Insurance and the Rise of the Drones

Professional Liability Underwriting Society

Anthony Mormino, Senior Legal Counsel, May 2017
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Drone Law & Regulation
Everything is new!

- Modern drones are new, operators are new, the law is new
- Most countries’ aviation laws didn't originally contemplate public use of drones
- Law is catching up to technology
- Until recently US regulation of drones in state of flux
  - US drone regulations were complicated, some legal issues open or unclear
  - Change: FAA published final drone rules to became effective August 29, 2016
Drones are a federal affair

• US Supreme Court – *US v. Causby* - 1946
  – Airspace above US land is in the **public domain**
  – Flights over private land regulated by FAA
  – **Flights over private land not a “taking” by the feds**

• US federal government
  – **Primary regulator** of national airspace
  – All government, military and civilian purposes
  – **Federal Aviation Administration** (FAA) 1958 – CAA, 1926
    – "[t]here are no shades of gray in FAA regulations. Anyone who wants to fly an aircraft—manned or unmanned—in U.S. airspace needs some level of FAA approval"
FAA Enforcement: Details hundreds of reckless drone sightings

• Jan. 26, 2015 (3am) – Small drone *crashes* into tree on **White House lawn**
  – operator admits to Secret Service he lost control
  – Enter restricted airspace = violation of federal law

• Dec. 2015: **World Cup slalom race in Italy**, drone crashes inches from skier!

• March 18, 2016: Lufthansa flight from Frankfurt approaching Los Angeles International Airport reported a drone flew about **200 feet above the Airbus A380**!

• March 28, 2016: Drone flown within 10 feet of Boeing 777 night landing at Heathrow

• **2015 alone**, FAA received reports of over 1,200 close encounters with planes
  – Dozen cases drones flying near aircraft fighting CA wildfires forcing groundings

• **FAA worried about reckless drone operators! Could a drone bring down a pass. plane?**

• Tests: Virginia Tech’s CRASH Lab performed simulation, 8-pound quad-copter rotor flown into 9-foot diameter engine fan found on Boeing 777 and Airbus A380. Result: in less than 1/200th of a second, drone’s destruction decimated fan blades and created an engine failure! Worry: engine cowling can’t contain damage!
FAA proposes **new rules** for commercial use, lowers the bar

- Old Rules: Section 333 exemption, drone operators required to have pilot’s license!
- New rules: Published draft rules February 16, 2015; **effective August 29, 2016**
- Lead to new era in US in which UAS flights become common!
- Huerta: “Most flexible regime for small drones in the world”
*Effective August 29, 2016

Pilot Requirements:
- Must be at least 16 years old
- Pay $150, pass an aeronautical knowledge test at FAA-approved testing center
- Background check by the Transportation Safety Administration (TSA)

Aircraft Requirements:
- Less than 55 lbs.
- Must be registered

Operating Rules:
- Class G airspace:
  - "uncontrolled" airspace near the ground everywhere except controlled airspace around airports.
  - Flights near airports with a tower require prior permission, heliports too
- Must keep the aircraft in sight (visual line-of-sight)
- Must fly under 400 feet
- Must fly during the day
- Must fly at or below 100 mph
- Must yield right of way to manned aircraft
- Must NOT fly over people
- Must NOT operate from a moving vehicle
Flying a drone away from other aircraft can be complicated!

Schaumburg, Illinois

“airports” include actual airports, regional, municipal, & commercial + hospital and police “heliports”

Source: FAA iOS app, B4UFLY
Waivers to Rule 107 Requirements

- Apply for a certificate of waiver, approve *if the FAA finds that the proposed operation can be performed safely*. Only certain elements of Rule 107 can be waived:
  - Operation from a moving vehicle or aircraft
  - *Daylight operation* - FAA already granted 320 exemptions, most of them to companies that want to fly drones at night.
  - Visual line of sight aircraft operation
  - Visual observer
  - Operation of multiple small unmanned aircraft systems
  - Operation over people

