE UNMANNED AIRCRAFT RULES, 2021

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INTRODUCTION

The drone industry has reached a whole new level of popularity in recent times. By 2030, India is aiming to become a major drone hub. India to promote and achieve the mission of 'Atmanirbhar Bharat' has banned the imports of foreign drones. Gone are the days when the usage of drones was only restricted to military combat, war zones, and defence purposes. The drones are used and are serving in different sectors like agriculture, mining, infrastructure, surveillance, defense, law enforcement, delivering supplies and necessities, geospatial mapping and navigation, mining, healthcare, transportation, etc. For proper verification, and utilization of practices of drones in India, the Ministry of Civil Aviation (MoCA), Government of India (GoI) issued the Unmanned Aircraft System Rules, 2021 regulating the working of drones in India. The rules primarily focus on the different categories of drones in India, Drone certification, registration of the unmanned aircraft system (UAS), the various flying zones for operating drones, procedures and requirements to obtain a license for remote pilots to operate drones in India, Research and development, etc. It also provides provisions for penalties, suspension, or cancellation of licenses registration obtained for operating drones in India.

In recent times, the usage of drones has gained a lot of popularity in India, and in response to it, the drone market has skyrocketed. Earlier the usage was only restricted to the Indian military but now the drones have been serving in different sectors like agriculture, mining, infrastructure, surveillance, defense, law enforcement, delivering supplies and necessities, geospatial mapping and navigation, mining, healthcare, transportation, etc. This article focuses to discuss the overview of Drone Rules, 2021 which regulates the working of drones in India. The Unmanned Aircraft System Rules (UAS), 2021 were partially amended by new rules controlling the operation of drones that were first issued by the Ministry of Civil Aviation (MoCA), Government of India (GoI), on August 26, 2021 (and then revised by the Drone (Amendment) Rules, 2022 on February 15, 2022).

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MEANING OF DRONES OR UNMANNED AIRCRAFT SYSTEM

An aircraft that is operated without a human pilot and has no crew or passengers is referred to as an unmanned aerial vehicle (UAV) or unmanned aircraft system (UAS). It is a component of an unmanned aircraft system and is flown by a remote pilot.

DRONES USAGE, CURRENT PRACTICE, AND BANNING OF IMPORTS IN INDIA

Back in the 1990s, India bought its first drone from Israel and used these drones in the Kargil war with Pakistan. Since Kargil, India has bought and operated numerous Israeli unmanned aircraft. In India, the utilization of manned or automated aerial vehicles is governed and regulated by the Directorate General of Civil Aviation (DGCA). Initially, drones were developed for military operations and by aerospace agencies, but it gained enormous popularity and found superior ways to become a successful commercial business. During the COVID pandemic, drones were used for supplying vaccines and delivering necessities, surveillance, and for law enforcement. India used 'Made in India' drones to deliver the COVID-19 vaccines to access remote Northeastern areas of Manipur and primarily focussed on strengthening the vaccine delivery system.

In order to promote "AtmanirbharBharta" in defence manufacturing, the Indian Army and the Drone Federation of India launched the "Him Drone-a-thon" program on August 8th, 2022. The program's goal is to catalyse the Indian drone ecosystem and provide targeted opportunities for it to develop ground-breaking drone capabilities for meeting the needs of frontline troops.¹

On 1st February 2022, Nirmala Sitharaman, the Minister of Finance of India announced that the Centre shall promote 'Kisan drones' to help the farmers in accessing of crops, digitalize land records, and as well as spray insecticides, pesticides, and crop nutrients.

The Directorate General of Foreign Trade (DGFT) underneath the **Ministry of Commerce and Industry (MoCI) banned the importing of foreign made drones. This step was taken after the Union Budget 2022 where the issue of the Drone Shakti Scheme was proposed. This scheme focuses to facilitate the use of 'Drone as a service' in India. The imports with respect to components or parts of drones are not banned and will not require prior approval. The imports of drones for the aim of defence and security are going to be**

¹Ministry of Defence < <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1849961> > accessed on 16 September 2022.

allowed subject to approval from DGFT. This strategic move is formed to push made-in-India drones.

CATEGORISATION OF UNMANNED AIRCRAFT SYSTEM

The unmanned aircraft systems are divided into three categories, namely:–

- (a) Aeroplane;
- (b) Rotorcraft; and
- (c) Hybrid unmanned aircraft system.

(2) The airplane, rotorcraft, and hybrid unmanned aircraft systems are additionally sub-categorised as follows:–

- (a) Remotely piloted aircraft system (RPAS);
- (b) Model remotely piloted aircraft system (MRPAS); and
- (c) Autonomous unmanned aircraft system (AUAS).

In India, drones are categorised according to their maximum combined weight and payload, they are as follows:

- (a) Nano drone: weight less than or equal to 250 grams;
- (b) Micro drone: weighing more than 250 grams but less than or equal to 2 kilograms;
- (c) Small drone: weighing more than 2 kilograms but less than or equal to 25 kilograms;
- (d) Medium drone: weighing more than 25 kilograms but less than or equal to 150 kilograms; and
- (e) Large drone: weighing more than 150 kilograms.²

OVERVIEW OF UAS RULES, 2021

Applicability: The rules are applicable to the drones that are registered in India and that are operating in or over India. It applies to persons who are engaged in owning, manufacturing, or possessing, or in the business of leasing, operating, transferring, or maintaining an unmanned aircraft system (UAS) in India.

