IMUA STATEMENT

The Inland Marine Underwriters Association [IMUA] is a not-for-profit national trade association comprised of:

♦ Members – insurance and reinsurance companies that underwrite a significant portion of the commercial inland marine insurance in the U.S.

♦ Associate Members – provide products and/or services to the insurance industry.

One of the services IMUA offers its members is the publishing of information for use by underwriters, loss control and claims specialists, and other interested parties. The topics covered in IMUA Reports and Bulletins are intended to provide an overall awareness of the exposures and hazards associated with a specific industry or class of business.

Volunteer members of a committee of the IMUA have produced this report. Committee members abide by antitrust restrictions while compiling information. It is generally not possible to treat any one subject in an exhaustive manner, nor is it IMUA’s intent to do so. No warranties are made regarding the thoroughness or accuracy of the report or any part of it. Nothing in this report should be interpreted as providing definitive guidance on any question relating to policy interpretation, underwriting practices, or any other issues in insurance coverage.

IMUA does not prescribe to its members how to make underwriting or claims decisions, nor does it require that analysis follow any particular format.

IMUA offers its thanks and appreciation to the Loss Control & Claims Committee members for their work on this paper:

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Drones

Although there have been media reports about the potential wide-scale use of drones in the commercial sector, see Amazon.com plans for home delivery via this method/mode at http://www.cbsnews.com/news/amazon-unveils-futuristic-plan-delivery-by-drone/), the Federal Aviation Administration (FAA) has not approved the use of unmanned aircraft (for example, drones) for commercial use. To date, drones are being used by military contractors overseas as well as government agencies (police departments and public universities) in the United States. However, there appears to be pent-up demand for users in the areas of land surveying, agriculture and academia once the FAA finalizes new rules for the devices which are not expected to a few years.

The FAA allows entities to apply for permission to use drones in limited cases but has approved a small number of applications from industries from filmmaking to farming. It is noteworthy to mention that a Montreal-based ocean carrier, Fednav, has been using unmanned air vehicles for ice reconnaissance on commercial sailings. The dry bulk transportation company has utilized a variety of video-equipped drones to scout ahead of vessels in the frozen waters off the Labrador coast. This new method of ice detection can capture subtle ice features such as ridges leads and fractures better than conventional technology (satellite and radar images and charts).

In a similar vein, The FAA Modernization and Reform Act of 2012 (FMRA) required the FAA to "initiate a process to work with relevant Federal agencies and national and international communities to designate permanent areas in the Arctic where small unmanned aircraft may operate 24 hours per day for research and commercial purposes and Search and Rescue (SAR) operations. The plan for operations in these permanent areas shall include the development of processes to facilitate the safe operation of unmanned aircraft beyond line of sight (BLOS). Such areas shall enable over-water flights from the surface to at least 2,000 feet in altitude, with ingress and egress routes from selected coastal launch sites.

The FAA first authorized use of unmanned aircraft in the National Airspace System (NAS) in 1990. The FAA's UAS Integration Office (AFS-80) is responsible for the safe, efficient, and timely integration of UAS into the NAS. AFS-80 collaboratively develops operating concepts, policies, requirements, criteria, and procedures for new system evaluations, integration, and implementation of emerging UAS technologies and was tasked with developing and overseeing implementation of the Arctic small Unmanned Aircraft Systems (UAS) Plan.

Today, unmanned aircraft are flying in the NAS under very controlled conditions, performing border and port surveillance by the Department of Homeland Security, helping with scientific research and environmental monitoring by NASA and NOAA, supporting public safety by law enforcement agencies, helping state universities conduct research, and supporting various other missions for public (government) entities. Operations range from ground level to above 50,000 feet, depending on the specific type of aircraft. However, UAS operations are currently not
authorized in Class B airspace (PDF), which exists over major urban areas and contains the highest density of manned aircraft in the National Airspace System.

Overseas, DHL, the Germany-based global logistics company is using what they term “parcelcopters” to make deliveries to the North Sea Island of Juist; the first time unmanned aircraft have been used to transport cargo in Europe. DHL received permission from the Germany Transport Ministry and Air Traffic Control to use a restricted flight area for the deliveries.

There are three types of unmanned aircraft system operations: Civil, Public and Model Aircraft. We will consider only the first two due to their commercial relevance.