- **Drones more than 55 pounds at takeoff**? Use Section 333 exemption process (pilot’s license required)

- **Government entities** or organizations (e.g. law enforcement agencies, public universities, state governments, local municipalities)
  - Fly in compliance with Rule 107, or
  - Obtain a blanket public Certificate of Waiver or Authorization (COA)
FAA Requires Registration of Recreational Drones

• FAA issued its requirement that recreational drone users must register aircraft with Department of Transportation:
  – Both hobby and non-hobby drones must register before first flight

• Registration on-line, $5 for each non-hobby drone, $5 for entire fleet of hobby drones, good for 3 years

• FAA issues registration number to be marked on drones’ hulls

• Goal: forcing owners to register drones will make them think twice about responsibility to fly safely, could be held accountable for an accident.

• Penalty for failure to register: FAA interim rule says may “result in civil penalties up to $27,500. Criminal penalties for failure to register can include fines of up to $250,000 . . . . and/or imprisonment up to 3 years.”
  – Enforcement: FAA v. local police departments?
Drone Regulation in Other Countries

- **Do you need permission from Transport Canada to fly?**
  - No permission required:
    - Recreational use + less than 35 kgs/77lbs
    - Commercial use + less than 25kgs/55lbs
      (exceptions where SFOC needed)
  - SFOC required:
    - Recreational use + more than 35kgs/77lbs
    - Commercial use + more than 25kgs/55lbs

- **Mainland Europe operates under the jurisdiction of the European Aviation Safety Agency (EASA),**
  - Need certification in any situation
  - Certification granted on a case-by-case basis
  - Requests proposing flight in unpopulated areas usually approved

- **No Civil Aviation Authority regulations on UAV users**
- **Government encourages UAV use**
- **UASs used to monitor drug trafficking and university research.**

- **Brazil a leading player in UAV use:** Uses UAVs to patrol its borders
- **No laws that cover civilian use**

- **20 kg (or 44 pounds) – considered “small unmanned aircraft”**
- **Need “Permit to Fly” classification, relatively easy to acquire**
- **If heavier or used for aerial photography requires a “Permit to Carry Out Aerial Work;” has tougher restrictions**
- **Pilot qualification, design & construction certificates.**

- **UASs have been in use since 1980**
- **Mainly agricultural purposes –response to aging farming population**
- **Vast majority of crops are sprayed using unmanned helicopters and drones**

- **An “Unmanned Aircraft System” profit-seeking “air work,” has requirements including pilot certification, but relatively easy to meet**
- **“model aircraft, flown for sport & recreation and education,” which essentially are not regulated (except VFR required)**
Drone Insurance Legal Issues
Insurability: Potential legal issues raised by use of drones

- **Violating FAA Rules**
  - Fines can be very large – *Do insurers want to cover?*
  - Injunction stopping use – *Do insurers want to pay for lost income?*
  - Ex. § 336 FMRA requires recreational drone operators give notice to airports within 5 miles of use. Will every model aircraft user comply every time?

- **Physical damage and bodily injury**
  - What if your drone crashes into property or people on the ground? – *Most want this coverage*
  - State tort laws may impose liability, negligence and strict liability
  - BUT drone strikes a passenger plane? Loss could be in the tens of millions! – *How much coverage?*

- **Nuisance**
  - Depending on drone size, noise or kicking up dust onto neighbor's property
  - Interfere in neighbor's use of property = lawsuit for nuisance – *Do insurers want to cover this tort?*

- **Trespass**
  - State laws prohibiting drone use over private property without owner consent, private cause of action *Do insurers want to cover this tort?*
  - Some states prohibit use of drone to capture of image with intent of surveillance
  - Property boundaries may sometimes be difficult to notice for a drone operator
As of May 2017
38 states, 168 bills
36 states have laws
Insurability: More potential legal issues in use of drones

