

A Bird's Eye View of Potential Drone Risks

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Unmanned Aircraft Systems (“UAS” or “drones”) are rapidly becoming more prevalent in every day society. Whereas a decade ago they were predominantly considered a unique battlefield technology operated by specially trained personnel, today they are used both recreationally and in numerous industries seeking to improve performance and/or reduce costs by using unmanned technologies.¹ Although it is widely known that Amazon has been experimenting with drones for package delivery,² drones are being used in other creative ways that raise interesting risk dynamics. For instance, drones can be used by land surveyors to plan and implement construction projects,³ event photographers,⁴ law enforcement for an assortment of investigative and surveillance purposes,⁵ or insurance adjusters to assess property damage or investigate claims.⁶ Some companies are even experimenting with developing “on-demand robotic taxis” that would carry passengers for hire,⁷ or drones capable of delivering transplant organs – or even human passengers in need of emergency medical attention.⁸

Because drones are being used in so many different ways, and their uses are outpacing industry standards and regulations,⁹ the hazards associated with the technology may be ill-defined or not fully understood. The goal of this article is to discuss some potential risks associated with this intriguing technology and survey how the insurance industry might tackle (or already is tackling) such risks.

Although the risks associated with drone use are still speculative and largely untested, consider the following hypothetical:

Wright Lloyd Frank, an architect known for creative designs, is curious about how his latest vision is being implemented and wants to take aerial photographs of the construction. Frank purchases a drone capable of taking high resolution photographs but does not take a training course on how to operate it, obtain an operator's license,

or register it with any government entity. Eager to check on progress and ensure the building is meeting his specifications, Frank heads to the construction site and hastily sets up the drone and prepares the onboard camera. Frank has no trouble during takeoff, and as he hovers the drone above his four-story masterpiece, he is able to snap high resolution photos of the construction progress.

Soon, however, the camera's storage system malfunctions, and several of Frank's photographs are not saved, including those showing that portions of the building's roof and framing were defectively designed. And as Frank continues taking photographs, the drone (and this hypothetical) goes completely haywire. First, it rapidly ascends above the building, flying well out of Frank's sight and nearly colliding with a commercial airplane on descent to a nearby airport. Next, the drone veers toward a nearby residential area, where it inexplicably decreases its velocity and slowly glides by the home of Gladys and Abner Kravitz. As the drone creeps by the window, the camera again malfunctions and takes dozens of photographs through the living room window, just as Gladys is peering outside to see what all the fuss is about. Gladys is understandably startled by what she sees, and as she yells for Abner, she falls down and is injured. The drone continues its uncontrolled path, slamming into the side of another home, falling to the ground, and sending shrapnel in various directions. The house that was struck by the drone is seriously damaged, and beloved neighborhood mailman Mr. McFeely is injured by the shrapnel.

Part I of this article discusses possible risks arising out of Frank's drone use, including potential liability for professional liability, bodily injury, property damage, privacy and trespassing liability and cyber risks, and regulatory violations, supplemented with real-life examples. Part II surveys coverage implications that may arise from those risks, and Part III discusses

some of the insurance industry's current and potential responses to drone technology.

I. Risk Implications

A. Professional Liability

Because Frank's drone malfunctioned, it failed to capture photographs showing design errors in the building's roof and framing, potentially subjecting him to liability that could implicate his Architects and Engineers Professional Liability Policy. The use of drones by those in the construction and design industry is expected to increase significantly over the coming years.¹⁰ Industry insiders are starting to recognize these and other potential professional liability risks, and it will be interesting to see how carriers respond.¹¹

B. Bodily Injury

Because Frank is an architect, it may come as a surprise to his professional liability carrier that people were physically injured while Frank was surveying a project in the field. However, drones are increasingly known to cause physical – including serious and permanent – injury.

In Hollycal Productions, an insured photography company was using a drone to take wedding photographs, when the drone struck a guest, causing her to lose the use of her eye.¹² After the patron brought suit, the insurer brought a declaratory judgment action in an attempt to disclaim coverage based on certain “aircraft” exclusions present in its general liability policy.¹³ Although the Hollycal case remains pending, it represents but one example in a growing list of bodily injuries resulting from drone use. For instance, a drone flying above restaurant patrons accidentally “clipped” the end of the nose off a nearby photographer.¹⁴ And as Frank's near-miss with the commercial aircraft shows, the potential for even more catastrophic bodily injuries is present. In 2014, an Airbus A320 on approach to London Heathrow Airport came within 20 meters of an unidentified drone, which

posed a “serious risk of collision,” the highest incident rating the United Kingdom’s Civil Aviation Authority can give.¹⁵

C. Property Damage

In addition to the damage to Frank’s drone, the drone crashed into the side of a house in a residential neighborhood, and also nearly collided with a commercial airliner. Instances of drones colliding with buildings and near-misses with airplanes and helicopters are becoming more frequent.¹⁶ In 2016, a man operating a drone crashed the device into the Empire State Building.¹⁷ And in 2017, as Seattle prepared for a New Year’s Eve celebration, a drone crashed into the Space Needle tower.¹⁸ Although neither collision is believed to have caused significant damage to either building, those events and other “near misses” with airplanes and helicopters illustrate the potential for serious property damage.

