

NAMIC ISSUE ANALYSIS



INSURANCE DRONE OPERATIONS 2020 LAW AND REGULATION

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Tom has worked directly with senior Federal Aviation Administration officials and has testified at congressional hearings on drone issues. He has been widely quoted on insurance drone issues in national media, including Fortune magazine and NPR. He was a stakeholder in the NTIA Drone Privacy Working Group and an invitee to the 2016 White House Drone Day. He is a member of the FAA/Industry UAS Safety Team, an advisor to the Property Drone Consortium and on the planning committee member for the New York state NUSTAR project.

In 2019, U.S. Department of the Transportation Secretary Elaine Chao recognized that NAMIC's work representing the views of the insurance industry, experience, and leadership would add valuable insights and perspectives that will help further FAA's mission. Secretary Chao appointed Tom to be a member of the FAA's Drone Advisory Committee, a broad-based, long-term Federal advisory committee that provides the FAA with advice on key drone integration issues by helping to identify challenges and prioritize improvements. Comprised of senior level executives from a cross-section of stakeholders representing the wide variety of drone interests, including industry, research and academia, retail, and technology, the DAC helps the FAA create broad support for an overall drone integration strategy and vision. NAMIC is the first and only insurance group and non-aviation member of the DAC.

For more information about this NAMIC Issue Analysis please visit www.namic.org/issues/our-positions or contact:

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NAMIC membership includes more than 1,400 member companies. The association supports regional and local mutual insurance companies on main streets across America and many of the country's largest national insurers. NAMIC member companies write \$268 billion in annual premiums. Our members account for 59 percent of homeowners, 46 percent of automobile, and 29 percent of the business insurance markets.

TABLE OF CONTENTS

Introduction	2
Insurance Drone Operations on the Rise	3
The Current Law and Regulation of Commercial Drone Operations	5
Federal Law and Rules	5
State Law and Rules	7
Civil and Criminal Liability	8
Law and Regulation of Commercial Drone Operations – 2020 and Beyond	8
Operations - Insurance Drone Use is Significant and Growing	8
Regulation – Failure to Launch	9
Conclusions	13

NAMIC ISSUE ANALYSIS

INTRODUCTION

Law and regulation of drone operations for insurance companies and other operators is complex and evolving. As permissible drone operations are better defined and proliferate, attendant questions of the rights of people and property subject to drone flights will become more and more of an issue. Formerly prohibited practices are becoming more conditionally permitted, and formerly accepted practices are being subject to more granular review.

Who makes the call of permissible or non-permissible drone operations is not always clear. The federal government in many areas of drone operation preempts state and local laws, but either shares authority or defers to the states in others. States in turn may preempt local drone regulation. Questions of civil liability for drone operations – private citizens alleging actions against private citizens – involve principles that are highly uncertain at present, and attempts to apply traditional notions of tort law and privacy considerations have been highly controversial.

As insurance drone operations “do’s” and “don’ts” develop nationally and locally, this snapshot of rules and predictions of future developments is offered for insurance companies to better understand the terms and conditions in which they may operate drones. These directives can and will change, however, and insurance companies should review all the current requirements for the each of the areas in which they plan to operate.



INSURANCE DRONE OPERATIONS ON THE RISE

Commercial drone operations, including insurance drone operations, are proliferating. In 2018 alone, commercial drone operators registered more than 175,000 new aircraft with the Federal Aviation Administration. These new registrations resulted in a commercial drone market of more than 277,000 units, well in excess of the 44 percent growth that the FAA had predicted at the beginning of that year.

The FAA had previously estimated that there would be about 450,000 commercial drones in the U.S. by 2022, but it now anticipates that number of commercial drones by 2020 and a growing commercial drone market that can exceed 835,000 drones by 2023.¹ Currently, the more simple versions of commercial drones - with an average unit price of around \$2,500 – make up about 95 percent of the commercial drone market, but the FAA estimates that the steady decline in the prices of more professional grades of drones may take an additional 10 percent of that commercial drone market share by 2023.

Aerial photography, often used to market real estate and by insurance companies to assess property damage, accounted for 79 percent of all commercial drone use, according to the Association for Unmanned Vehicle Systems International, the world's largest nonprofit organization devoted exclusively to advancing the unmanned systems and robotics community.

As drone and related technologies have evolved, property/casualty insurance companies have increasingly used drones for insurance services, which can enhance safety and efficiency. The National Association of Insurance Administrators² has opined that the use of drones could be very beneficial for the insurance industry, particularly following a natural disaster.