- **Invasion of privacy**
  - **By private individuals:**
    - Some states passed laws forbidding photos or video by drones (TX, ID, MO) *Do insurers want to cover this tort?*
    - Reasonable expectation of privacy then publication?
  - **Abuse by law enforcement/gov't:**
    - US 4th Amendment, unreasonable searches - *Do insurers want to cover this tort?*
    - Some US states require police to obtain search warrant to gather criminal evidence by drone
    - New draft US federal privacy rules introduced Feb 2015 for gov’t & private use

- **Stalking and harassment**
  - Drones could be used by criminal voyeur or stalker and in harassment by paparazzi

- **Wiretap laws**
  - Drone could be used to intercept oral communications
  - Commercial microphones can record sound up to 300 feet away
  - Could violate federal (criminal) wire tap statutes

- **In sum:** Simple to operate, but quietly create complicated legal problems for users and their insurance companies
Trespass: Where does private property end and public airspace begin? *The Causby Case – a “govt taking”*

• Guidance: **US. v. Causby** (1946)

• Causby family lived on property, raised chickens

• US military rented neighboring property as landing strip for large aircraft, landing planes flew directly over Causby property
  – Closest flight was 83 feet over property: 67 ft. above home, 18 feet above trees
  – Causby family constantly subjected to noise and light, day and night
  – Had to give up chicken business (too many died, spooked, flew into walls)
  – Causby argued government “took” his property, owed family $ for the taking
  – Government claimed flights in public airspace, no trespass so no taking

• Court ruled for Causby: government *effectively* took over land, reduced value: nuisance (interfere enjoyment, use) = gov’t trespassed, interfered substantially with Causby use of land
  – Court: “landowner owns at least as much of the space above ground as he can occupy or use in connection with the land”
    – Owns even if doesn’t use in traditional sense, does use for purpose of light and air (wind)
    – Invasion of that space by air isn’t traditional trespass but is in “the same categories as invasions of the surface.”
  – Same result: **Guith v. Consumers Power** (Mich. 1940)(built towers that interfered w/airport)
Trespass: Where does private property end and public airspace begin? *Boggs v. Meredith*

- **July 2015** – Kentucky: W. Meredith man shoots drone hovering allegedly above backyard
  - Meredith arrested, criminal mischief, Judge dismisses saying had right to shoot drone for trespass and invasion of privacy
  - Drone operator J. Boggs Court said drone was 200 feet up, pictures of landscape only
    - Argues no trespass because was in public airspace
    - No invasion of privacy because no expectation when outside, seen from air
    - Shooting unlawful violation of federal law, is felony to shoot down an “aircraft”
  - **Who is right?** Where did Meredith’s vertical property end and public domain begin? In which space was Bogg’s drone at 200 feet up?
    - If 200 feet is in public domain, no trespass, Meredith no right to shoot, **Boggs wins**
    - If 200 feet up was part of Meredith’s property, Bogg’s trespassed, **Meredith wins**
  - Case dismissed, judge decided for state court not federal.
- *Boggs v. Meredith, W. Dist. KY, Jan 2016 (3:16-cv-00006)*
Trespass: Where does private property end and public airspace begin? *Unclear today!*

- **FAA:** lowest aircraft (MSA) can fly is 500 ft above ground uncongested areas, BELOW 500 ft is “Class G airspace” **not controlled by FAA; so 500 ft might be delineation public & private property!**

- **Causby court:** Class G is in public domain BUT doesn’t include “immediate reaches above the land.”
  - **Implication:** 83 feet was top of Causby’s private property, government effectively trespassed, took Causby land
  - **Note:** 83 feet based on *Causby’s specific use of surface of land and how much of vertical space used or could use; different facts could lead to different result/height!
  - **Open question:** Who owns airspace between 84 feet and 500 feet?
  - **Tension:** Between public right to fly aircraft in NAS & private property rights

- **FAA’s Likely Position:** **Has power to regulate airspace above surface or at least at 500 ft down to top of private property (84 feet & up in Causby)**
  - **Authority:** Class G airspace starts at surface or top of private property to 500 feet; top of property depends on use

