

Technology Law Analysis

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DRONE REGIME IN INDIA SIGNIFICANTLY LIBERALISED: ENTRY OF FOREIGN PLAYERS PERMITTED

- Authorization and registration for drone operations considerably simplified
- Foreign-owned and controlled Indian companies permitted from manufacturing / operating drones in India
- Flying zones divided into – green, yellow and red. No prior approvals required for operations in green zone
- No certification or registration required for R&D purposes



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In a remarkable development on the regulatory front, the Government of India has overhauled the civil drone regime in India and notified the Drone Rules, 2021 ("**New Rules**").¹ The New Rules supersede the much criticised and highly restrictive Unmanned Aircraft System Rules, 2021 ("**Earlier Rules**") which were released in March 2021. Through the New Rules, the Government has now significantly liberalised the regime on drones, removing express restrictions on foreign-owned and controlled Indian companies, and simplifying the drone registration and certification process, among other things. We have discussed below some of the key features of the New Rules which will now govern the civil use of drones in India.

APPLICABILITY

The New Rules defines a "drone" as an "unmanned aircraft system" ("**UAS**") which has in turn been defined as "*an aircraft that can operate autonomously or can be operated remotely without a pilot on board*".

The New Rules apply to all (i) UAS registered in India; persons who own or possess, or engage in leasing, operating, transferring or maintaining a UAS in India; and (iii) all UAS which are being operated over or in India for the time being. Further, the New Rules only apply to the civil use of drones and exclude the applicability of the Aircraft Rules, 1937 for drones with an aggregate weight of up to 500 kgs.

CATEGORIZATION AND CLASSIFICATION OF UAS

The New Rules categorize UAS into aeroplane,² rotorcraft³ and hybrid unmanned aircraft system⁴. These categories are further sub-categorized as the following:

1. Remotely piloted aircraft system ("**RPAS**"): This includes a remotely piloted aircraft, its associated remote pilot stations, the required command and control links and any other components as specified in the type design.
2. Model RPAS: These are RPAS which have a maximum all-up weight of 25 kgs, which are used for educational, research, design, testing or recreational purpose only and operated within visual line of sight.
3. Autonomous UAS: Unlike the Earlier Rules, the Rules do not define autonomous UAS. Hence, the degree of autonomy that would be required for a UAS to be considered as autonomous would need to be evaluated further.

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Further, the classification of drones under the New Rules is similar to the Earlier Rules (i.e., weight-based classification)⁵, with one exception being that under the Earlier Rules, Nano Drones would be categorised as Micro Drones, if the Nano Drone exceeded the stipulated performance parameters based on the maximum speed, height or range attainable from the remote pilot (i.e. performance-based classification). The New Rules have done away with this performance-based reclassification of Nano Drones, which will benefit the industry at large.

AUTHORISATION FRAMEWORK

As against the Earlier Rules which required extensive authorisations and certifications at each stage of the life cycle of a drone, the New Rules have simplified this process to a great extent. The two primary requirements under the New Rules for a drone are the type certificate and unique identification number (“**UIN**”).

Type Certificate

A drone is not permitted to be operated in India unless it conforms to a type certificate, or is exempted from the requirement of a type certificate under the New Rules.

The New Rules provide that the Government of India may specify the standards for obtaining a type certificate, based on the recommendations of the Quality Council of India (“**QCI**”).⁶ The standards may also promote Indian-made technologies and Indian regional navigation satellite system. The active involvement of the industry in standard setting is indeed a welcome move, and would go a long way in ensuring that these standards align with global standards and practical considerations of the industry.

The issuing authority for the type certificate will be the Director General of Civil Aviation (“**DGCA**”), or an entity authorised by it, based on the recommendations of the QCI or any authorised testing agency (“**ATA**”). The application is to be made on the digital sky platform (“**Platform**”) which will then be examined by the QCI or ATA. Importantly, the New Rules provide a specific timeline of 60 days from the date of the application, within which the QCI / ATA must submit its recommendations to the DGCA. The DGCA is also required to issue the type certificate for the specific type of drone within 15 days of receiving the QCI / ATA report. The specific provisions regarding timelines for the relevant authorities to process the application, as we had noted in our analysis of the Earlier Rules,⁷ is crucial for interested stakeholders who would need to prepare their business plans well in advance, and therefore, is another welcome change.

