## New Regulations on the Horizon for Commercial Drones

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Product Liability, Prevention and Government Regulation

Currently, the use of drones or *unmanned aircraft systems (UAS)* for commercial purposes in general is not permitted in the United States, although there is one exception. The *Federal Aviation Administration (FAA)* allows preauthorized companies to use drones to collect aerial data. The conditions for this type of use are limited; however, that is about to change. The FAA is currently working on a framework for regulations governing the commercial use of drones that are expected to be implemented in 2017. Once these rules are put into place and the ban on the commercial use of drones is lifted, we expect the growth of this industry to explode.

Naturally, safety is a priority for the rule makers, and as such, it is expected that the new regulations will likely impose minimum design safety standards for UAS used commercially. While these safety standards are geared toward reducing the possibility for accidents and injuries, they inevitably raise the stakes for manufacturers and operators of these devices in terms of product liability risk exposure.

Once the FAA permits the general use of drones for commercial purposes, it is anticipated that commercial drone operators will offer a diverse package of services, beyond just aerial data collection and photography. Drones have already been developed to replace the postman. Specialized drones have been tested and developed to deliver packages to customers' doorsteps. The ability for an online retailer to provide a package with the use of a drone as opposed to traditional postal channels will inevitably increase profit margins and drive market share to online retailers. Also, in rural areas of the country where it has not been economically feasible to have Internet service, Internet Service Providers can use solar-powered drones to provide wireless Internet service. There is no question in our minds that the emergence of this new technology in the marketplace will change dramatically the legal landscape in the area of product liability. Thus, the manufacturers, service providers and insurers that enter this space must be prepared for the product liability risk exposure that coincides with this efficient but young technology.

Besides the FAA's rules regulating the commercial use of UAS, most states are debating various bills intended to regulate drone usage. The current legal framework on the federal and state levels is very much in flux and drone manufacturers, drone operators and their respective insurers should be aware of the current trends in drone regulations across the country to ensure they operate within the law.

The FAA distinguishes between three classes of drone users: public operators, civil operators and

model aircraft operators. The first class is currently the most straightforward: public or governmental operators are granted authority for drone use on a case-by-case basis by the FAA. The operators must also be licensed pilots. The requirements become significantly more complicated when discussing the other two classes. Section 333 of the FAA Modernization and Reform Act (FMRA) is an exception to the rule banning commercial drone use. This exception allows companies to use drones for commercial purposes after obtaining specific government approval and those operators are required to work within a predefined set of conditions determined by the government. In contrast, under the current framework of the law, model aircraft operators do not need FAA authority to fly a small drone, but are still required to keep their drones within sight of the operator and must stay below 400 feet.

In early April, a report was submitted to the FAA by the Micro Unmanned Aircraft Systems Aviation Rulemaking Committee (ARC) to provide recommendations on a regulatory framework for the classification and operation of micro UAS. The committee comprises 27 members consisting of companies from a variety of sectors: aviation associations, drone manufacturers, agricultural associations, news/media associations and others. The committee was tasked by the FAA to "develop recommendations for a performance-based standard for the classification of micro UAS, identify means-of-compliance for manufacturers to show that unmanned aircraft meet the performance-based safety requirement, and recommend operational requirements for micro UAS appropriate to the recommended performance-based safety requirement." Considering the fact that these products will be air-bound once they are unleashed on the marketplace, we anticipate there will be strict regulations implemented by the government that will set forth the minimum safety and quality standards to which manufacturers must adhere in the construction of these devices.

In the report, ARC states that it was most focused on the issue of drone flight over people and, in attempting to solve the issue, ultimately identified four small UAS categories defined by level of risk or injury posed. Each category is created by identifying a risk threshold related to the weight of the drone, its impact energy, various performance standards and operational restrictions. The following briefly summarizes the categories as proposed by ARC:

• Category 1: drones that weigh 250 grams or less. Due to the minimal level of risk, these drones should be allowed to fly over people without restriction. Drone manufacturers should clearly state the weight of the drone on their product and certify the weight in a manner acceptable to the FAA. Drones in this category would require a manufacturer's certification that there is no more than a 1 percent chance that the maximum force of impact would cause a serious injury.

For categories 2, 3 and 4, a small UAS may operate over people if it does not exceed the impact energy threshold specified for each category. These thresholds would be certified by the manufacturer using industry-consensus test methods.

 Category 2: the micro UAS may operate over people if the manufacturer of the UAS certifies to the FAA that the UAS does not exceed the typical impact energy threshold and that it complies with industry consensus performance standards. Other requirements would include observing the operator's manual, maintaining lift-off distances of 20 feet above people's heads or 10 feet laterally away from people, and not operating so close to people as to create an undue hazard. The manufacturer would again need to certify that there is no more than a 1 percent chance that the maximum force of impact would cause a serious injury.

- Category 3: drones in this category would not be allowed to operate over crowds or dense concentrations of people. Their use would be limited to closed or restricted work-site use or where the flying over people is limited to those involved in the operation. The category 2 limitations also apply to this category. The manufacturer's certification in this category would need to certify a 30 percent or less chance that the maximum force of impact would cause a serious injury.
- Category 4: drones in this category would be allowed flight over people, including crowds or dense concentrations of people, if, in addition to the restrictions set forth in category 2, the operation is conducted in compliance with a documented risk mitigation plan developed and adopted in accordance with industry consensus standards. The manufacturer's certification in this category would also need to certify a 30 percent or less chance that the maximum force of impact would cause a serious injury.

The ARC recommendations add that to demonstrate qualification for one of the above categories, the manufacturer of the UAS would need to submit a declaration to the FAA, label the product accordingly and in line with industry standards, and provide a suitable operator's manual. For an indepth analysis, please see the <u>ARC report</u>.

The recommendations set forth by ARC show a clear effort by manufacturers to lessen the restrictions set forth by the FAA in the proposed rules released in February 2015, thereby potentially opening the door for commercial use of drones in populated areas. Implementation of these recommendations would allow companies to implement drones for a myriad of commercial applications.

Furthermore, should the FAA ultimately implement some of the ARC's recommendations, future product liability claims involving drones would boil down to the exact industry consensus standards for drones, what methods manufacturers used to determine in which category their drones fall and whether the models used to determine potential kinetic-based injuries were scientifically accurate. In future posts, we will address the need for manufacturers to ensure that their drones comply with any existing rules on a state level and that their operator's manuals warn against the various ways drones can be misused.

Drone use continues to rise throughout the world and as is the case with any new rapidly evolving technology, the legal landscape is still uncertain.

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