² Ministry of Civil Aviation website < <https://www.civilaviation.gov.in/en/ministry-documents/rules> <<https://egazette.nic.in/WriteReadData/2021/229221.pdf>> accessed on 15 September 2022

Red zone, Yellow zone, and Green zone: The Ministry of Civil Aviation (MoCA) has launched an interactive airspace map on the website of DigitalSky Platform that displays the territorial areas where the drones can be operated by the users. The areas are divided into Green Zone, the Yellow zone, and the Red Zone.

- Green zones are those areas that do not come under yellow zones or red zones. No permission is required to operate over green zone airspace.
- Yellow Zone means the airspace where unmanned aircraft system (UAS) operations are restricted. Permission is required from the concerned air traffic control authority.
- Red Zone consists of airspace where the land area or territorial waters are no fly zones. Such airspace consists of State borders with neighboring countries, areas under the control of the Indian military bases, and other areas that are flagged as red zones. The operations under such areas are only permitted by the Central Government.

Drone certification: On the recommendations of the Quality Council of India (QCI), the Central Government set out the standards for obtaining a type certificate for unmanned aircraft systems (UAS) for the purpose of promoting Made-in-India technologies, components, models, and designs of drones. It also helps in promoting the Indian regional navigation satellite system, namely the Navigation with Indian Constellation.

- Type Certificate: The Director General (DG) or any other entity authorized by the Director General (DG), on the recommendations of the Quality Council of India (QCI), has been authorized with the power to issue a type certificate for any particular category of unmanned aircraft system (UAS).
- Process for issuance of type certificate: For obtaining a type certificate, the concerned person needs to make an application in FORM D-1 available on the DigitalSky platform along with payment of fees of Rs. 100/-. The particulars of the person applying and its required details and documents in respect of the prototype of the unmanned aircraft system (UAS) and the prototype unmanned aircraft system are required to be handed over physically to the authorized testing entity.
- The Quality Council of India (QCI) or the Authorized testing entity examines the proposal placed before them and thereafter submits the test report along with its recommendations to the Director General (DG). The examination and submission of the test report need to be completed within 60 days from the date of receipt of the application.

- Within fifteen days of receiving the test report, the Director General shall issue a type certificate based on the test report and suggestions.

Drone Registration: For flying an unmanned aircraft system, a person requires to first register the aircraft on the DigitalSky Platform and after which a unique identification number (UIN) is allotted. The Director General has to maintain a record of registration of all such unmanned aircraft systems (UAS) unique identification number (UIN) is allotted.

- **Process for registration:** An Applicant who wants to register and obtain a unique identification number (UIN) for his/her unmanned aircraft system (UAS) requires to make an application in 'FORM D-2' available on the website of DigitalSky Platform along with the payment of fees Rs. 100/-. The DigitalSky Platform thereafter verifies the details submitted to them and issues a unique aircraft identification number to the concerned person. The unique identification number (UIN) is to be linked to the unique serial number provided by the manufacturer of the drone. It is also linked to the unique serial numbers of its flight control module and remote pilot station.
- **Registration of existing unmanned aircraft vehicles:** An existing unmanned aircraft system manufactured in India or which is imported on or before 30th November 2021 requires to be registered within a period of thirty one days, such a person has to make an application for registration and obtain a unique identification number by filing requisite details in 'FORM D-2' available on the website of DigitalSky Platform along with the fees of Rs. 100/-. Thereafter the DigitalSky Platform needs to verify the details provided and after which shall issue a unique identification number (UIN) to the concerned person. Such unmanned aircraft system (UIN) should have a valid Drone Acknowledgement Number (DAN) issued by the authority responsible under the DigitalSky platform, it should have a Goods and Services (GST) tax-paid invoice and is part of the list published by the Director General (DG).
- **Transfer of unmanned aircraft systems (UAS):** A person can transfer his/her unmanned aircraft system (UAS) to another person by way of sale, lease, gift, or any other transfer mode. The requisite details of the transferor, transferee, and unique identification number (UIN) are to be filed under 'FORM D-3' which is available on the website of DigitalSky Platform along with fees of Rs. 100/-. The details shall be verified and the transfer shall be effected in the registration record maintained with the Director General. After completion of the electronic verification of the transferor,

transferee, and the unique identification number, a transfer number is generated by the DigitalSky Platform.

- **Deregistration of unmanned aircraft systems (UAS):** In case of unmanned aircraft system is permanently lost or permanently damaged or a reasonable conclusion is derived that it is lost or damaged, an application is submitted in 'FORM D-3' available on the website of DigitalSky Platform along with fees of Rs. 100/- is to be paid. The necessary changes shall be effected by the Director General in the registration record with respect to deregistration. A transaction number is generated by the DigitalSky platform.