  1. Congress gave FAA power to regulate “the airspace necessary to ensure safety of aircraft and efficient use of airspace.” 49 USC § 40103(b)(i) = **FAA can regulate airspace at any altitude!**
  2. Congress gave FAA authority to issue regulations, standards, methods that FAA “finds necessary in air commerce and national security.” 49 USC § 44701 (a) = **FAA can regulate below 500 feet!**
  3. Congress gave FAA authority to issue rules on “flight of aircraft for navigating, protecting, identifying aircraft” and “protecting individuals and property on the ground” 49 USC § 40103(b)(2) = **FAA can regulate non-navigable air**

- **Possible outcome:** Causby rule will prevail favoring landowners BUT vertical ceiling to vary based on use, resulting in detailed air maps perhaps to municipal level.
Questions?
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Drone Insurance Coverage

Issues

Professional Liability Underwriting Society
Gerald Deneen, Vice President, Swiss Re, May 16, 2017
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Drone Insurance Problem
Drone emerging risk challenges...both qualitative and quantitative for insurers

How do you identify, measure, classify, and price the drone risk with credibility? Too unique and no historical data
Drones emerging risk opportunity: the nature of risk (main loss drivers from drone use)
Drones emerging risk opportunity: the nature of risk (main loss drivers from drone use)

- **Loss drivers arising out of drones**
  - loss of positive control or a collision causes:
    - third party bodily injury and/or property damage
    - damage to hull
  - activity that violates aviation law causes:
    - accident with private or commercial aircraft
      - should these losses be excluded or covered by insurers?
    - trespass
    - invasion of privacy
    - nuisance
Emerging risks: insurance “enabler” role for drones
Emerging risks: insurance “enabler” role for drones

Insurance as “Enabler”

Supports the development of and response to social, technical and economic evolution by managing and financing the associated risks

Three Stages of Insurance Coverage

1. Early study period
   - Efforts to understand exposure
   - Risks may unknowingly be covered

2. Apprehensive phase
   - Initial risk knowledge leads to concerns
   - Insurers look to reduce/contain coverage

3. Mature phase
   - Increased risk knowledge = enhanced understanding, leading to...
   - Risk management, customized coverage & other approaches, at reasonable prices

Early study period: risks may be unknowingly covered
Early study period: risks may be unknowingly covered

- **Personal lines policies**

  - Many have an exception to the aircraft exclusion.

  - For example, ISO's HO 00 03 05 11 excludes "aircraft liability" and defines aircraft as any contrivance used or designed for flight except model or hobby aircraft not used or designed to carry people or cargo.

  - Cargo is undefined. Merriam-Webster on-line dictionary defines cargo as: "the goods or merchandise conveyed in a ship, airplane, or vehicle".

  - Does a drone designed to only carry a camera qualify as "designed to carry cargo"?

  - Only a court can decide.

  - Model or hobby aircraft is undefined. Recommendation is to define the term in the policy using language from §336 of Public Law 112-95.

  - Review property section(s) of policy language for coverage of hull (applies to commercial policies as well). May want to exclude or sub-limit or have a separate high deductible.

  - Many proprietary personal umbrella policies list invasion of privacy as a covered personal injury offense. With drones, this exposure increases exponentially. May want to remove or modify.
Drones & liability insurance coverage under standard ISO language
Insurance coverage under ISO policies

- ISO's Commercial General Liability Coverage Form, Commercial Umbrella Liability Coverage Form, Farmowners Liability Coverage Form, Personal Umbrella Liability Coverage Form, Businessowners Coverage Form, and Farmowners Umbrella Liability Coverage Form all provide coverage for "personal and advertising injury" or "personal injury".
  - only certain specified offenses are covered
    a. False arrest, detention or imprisonment;
    b. Malicious prosecution;
    c. The wrongful eviction from, wrongful entry into, or invasion of the right of private occupancy of a room, dwelling or premises that a person occupies, committed by or on behalf of its owner, landlord or lessor;
    d. Oral or written publication, in any manner, of material that slanders or libels a person or organization or disparages a person's or organization's goods, products or services;
Insurance coverage under ISO policies

- Oral or written publication, in any manner, of material that violates a person's right of privacy;

- The use of another's advertising idea in your "advertisement"; or

- Infringing upon another's copyright, trade dress or slogan in your "advertisement".