Further, if a “Contracting State”⁸ has granted approval to any type of drone, the DGCA may also issue a type certificate to such a type of drone, provided that the same has been notified by the Central Government.

The previous regimes contained a high number of safety features required to be installed on all types of drones – which was another cause of worry for the industry. While the New Rules do not expressly mention these safety features, they provide that the Government may notify mandatory safety features, including no permission-no take-off hardware and firmware, real time tracking beacon and geo-fencing capability. As of today, there do not appear to be any mandatory safety features to be installed on drones. However, the specific mention of the above features suggests that the Government seeks to make at least these features mandatory in the near future. Every drone owner would subsequently have to ensure the adoption of these features within 6 months from the notification.

Exemptions from type certificates

1. Nano Drones and Model RPAS have been exempted from the requirement of a type certificate for their operations.
2. In addition, the New Rules also exempt the requirement of a type certificate for the manufacture and import of drones.

The said exemptions would provide much-needed relaxation when compared to the Earlier Rules where drone manufacturers and importers were also required to register themselves first, in addition to obtaining a certificate of manufacture / airworthiness for commencing the manufacturing / importing process.

Registration of drones

The New Rules further require drones to be registered on the Platform and obtaining a UIN, before they can be operated. Under the application process, once the required details of the individual/organisation and the drones are submitted, the Platform will verify the details and issue a UIN to the applicant. Additionally, the transfer of drones through sale, lease, gift, or otherwise, is also required to be registered with the platform. In stark contrast with the type certification process, there does not appear to be a timeline for the Platform to process the registration, and it is unclear if the Platform will physically inspect the drone and the applicant. We would recommend that these details should be clarified by the Government at the earliest.

Interestingly, no category of drones has been exempted from the requirement of obtaining a UIN, including Nano Drones. However, a one-step and one-time procedure for registration should not be too cumbersome for drone operators, and would also ensure accountability of such operators.

The UIN allotted to a drone must be connected to the “unique serial number” provided by the manufacturer and of the drone’s flight control module and remote pilot station. However, the New Rules do not clarify whether the unique serial number will be something issued by manufacturers themselves or if it will be issued by the authorities to each manufacturer. The New Rules prohibit the replacement of the flight control module and remote pilot station without updating the unique serial number thereof with the digital sky Platform within 7 days of such replacement or before operation of the drone, whichever is earlier.

A window till December 30, 2021 has been provided to drones which have been manufactured in or imported to India on or before November 30, 2021 to register on the Platform and obtain a UIN. If the drone has (i) a valid Drone Acknowledgement Number issued by the Platform before November 30, 2021; or (ii) has a Goods and Services Tax paid invoice for the drone; or (iii) is part of the list of UAS published on the platform; the Platform will issue a UIN for the drone.

RELAXATIONS ON FOREIGN COMPANIES

The Earlier Rules contained specific restrictions on foreign entities or their majority / wholly owned Indian subsidiaries on owning / operating / manufacturing or otherwise dealing with drones in India. The Government has done away with the restrictions at least on foreign-owned and controlled Indian companies ("**FOCC**") to conduct drone operations in India. Therefore, for the first time since the sector has become regulated, the drones regime has been liberalised and permits FOCCs to manufacture and operate drones in India, among other things. The liberalisation is likely to bring in foreign investment, in addition to safer and more advanced technology for drones, which would otherwise have to be developed from scratch by domestic entities.

Further, FOCCs appear to have been permitted to own and operate remote pilot training organisations as well, which is another space where the know-how of more technologically advanced countries can be put to use.