D. Trespassing and Privacy Violations, and Cyber Risks

One developing area of risk associated with drone operations is the potential for trespassing and privacy violations.¹⁹ Frank’s drone, which captured several photographs of the inside of the Kravitz’s living room, and of Gladys herself, may have violated the Kravitz’s right to privacy.²⁰ But what about simply hovering too low over another’s property? To be sure, a person does not need to physically enter upon the land of another to have committed the tort of trespass – causing an object to enter upon the land of another can be sufficient.²¹ Indeed, it has been recognized that an intrusion of 20 feet above another’s land could be actionable under a trespass theory of recovery.²²

In *Boggs v. Merideth*, defendant Merideth shot plaintiff Boggs’ drone out of the sky after it hovered over Merideth’s property.²³ Boggs brought suit in federal court against Merideth, seeking a declaration that, among other things, a property owner cannot shoot at an unmanned aircraft operating in airspace controlled by the United States.²⁴ Although the court ultimately dismissed the case for lack of subject matter jurisdiction, it did recognize that Merideth could potentially bring state causes of action for invasion of privacy and trespass in response to Boggs’ suit against him.²⁵

Some states also have enacted new laws clarifying trespass claims based on drone intrusions. In Oregon, a person who owns or occupies real property may bring an action against any person that operates an unmanned aircraft that is flown over the property if the operator has flown over that property at least once before, and the landowner previously notified the owner or operator of the drone not to fly over the property.²⁶ Similarly, in Nevada, a person who owns or occupies real property may bring an action against a drone owner or operator if that vehicle is “flown at a height of less than 250 feet over the property,” the drone operator has flown over that property once before, and the owner or operator had been notified that flying over that property was not authorized.²⁷ Under the Nevada statute, a prevailing plaintiff is entitled to treble damages for any injury to a person or property, reasonable attorney’s fees and costs, and injunctive relief.²⁸

Because of the growing patchwork of state statutes and common law uncertainties, the risks regarding privacy and trespass intrusions presently remains uncertain.²⁹ As discussed further below, the FAA also has promulgated a network of drone regulations that raise the prospect of civil and criminal penalties. The FAA’s dominant regulatory scheme also raises the possibility of federal preemption, and thus the scope of available state and local drone regulations remains uncertain.³⁰

The use of drones by construction companies and other professional surveyors, which could include the collection of sensitive business plans and works-in-progress, could also pose a risk of data breaches involving personal or otherwise protected information that implicates cyber insurance.³¹ So too could an insurance company’s use of drones to investigate claims or a police department’s surveillance and investigation of car crashes or home break-ins.

E. Regulatory Violations and Penalties

In our hypothetical, Frank did not register his drone with any government agency prior to using it, did not carry a commercial drone operator’s license, and did not check whether his drone would be flying in restricted airspace. Frank also flew his drone beyond his visual sightline and likely flew it over other people. This conduct raises the potential

for several regulatory violations, including the possibility of significant civil and criminal penalties. Under current FAA rules, commercial and recreational drone users (using drones over .55 pounds) are required to register their drone with the FAA.³² If the pilot is operating the drone for a commercial purpose, he or she must also obtain a remote pilot airman certificate.³³ According to the FAA’s website, the FAA may assess civil fines of up to \$27,500, as well as criminal penalties of up to \$250,000 and/or imprisonment of up to three years.³⁴

II. Insurance Coverage Implications and Industry Response

Under FAA regulations, there is no insurance coverage requirement for recreational or commercial drone users.³⁵ Nevertheless, insurance carriers are beginning to respond to the new risks posed by drones,³⁶ and it has been estimated that the drone insurance market could be worth more than \$500 million stateside and \$1 billion globally by 2020.³⁷ It seems likely that Frank, an established architect, would carry an Architects and Engineers Professional Liability Policy. In recent years, professional liability carriers have started to amend their professional liability policies to include provisions governing, for example, the use of drones “to cover for wrongful acts arising out of data collected or work product derived from the use of unmanned aerial systems and other vehicles.”³⁸ Perhaps in recognition of the enormous penalties at the FAA’s disposal, this coverage may also include enhanced regulatory or administrative expense reimbursement, up to \$50,000 per year.³⁹ And as drones are increasingly used to gather sensitive business and personal information, carriers may need to start tailoring their cyber insurance coverage accordingly.⁴⁰