• What potential personal injury offenses are covered from the use of a drone?
  - not very "all-encompassing" coverage for an owner of a drone
  - does a person who purchases a drone insurance policy reasonably expect insurance coverage if he or she is sued for invasion of privacy or trespass?
Insurance coverage under ISO policies

• What potential personal injury offenses or lawsuits are not covered from the use of a drone?
  – invasion of privacy or trespass if the insured is not acting in his or her capacity as a landlord
  – probably the biggest exposure for drone operators to a suit and it isn't covered
  – nuisance
  – stalking and harassment
  – wiretap laws
Insurance coverage under ISO policies

- Fines by the FAA for flying a drone against FAA regulations
  - probably no coverage because FAA fines are not damages for bodily injury, property damage or personal and advertising injury
  - insurers typically don't cover governmental fines
  - could be contrary to public policy

- Bodily injury or property damage coverage likely not covered because of aircraft exclusion
ISO drone liability endorsements effective June 1, 2015 (see ISO circular LI-GL-2014-179)
ISO drone liability endorsements effective June 1, 2015

• CG 21 09 and CU 21 71
  – excludes all Unmanned Aircraft without exception. Keeps manned aircraft exclusion intact.
  – exclusion applies to both Coverage A and B
    – exception for the use of another's advertising idea in your "advertisement" or infringing upon another's copyright, trade dress or slogan in your "advertisement".

• If CG 21 09 is attached and Exclusion – Employees And Volunteer Workers As Insureds or Exclusion – Volunteer Workers are also attached, ISO created new endorsements to accommodate CG 21 09.

• ISO created endorsements that only apply an unmanned aircraft exclusion so that it applies only Coverage A and another one so that it only applies to Coverage B.
ISO drone liability endorsements effective June 1, 2015

• CG 24 50 – Limited Coverage For Designated Unmanned Aircraft
  – similar to CG 21 09, but provides exceptions to the exclusions for designated unmanned aircraft, but only with respect to operations or projects designated in the Schedule of the endorsement.
  – allows for entry of an optional Unmanned Aircraft Liability Aggregate Limit in the Schedule.

• Comparable ISO Commercial Umbrella endorsements were also created

• CU 21 24 – Exclusion – Non-Owned Aircraft
  – if CU 21 71 is attached, this endorsement eliminates the exception to the exclusion for aircraft that is: Chartered by, loaned to, or hired by you with a paid crew; and not owned by any insured.

• ISO endorsements have no exclusions if the drone, drone operator or drone use do not comply with FAA regulation Part §107 of CFR 14

• ISO endorsements do not provide coverage for trespass, nuisance and invasion of privacy
Insurance coverage issues under drone liability policies
Drone liability insurance coverage issues

- Should insurers cover or exclude a drone when it is or is operated illegally under Part 107 (§107) to Title 14 Code of Federal Regulations (14 CFR) https://www.gpo.gov/fdsys/pkg/FR-2016-06-28/pdf/2016-15079.pdf. Should insurers cover or exclude:
  - a drone that does not meet the unmanned aircraft physical parameters such as weight (55 lbs including payload §107.3), speed (<100 mph §107.51), lighting, etc., described in the new FAA rule
  - a drone operated by a person (remote pilot in command) without the proper FAA licensing credentials §§107.12 & 107.19
Drone liability insurance coverage issues