OPERATION OF UAS

The permissions required for drones has also been relaxed to a great extent. The Government will notify an interactive map by September 25, 2021 which is proposed to be accessible through a machine-readable API. The map will divide the entire Indian airspace into three zones namely:

- i. Green: Includes (a) the airspace up to a vertical distance of 400 ft or 120 m for all zones which have not been categorised as red or yellow; and (b) the airspace up to a vertical distance of 200 ft or 60 m above the area located between a lateral distance of 8 kms and 12 kms from the perimeter of an operational airport.
- ii. Yellow: Includes (a) the airspace above 400 ft or 120 m in the designated green zone and (b) the airspace above 200 ft or 60 m in the area located between the lateral distance of 8 km and 12 km from the perimeter of an operational airport
- iii. Red: Will include areas notified by the Central Government and may include installations, port limits or areas beyond territorial waters of India.

The Rules do not require any permission to be obtained for drone operations in the green zone, provided that the remote pilot mandatorily self-verifies the Platform for restrictions on the intended area of operations. Operations in the green zone would therefore only require a type certificate and UIN, which will be one-time procedures. On the other hand, operations in the yellow zone and red zone require the permission of the air traffic control authority and Central Government, respectively. Therefore, the Government appears to have taken a pragmatic view which takes into account security concerns but does not contain prohibitive requirements either.

From a safety perspective, the Rules put the onus on the drone operator to ensure that the operations do not, whether directly or indirectly, endanger the safety and security of any person or property. The carriage of dangerous goods (except in compliance with the Aircraft (Carriage of Dangerous Goods) Rules, 2003) and arms, ammunitions, and explosives is prohibited. Further, the remote pilot of a drone which is involved in an accident is required to report the same to the DGCA through the digital sky platform. Interestingly, there is no such requirement for an autonomous drone. Moreover, the definition of "accident" under the Rules does not include any incident involving damage to property. Further, all drones apart from Nano Drones are required to obtain third party insurance before operations in line with the Motor Vehicles Act, 1988 and rules thereunder.

Autonomous and BVLOS operations

Except in case of Model RPAS, the New Rules do not contain any express restrictions on or permissions required for beyond visual line of sight ("**BVLOS**") operations. Given the lack of guidance on BVLOS operations, various industry players might find it challenging to build their future course of action since any subsequent change in regulations can drastically affect R&D operations as well as business plans. Therefore, it is recommended that some guidelines be provided regarding such operations.

Further, apart from the definition of UAS, references to autonomous operations of drones is conspicuously absent from the Rules. Since autonomous drones do not involve a pilot, it is unclear if any license is required for autonomous drone operations. This appears to be a lacuna in the Rules where pilot-operated drones are subject to more security requirements than autonomous drones, which are generally perceived to involve higher risks.

Carriage of payload

There are also no guidelines on carriage of payload, except the restricted items mentioned above. This again could prove problematic for players looking at commercial use of drones for deliveries and logistics. In the absence of guidelines, there is no clarity on the kind of carriage that would be permitted, and whether it would entail BVLOS carriage as well. As a result, it is difficult for businesses to plan their operations in this regard, and further regulatory developments in this regard would have to be evaluated.

On the positive side, the Earlier Rules only permitted the carriage of goods under a specific license which could be interpreted to mean that drones cannot carry passengers (humans, animals, etc.). Given the lack of specific language in the Rules, the Government appears to have enabled the entry of drone taxis as well. In fact, the Aviation Minister Jyotiraditya Scindia has expressed that drone taxis may soon become a reality under the new drone regime.⁹ In all likelihood, drone taxis would require a much more stringent process at the stage of the type certificate itself, nevertheless, the Rules at least enable such operations.

Model RPAS operations

Model RPAS are limited purpose drones, which can be used only for educational, research, design, testing or recreational purposes. They must not weigh more than 25 kgs, and should only be operated within visual line of sight. As mentioned above, no type certificate is required for Model RPAS, however, a UIN is required for such drones.