Another burgeoning potential market for professional lines insurance for drone use stems from the fact that, under the current regulatory scheme (discussed above in Part I.E.), drone delivery services are essentially out of the question because they would require authorizing flights beyond the visual line of sight for the purposes of carrying property for compensation or for hire. As a result, several companies which governs the use of manned aircraft and

requires those seeking certification to maintain specific types and amounts of insurance.⁴¹ There is also pending legislation that directs the U.S. Department of Transportation to establish an air carrier certification process specific to drones, which would also carry insurance requirements.⁴²

On the general liability side, there has been some uncertainty as to whether drone accidents would be covered, and in particular, whether a general liability policy's "aircraft" exclusion might apply to preclude coverage for drone accidents.⁴³ Questions also abound regarding whether and how commercial drone use for data collection might implicate invasion of privacy, copyright infringement, trespass, and other personal and advertising injuries under Coverage B, which does not typically include an aircraft exclusion like Coverage A.⁴⁴ However, in 2015, the Insurance Services Office released endorsements written specifically to address damage arising from drone use, which may serve as a model for how carriers address these issues moving forward.⁴⁵

Case law applying certain exclusions to drone accidents may soon be available as well. In *Hollycal*, discussed above, the insurer has argued that three different exclusions in its general liability policy would apply to preclude coverage for the insured's drone accident.⁴⁶ First, the policy contained an "aircraft" exclusion providing that the insurer would not cover "[b]odily injury or property damage arising out of the ownership, maintenance, use or entrustment to others of any aircraft [...] owned or operated by or rented or loaned to any insured." Second, the policy included a "Miscellaneous Recreational Exposures" exclusion which excluded coverage for bodily injury, property damage, or personal or advertising injury "arising out of the ownership, operation, maintenance, use, loading, or unloading of any flying craft or vehicle[.]" Finally, the policy also included a "Designated Hazards, Events or Activities" exclusion that precluded coverage for bodily injury, property damage, or personal and advertising injury "[a]rising out of any object propelled, whether intentionally or unintentionally, into a crowd by or at

the direction of a participant or insured." Although *Hollycal* remains pending, the court's decision could set the stage for how coverage for drone use is argued and assessed in the future.

III. Conclusion: The Sky is the Limit

Insurance companies are commonly at the forefront of underwriting new and emerging risks, and the insurance industry appears to have responded no differently to the proliferation of commercial drones. Drone use raises interesting risk aspects that the typical liability insurance policy does not address, but as discussed above, the insurance industry is beginning to respond and underwrite around some of these risks. To keep ahead of the burgeoning uses for – and associated risks with – drones, insurance carriers and underwriters should continue to keep pace with the field.

Endnotes

1. In 2014, Munich Re published a report citing Federal Aviation Administration ("FAA") estimates that as many as 30,000 commercial and civil drones could be in operation by 2020. "Press Release: Drone use could soon become common practice for 40% of businesses, according to corporate risk managers surveyed by Munich Re," Munich Re (May 13, 2015), available at <https://www.munichre.com/us/property-casualty/press-news/press-releases/2015/150513-drones/index.html>. The report also included estimates by the Association for Unmanned Vehicle Systems International that between 2015 and 2025, the drone industry will create 100,000 jobs and contribute \$82 billion to the U.S. economy.

2. Nick Wingfield and Mark Scott, "In Major Step for Drone Delivery, Amazon Flies Package to Customer in England," THE NEW YORK TIMES (Dec. 14, 2016), available at <https://www.nytimes.com/2016/12/14/technology/amazon-drone-england-delivery.html>. The feasibility of using drones for such purposes is discussed further below in Part II.

3. The Godfrey Hoffman Blog, "The Use of Drone Technology for Land Surveying of Construction Projects," Godfrey Hoffman & Associates, LLC (Sept. 22, 2017) available at <http://www.godfreyhoffman.com/blog/author/g-h>.

4. Matt McFarland, "Drones: The next big thing in wedding photography, or a tacky intrusion?" THE WASHINGTON POST (Feb. 24, 2015), available at https://www.washingtonpost.com/news/innovations/wp/2015/02/24/drones-the-next-big-thing-in-wedding-photography-or-a-tacky-intrusion/?utm_term=.e7af10b7a153.

5. See, e.g., Marco Margaritoff, "Drones in Law Enforcement: How, Where and When They're Used," THE DRIVE, (Oct. 13, 2017), available at <http://www.thedrive.com/aerial/15092/drones-in-law-enforcement-how-where-and-when-theyre-used>; Jenni Bergal, "Another Use for Drones: Investigating Car Wrecks," INSURANCE JOURNAL (August 13, 2018), available at <https://www.insurancejournal.com/news/national/2018/08/13/497810.htm>.