- Should insurers cover or exclude the use or operation of a drone that is not in compliance with FAA Regulations:
  - flying at night or twilight 14 CFR §107.29
  - visual line of sight 14 CFR §§107.31 & 107.33
  - failure to obtain prior authorization from the applicable airport's air traffic control tower or center (ATC) when flown in Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace 14 CFR §107.39
  - not be flown over human beings unless (a) the human being is directly participating in the operation of the small unmanned aircraft 14 CFR §107.41
  - when flown within 5 miles of an airport for hobby or recreational use, the drone operator provides the ATC with prior notice of drone operation and receives permission to fly the drone (§336 of Public Law 112-95)
Drone liability insurance coverage issues

• Should insurers cover or exclude the following torts that arise out of the use or operation of a drone:
  – Trespass
  – Nuisance
  – Invasion of privacy

• If not (apprehensive phase), how do you prevent your agent from an E&O claim?
  – Insured’s expect this coverage when buying a drone policy!
ISO drone hull coverage and cargo endorsements (see ISO circular AM-CL-2016-001)
ISO drone hull and cargo endorsements

• **Unmanned Aircraft Property And Cargo Coverage Form IH 00 61 and IH 9929** are new forms that can be used to create a stand-alone policy addressing certain unmanned aircraft and cargo carried by such aircraft
  
  – Coverage can be limited to only specified operations
  
  – Coverage on the unmanned aircraft includes equipment essential for its operation or for executing the described unmanned aircraft operations, as well as data generated as part of the unmanned aircraft operations and the electronic media on which such data is processed, recorded or stored
  
  – Includes a coverage extension for earned freight charges, and additional coverage provisions relating to additionally acquired unmanned aircraft, debris removal, and pollutant cleanup and removal.
  
  – Options to cover owned cargo and cargo of others
ISO drone hull and cargo endorsements

- **Limited Coverage For Unmanned Aircraft (Scheduled And/Or Blanket Coverage) (CP 04 14, AG 04 54, OP 04 54)** are new endorsements under ISO's Commercial Property program and Output Policy programs. Highlights are similar as to what was described for IH 00 81 and IH 99 29 (as applicable to the policy to which these endorsements are attached) with the following additions:
  - If the policy covers the insured's business personal property, then coverage under the endorsement is extended to include such business personal property while airborne as part of the described unmanned aircraft operations.
ISO drone hull and cargo endorsements

- Option to provide Business Interruption coverage
- Coverage does not apply to loss or damage to unmanned aircraft or related covered property when such loss or damage occurs while an unmanned aircraft is being used to convey merchandise or goods for delivery to others.
- Coverage does not apply to unmanned aircraft or related covered property when rented, leased or loaned to others
- The Commercial Property endorsement is designed to be used only with ISO’s Causes of Loss - Special Form.
Drone “known” “unknowns”
Known unknowns for insurance coverage of drone hull policies

• No credible rates because the exposure is so new

• No credible deductible credit percentages

• No credible charges by peril or cause of loss:
  – damage to drone from collision in air
  – damage to drone from take-off or landing
  – theft
  – damage arising out of an inexperienced or unqualified operator
  – loss of positive control
    – anecdotal, hull damage from loss of positive control is so frequent to the point it might not be insurable (apprehensive phrase)

• Replacement cost or ACV
  – depreciation rate of drones and market value of used drones
  – cost to repair a drone and who does the repair?
Known unknowns for insurance coverage of drone liability policies

- No credible rates because the exposure is so new
- How often does a drone “fall from the sky” and cause bodily injury
  - very few known instances so far
  - how effective would policy exclusions be?
- How often will people sue for:
  - trespass
  - nuisance
  - invasion of privacy
- If they sue, what is the average cost per claim for insurers for both defense and indemnity?
- How much airspace above ground level does one own above their owned property?
  - laws supporting 400 feet, 500 feet and 1,000 feet, but nothing certain. It will be up to a court to decide, unless Congress passes a law stating so
  - uncertainty increases insurance costs
- How will FAA effectively enforce their laws?
Should insurers provide drone insurance including coverage for the hull, trespass, nuisance and invasion of privacy?
Should insurers provide drone insurance including coverage for the hull, for trespass, nuisance and invasion of privacy?
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