RESEARCH AND DEVELOPMENT

The Earlier Rules contained highly restrictive provisions relating to the conduction of research, development and testing ("**R&D**") operations, requiring an authorisation even before R&D had commenced. This has also been significantly relaxed in the New Rules wherein any drone manufacturer having a GST identification number can conduct R&D without requiring a type certificate, UIN, prior permission or even an RPL. Further, the R&D operations can only be conducted in green zone and either within the premises of the person conducting the operations or within

an open area in a green zone under such person's control. Given that regulatory and compliance requirements often act as entry barriers, the new relaxations will provide a significant boost especially to startups which are exploring opportunities in the drone sector.

IMPORT OF UAS

The New Rules provide that import of UAS shall be regulated by the Directorate General of Foreign Trade or any other entity authorised by the Central Government. The import of UAS is "Restricted"¹⁰ and requires prior clearance of the DGCA and an import license from the DGFT. Nano Drones which operate below 15 metres above ground level are exempted from this requirement but they require an Equipment Type Approval from the WPC Wing of the Department of Telecommunications ("DoT") for operating in de-licensed frequency band(s) as per telecom requirements. It remains to be seen if the performance-based restriction on Nano Drones, which is a remnant of the Earlier Rules will continue in light of the New Rules. In the past, representations have been made to the DGCA given the challenges faced by importers of UAS with customs authorities, who at times have required Nano Drones to be geo-fenced prior to import which now is not mandatory under the New Rules. Hence, it will be interesting to see if the DGFT permits the import of Nano drones (which are not geo-fenced) under the said exemption.

REMOTE PILOTS AND TRAINING ORGANISATIONS

Except for operating a Micro Drone for non-commercial purposes, Nano Drones and R&D purposes, all drone operations require the pilot to be a holder of a valid remote pilot license ("RPL"). Individuals are eligible to apply for an RPL only if: (i) they are aged between 18-65 years of age; (ii) have passed grade 10th examinations or equivalent; and (iii) have completed the training specified by the DGCA from an authorised remote pilot training organisation ("RPTO"). The individual must also pass the application is required to be made to the DGCA on the Platform and the DGCA will process the same within 60 days. Once granted, the license will be valid for 10 years and can be renewed for a further period of 10 years thereafter.

RPTOs are also required to obtain an authorisation from the DGCA before they impart training for remote pilots. The eligibility criteria for RPTOs to be authorised will be notified separately. The RPTO is required to apply to the DGCA through the Platform for authorisation, and once the authorisation is granted, it will be valid for a period of 10 years.

SAFETY CONCERNS

While the New Rules are encouraging for various players to explore and build the drones sector, there does appear to be a general lack of framework regarding the operations of a drone from a safety and security perspective. Once a type certificate and UIN has been obtained, drones may be operated freely in green zones, which, in the absence of further guidance, may include densely populated civilian areas as well. While there is a reporting requirement for drone accidents, there could perhaps be further measures towards prevention of such accidents in the first place. For example, it is unclear if there will be a check on drone operations being conducted basis the type certificate. There are also no safety features which are required to be inbuilt into drones currently.

Moreover, with respect to carriage of payload, it is not that just specifically dangerous goods may endanger life or property during drone operations. At the height that drones operate, even relatively light objects can cause injury and damage if for some reason they get dropped from the drone.

On a similar note, while Model RPAS have been exempted from requiring type certificates, they may weigh up to 25 kgs, which is a significant size and there is no restriction on the areas (within the green zones) that they may operate. Since 'recreational purpose' has also not been clearly defined, this leaves scope for possible abuse of the relaxation granted to Model RPAS. It could be considered whether heavier Model RPAS should require a type certificate, since the process is one-time. This would likely go a long way in ensuring that before being deployed in common spaces, they undergo a safety check.

R&D operations have also been given an exemption from all certification and registration requirements. Notably, R&D operations may include drones of any size, right up to 500 kgs. From the perspective of the broader drone ecosystem, it would be pragmatic to keep track of the R&D operations, which could be done achieved through a UIN registration requirement of such entities based on the size of the drones they are operating. Further an "open area" in a green zone should also be defined – currently it is unclear if test flights can be conducted over areas which might be "open" but may have a significant number of civilians.

Therefore, the need for further regulations regarding operations of drones, especially the carriage of payload should be further evaluated.