6. See, e.g., Nicole Friedman and Leslie Scism, "Insurers Are Set to Use Drones to Assess Harvey's Property Damage," THE WALL STREET JOURNAL (Aug. 30, 2017), available at <https://www.wsj.com/articles/insurers-are-set-to-use-drones-to-assess-harveys-property-damage-1504115552>.

7. See Alan Levin, "U.S. Transportation Agency Sets Process for Approval of Drone Taxis," INSURANCE JOURNAL (May 1, 2018), available at <https://www.insurancejournal.com/news/national/2018/05/01/487766.htm>.

8. See, e.g., Clinton Nguyen, "Fresh Emergency Organs May Soon be Delivered by Medical Drones," BUSINESS INSIDER (May 4, 2016), available at <https://www.businessinsider.com/organs-could-soon-be-delivered-by-drones-2016-5>; Danielle Muoio, "Google is Thinking About Using Drones to Deliver Emergency Medical Help," BUSINESS INSIDER (April 5, 2016), available at <https://www.businessinsider.com/google-awarded-patent-for-emergency-medical-drones-2016-4>.

9. See, e.g., Interview of Craig Whitlock, "A Wild West In Flight: Drones Outpace The Rules Reinforcing Them In," NATIONAL PUBLIC RADIO, (June 24, 2014), available at <https://www.npr.org/2014/06/24/325229883/a-wild-west-in-flight-drones-outpace-the-rules-reinforcing-them-in>.

10. See Hannah Wood, "Drones for Architects: New Capabilities for the Construction Sector, How to Get Started and How to Navigate the Law," ARCHITECT FEATURES (April 4, 2018), available at <https://architect.com/features/article/150058176/drones-for-architects-new-capabilities-for-the-construction-sector-how-to-get-started-and-how-to-navigate-the-law> (noting that a 2016 report estimated that the largest commercial buyer of drones for the ensuring five years would be the construction sector, valued at \$1.2 billion worldwide).

11. See, e.g., Kevin Kimmel, "What A/E Firms Need to Know about the Use of Drone Photography," Clark Nexsen Blog, available at <https://www.clarknexsen.com/blog-architecture-new-knowledge-use-drone-photography/> (last accessed August 29, 2018); AIA Trust, "Drone: Bird, Plane, Predator or Liability?," available at <http://www.theaiatrust.com/regulations-and-risks-of-drones/> (last accessed August 29, 2018). See also discussion of drones for emergency medical services in note 8 supra, which also could raise possible medical professional liability risks.

12. Philadelphia Indem. Ins. Co. v. Hollycal Production, Inc., et al., No. 5:18-cv-00768-PA (SPx) (C.D. Cal. 2018).

13. The coverage arguments in *Hollycal Productions* are more fully discussed in Part II below.

14. Vanessa Ogle, "Drone strike! Our photographer injured by TGI Friday's mistletoe copter," BROOKLYN DAILY (Dec. 8, 2014), available at https://www.brooklyndaily.com/stories/2014/50/bn-drone-disaster-at-tgifridays-2014-12-12-bk_2014_50.html.

15. Robert Pigott, "Heathrow plane in near miss with drone," BBC NEWS (Dec. 7, 2014), available at <https://www.bbc.com/news/uk-30369701>.

16. According to the FAA, it is receiving reports of more than 100 sightings per month. Federal Aviation Administration, UAS Sightings Report (Aug. 9, 2018), available at https://www.faa.gov/uas/resources/uas_sightings_report/. The FAA also estimated 583 "near misses" between drones and planes reported during a five-month period in late 2015. See Nathan Bohlander, Here Comes The Drones – And The Legal Headaches, LAW 360 (Feb. 23, 2017), <https://www.law360.com/articles/890574/here-come-the-drones-and-the-legal-headaches>.

17. Tom Liddy, "Drone Crashes Into Empire State Building, Man Arrested," ABC NEWS (Feb. 5, 2016), available at <https://abcnews.go.com/US/drone-crashes-empire-state-building-man-arrested/story?id=36729221>.

18. Jessica Lee, "Watch: Drone crashes into Space Needle during New Year's Eve fireworks setup," THE SEATTLE TIMES (Jan. 11, 2017), available at <https://www.seattletimes.com/photo-video/video/watch-drone-crashes-into-space-needle-during-new-years-eve-fireworks-setup/>.

19. In fact, the Munich Re survey of corporate risk managers discussed in note 1 above reported that 69 percent of those surveyed said potential issues related to invasion of privacy were their biggest concern, followed by inadequate insurance (12%), personal injury (11%), and property damage (8%).