OPERATIONS OF UNMANNED AIRCRAFT SYSTEMS

Airspace map and Interactive Airspace map - The DigitalSky platform has published an airspace map for running unmanned aircraft system (UAS) operations dividing the entire airspace of India into the red zone, yellow zone, and green zone. The Interactive map is designed to showcase a readable Application programming interface that will help the pilot easily identify the zones within which the drone is flying so as to make an application for prior permissions from respective authorities.

Prior Permission - No person is allowed to operate drones in red zone or yellow zones without obtaining prior permission from the necessary authorized authorities.

Temporary Red zones - The State Government, the Union territory Administration, or the law enforcement agency may on an emergency basis declare a temporary red zone over such specified area for not more than ninety-six hours at a time by notifying it through the website of 'DigitalSky' Platform and highlighting the specified area on the airspace map. All holders of unique identification numbers who are residing and located within 5 kilometers from the perimeter of the red zone shall be informed from the DigitalSky platform or other electronic means. The declaration of a temporary red zone will be made by an officer, not below the rank of Superintendent of Police or some equivalent rank having jurisdiction over that particular area.

Prohibition on carrying arms, explosives, ammunition, and military stores, etc. on drones

- No person is allowed to convey or cause to carry or permitted to carry in any unmanned aircraft vehicle (drone) within or over the Indian territory consisting of any arms, warzone weapons, implements of war, ammunitions, explosives, and military stores and equipment. The

Central Government or any authority authorized by the Central Government has the power to permit such operations subject to terms and conditions.

Mandatory reporting of accidents involving drones – Information involving the accident of any unmanned aircraft vehicle shall be reported to the Director General through the Digital sky platform. This report is to be made not later than 48 hours of such an accident occurrence.

Remote Pilot license: A person holding a valid remote pilot license is only allowed to operate an unmanned aircraft vehicle.

- **Classification** - For issuance of the license, the remote pilot license has to specifically mention details about the category, sub-category, and classification of the drone.
- **Eligibility:** To obtain a remote pilot license, an individual shall be not less than 18 years and not more than 65 years of age. He must have successfully completed the training required by the Director General (DG) from any accredited remote pilot training organization. He should have passed the 10th standard examination or its equivalent from a recognized Board.
- **Process for obtaining a remote pilot license-** Any person seeking to get a remote pilot license must succeed in the exams given by the accredited remote pilot training institution. The authorized remote pilot training organization must submit an application for a remote pilot license in accordance with "FORM D-4" on the website of DigitalSky Platform within 7 days of successfully completing the training and passing the exams, along with a fee of Rs. 100. The Director General will then issue a remote pilot certificate via DigitalSky Platform within fifteen days.
- **Validity of license-** Valid for a period of 10 years unless suspended or cancelled. A refresher course is mandatory for such remote pilots.

Exemption from obtaining a license– The use of Nano and Micro unmanned aircraft systems are free from the need for a pilot license when used for non-commercial purposes.

Research, development, and testing: A type certificate, unique identifying number, prior authorization, and remote pilot license are not necessary for some people to operate drones for research and development or conducting testing. Only Green Zones and the locations where such a person is undertaking research, development, and testing are permitted for such testing and operation.

- Any organization engaged in research and development that is overseen or approved by the Central Government, a State Government, or the administration of a Union Territory.
- Any educational facility that the Central Government, a State Government, or the administration of a Union Territory has administrative responsibility over or has granted recognition to.
- Any startup or new business recognized by the Department for Promotion of Industry and Internal Trade (DPIIT).
- Any authorized testing entity.
- An unmanned aircraft system (UAS) manufacturer has a Goods and Service Tax identification number (GST).

Insurance: Third party insurance is mandated under the rules. Nano drones are only exempted from having insurance. The provisions of the Motor Vehicles Act, 1988, and rules shall apply mutatis mutandis in case of third party insurance of unmanned aircraft systems and the compensation to be provided in case of damage to life or property caused by such drones. Such insurance products are approved and regulated by the Insurance Regulatory and Development Authority of India (IRDAI).

Penalties, suspension, or cancellation: The Director General or an authorized person is appointed for conducting an investigation by passing a general or special order produced in writing. The Director General (DG) or an officer authorized by the Central Government or a State Government or Union Territory administration, after giving the opportunity of being heard to the concerned person, if satisfied that the concerned person has contravened or failed to comply with provisions of these rules, he may be reasons recording in writing, levy a penalty not exceeding Rupees One Lakh. Any license, certificate, authorization, or approval that was given in accordance with the rules may also be revoked or suspended by the Director General (DG).

CONCLUSION

The drone culture has created a separate line of avenues for commercial as well as security purposes. The Drone Rules, 2021 have made the operation of unmanned aircraft systems (UAS) a lot simpler than before. The import restriction has given the Indian manufacturing industry a chance to ride the tidal waves of innovation and technology. By 2030, the Indian government hopes to establish itself as a major drone hub. The rules clearly focus on improving the ease of

doing business in the drone industry by reducing the number of clearances and compliances. As the activities of drones will increase with changing times, the Government will have to address and reshape the rules from time to time in the near future.