PENALTIES

Notably, the New Rules only criminalise the carriage of weapons and explosives and the operation of drones without permission. Moreover, it shall be a valid defence to any proceedings under the New Rules if the contravention is proved to have been caused due to factors or circumstances beyond the control of the relevant person or without the knowledge or fault of such person such as stress of weather, or any other unavoidable cause or circumstances. This does not, of course, exempt liability under other laws. For any other contravention of the New Rules, a maximum penalty of INR 1 lakh (approx. USD 1350) has been prescribed.

CONCLUSION

The New Rules are no doubt a giant leap forward for the drone sector in India. Years of consultations between the Government and various stakeholders has eventually found its way into concrete regulations, and the drone landscape has been altered considerably as a consequence. The New Rules do have a few sources of concern – for e.g., the power provided to the Government to issue further notifications / orders on multiple aspects means that these rules will be supplemented in the future. This poses two problems – firstly, if the number of such notifications / orders is high, compliance with the same will become cumbersome since all players will have to keep a continuous track on the regulatory developments; secondly, it leaves a huge scope for the undoing of the positive developments under these rules.

On a contrary note, the lack of regulation of drone operations noted above could also be problematic.¹¹ There does

not appear to be any regulation of autonomous / commercial drones separately, especially since the license requirements for pilots does not apply to them. Similarly, no guidance has been provided on BVLOS operations. In order to garner public faith in drones, the New Rules should ensure that once drones are more widely adopted, the safety of the common person is not compromised, regardless of post facto accountability. Therefore, it would be fruitful to continue consultations with academia, consumer groups and the industry to improve safety measures during drone operations. It should also be ensured that the police and other law enforcement mechanisms are well-equipped to understand and address the specific concerns that arise due to drone operations.

It also remains to be seen how the Platform will develop to handle the various applications and certifications that will need to be processed, now that the law has been liberalised. While the New Rules do provide for definitive timelines, a lot would depend on the functioning of the Platform which will determine the ultimate success of the New Rules.

All being said, the New Rules are set to revolutionise the drones sector in India in the coming years. There is potential not only for economic growth within the sector, but in other sectors due to a knock-on effect through more data availability, cheaper logistics, new age technology, intellectual property, etc.

We eagerly look forward to reaping the benefits of the drone world but simultaneously we also need to build a comprehensive framework to ensure safety and security.

– Tanya Kukade, Aniruddha Majumdar & Huzefa Tavawalla

You can direct your queries or comments to the authors

¹ Available at <https://egazette.nic.in/WriteReadData/2021/229221.pdf> (last visited on August 27, 2021).

² Aeroplane has been defined under the New Rules as “any power-driven heavier than air aircraft machine deriving support for its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight”.

³ Rotorcraft has been defined under the New Rules as “a heavier-than-air aircraft supported in flight by the reactions of the air on one or more power driven rotors on substantially vertical axes”.

⁴ Hybrid unmanned aircraft system has been defined under the New Rules as “a heavier-than-air unmanned aircraft capable of vertical take-off and landing which depends principally on power-driven lift devices or engine thrust for the lift during the flight regimes and on non-rotating airfoil for lift during horizontal flight”.

⁵ *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; and *Large*: Greater than 150 kg.

⁶ The QCI is an autonomous body which was set up by the Government of India jointly with Indian industries and consumers in a public private partnership.

⁷ Available at: <https://www.nishithdesai.com/SectionCategory/33/Research-and-Articles/12/49/NDAHotline/4692/4.html>

⁸ Defined as “any country which is for the time being a party to the Convention on International Civil Aviation concluded at Chicago on 7th December 1944.”

⁹ See <https://www.livemint.com/news/india/taxis-in-the-air-to-be-a-reality-soon-under-new-drone-policy-aviation-minister-11629974892279.html> (Last visited on August 28, 2021).

¹⁰ DGFT Import Policy, Schedule I, Chapter 88.

¹¹ Further, the New Rules are absolutely silent on privacy concerns (perhaps rightly so), but this can easily be remedied through the personal data protection bill which is currently in the works in the Parliament.

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