**Civil UAS**

Obtaining a Special Airworthiness Certificate in the experimental category for a particular UAS is currently the only way civil operators of unmanned aircraft are accessing the NAS. Experimental certificate regulations preclude carrying people or property for compensation or hire, but do allow operations for research and development, flight and sales demonstrations and crew training. The FAA is working with civilian operators to collect technical and operational data that will help refine the UAS airworthiness certification process. The agency is currently developing a future path for safe integration of civil UAS into the NAS as part of NextGen implementation. Read more about Civil Operations.

The FAA has been working for several months to implement the provisions of Section 333 of the FAA Modernization and Reform Act of 2012, "Special Rules for Certain Unmanned Aircraft Systems," which will allow for commercial operations in low-risk, controlled environments. Read more about Section 333.

**Public UAS**

COAs are available to public entities that want to fly a UAS in civil airspace. Common uses today include law enforcement, firefighting, border patrol, disaster relief, search and rescue, military training, and other government operational missions. Applicants make their request through an online process and the FAA evaluates the proposed operation to see if it can be conducted.

For public operation, the FAA issues a Certificate of Authorization or Waiver (COA) that permits public agencies and organizations to operate a particular UA, for a particular purpose, in a particular area. The FAA works with these organizations to develop conditions and limitations for UA operations to ensure they do not jeopardize the safety of other aviation operations. The objective is to issue a COA with parameters that ensure a level of safety equivalent to manned aircraft. Usually, this entails making sure that the UA does not operate in a populated area and that the aircraft is observed, either by someone in a manned aircraft or someone on the ground. Common uses today include law enforcement, firefighting, border patrol, disaster relief, search and rescue, military training, and other government operational missions.
Applicants make their request through an online process. After a complete application is submitted, FAA conducts a comprehensive operational and technical review. If necessary, provisions or limitations may be imposed as part of the approval to ensure the UA can operate safely with other airspace users. In most cases, FAA will provide a formal response within 60 days from the time a completed application is submitted.

The COA allows an operator to use a defined block of airspace and includes special provisions unique to the proposed operation. For instance, a COA may require flying only under Visual Flight Rules (VFR) and/or only during daylight hours. COAs usually are issued for a specific period—up to two years in many cases.

Most COAs require coordination with an appropriate air traffic control facility and may require a transponder on the UAS to operate in certain types of airspace.

Because UAS technology cannot currently comply with "see and avoid" rules that apply to all aircraft, a visual observer or an accompanying "chase plane" must maintain visual contact with the UAS and serve as its "eyes" when operating outside airspace restricted from other users.

Please email the FAA/UAS office at 9-AJR-36-UAS@faa.gov with any questions or for more information regarding Certificates of Waiver or Authorization.

**Fast Facts**

Here are some key features of commercial drones:

- Lightweight
- Highly efficient propulsion systems enable hover and flight durations as long as 200 minutes
- Forward and side high resolution cameras allowing for recording day and night
- Line of sight range up to 10 miles
- Minimal runway requirement with options for VTOL (Vertical Take-Off and Landing)

**Uses**

- Agriculture and Crop Management (advanced sensors and imaging capabilities can help farmers increase yields and reduce crop damage)
- Consumer Product Delivery (delivering packages to customers; this is being evaluated by the aforementioned Amazon as well as Domino’s Pizza and UPS)
- Insurance (improve productivity and efficiency of claims adjusters and risk engineers as well as improve customer experience during catastrophes)
- Media and Entertainment (journalists, news reporters, photographers and film personnel can utilize drones for aerial footage)
- Oil & Gas (three-dimensional mapping of oilfield’s infrastructure to pinpoint problems and develop repair strategies)
- Search and Rescue (assist firefighters in obtaining information on accident locations)

Testing

The Federal Aviation Administration (FAA) selected six (6) national drone-test sites: Southern New Jersey, New York, Nevada, North Dakota, Texas and a joint region of Alaska, Hawaii and Oregon. As indicated above while the FAA does not currently allow the commercial use of drones, these exercises may lay the groundwork for it.

The activity in New Jersey, conducted by the New Jersey Institute of Technology, will take place as far as 14 miles offshore. The main objective of this testing program will be working to enhance homeland security and emergency management capabilities through the use of drone-borne weather sensors that can help forecasters improve predictions on where major storms will make landfall a full two days before current technology allows.

Another “payload” component of the drone testing will be flying cell towers enabling call and data relays from places where telecommunications equipment has been disabled due to a storm or other disaster. The drones could also be used to conduct better mapping allowing first responders an almost immediate look at major storm damage. The key part of this research will be to see how the drone systems integrate with on-the-ground equipment so that real-time information can be obtained by emergency personnel.

References

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