Following disasters and catastrophic events, infrastructure can be badly damaged, making impacted areas difficult, if not impossible, to access. However, AUVSI reports³ that insurers have made use of drones to overcome access issues and respond to these disaster claims in a timely manner. Insurers can use drones for claims resulting from hurricanes, isolated wind storms, hailstorms and other weather events.

Drones can also be used to reach remote and inaccessible areas by insurance claims adjusters. For property claims, drones have emerged as an effective tool to quickly access spaces that are high or not easily accessible, such as steep and high roof, and to quickly and efficiently obtain images and other data to facilitate the claim processes. Replacing ladders, harnesses and people climbing, insurance drone operations have proven that they can complete more inspections more quickly than traditional inspections. When more data is needed, quick follow up flights mean that adjusters can work more economically. While larger insurance companies may employ their own drones and operators, smaller insurance companies can use third party drone services to obtain comprehensive information without leaving the office or having the policyholder be at the property to host an agent or inspector.

In 2018, Deloitte's management consulting group issued a report⁴ on the potential pre- and post-loss applications in the property/casualty insurance value chain. They concluded that insurance industry drone use is rapidly expanding and evolving, with current and potential applications spanning the insurance value chain.

¹ FAA Aerospace Forecast – Fiscal Years 2019-2039, at https://www.faa.gov/data_research/aviation/aerospace_forecasts/media/FY2019-39_FAA_Aerospace_Forecast.pdf

² National Association of Insurance Administrators Center for Insurance Policy and Research at https://www.naic.org/cipr_topics/topic_drones.htm

³ Unmanned Systems Magazine: Drones Offer Safe, Efficient Tool For Insurance Companies, at <https://www.auvsi.org/unmanned-systems-magazine-drones-offer-safe-efficient-tool-insurance-companies>

⁴ InFocus: Insurance industry drone use is flying higher and farther, at <https://www2.deloitte.com/us/en/pages/financial-services/articles/infocus-drone-use-by-insurance-industry-flying-higher-farther.html>

NAMIC ISSUE ANALYSIS

Examples they offered included:

Pre-loss

- Risk engineering and pricing—Aerial site assessments can identify property features that allow the owner either to seek a reduced risk profile or to take appropriate actions to lower overall risk and justify premium discounts.
- Natural disaster monitoring—Drones can be quickly and safely deployed to monitor areas threatened by natural disasters. Governments working with insurance companies can monitor a situation and alert local residents to potential danger.

Post-loss

- Inspection—Drones can provide a safer, faster, and more cost-effective way to conduct a site inspection, particularly in challenging working conditions.
- Risk assessment—Drones may allow insurers to engage a generalist, rather than a specialist, to perform field assessments and obtain high-quality visuals.
- Claims adjudication—The precise photos that drones take can potentially improve the quality of the claims adjudication process.
- Fraud prevention—The moment a property claim is reported (First Notice of Loss), a drone could be deployed to inspect the claims site, increasing information capture accuracy and timeliness.

As attractive and beneficial as drone operations by insurance companies are proving to be, there are evolving laws, regulations and civil responsibilities of which insurance companies using drones must be aware. There have been significant developments in permissible drone operations by insurance companies in the last few years and there are promises of more to come. These opportunities are all conditioned on safety and other concerns which are critical to the lawful use of drones by insurance companies, as well as the policyholder and public relations. These rules and their developments are discussed in the remainder of this white paper.



THE CURRENT LAW AND REGULATION OF COMMERCIAL DRONE OPERATIONS

FEDERAL LAW AND RULES

The federal government has the primary jurisdiction over airspace, and therefore over drone operations. Congress empowered the FAA⁵ to regulate the areas of airspace use, management and efficiency, air traffic control, safety, navigational facilities, and aircraft noise at its source. Congress further directed the FAA⁶ to “develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace.” To implement these authorities, Congress directed the FAA⁷ to “prescribe air traffic regulations on the flight of aircraft (including regulations on safe altitudes)” for navigating, protecting, and identifying aircraft; protecting individuals and property on the ground; using the navigable airspace efficiently; and preventing collision between aircraft, between aircraft and land or water vehicles, and between aircraft and airborne objects.

Although we may think that drone law has been around for a while, the first substantive federal law on commercial drone operations was less than a decade ago with the passage of the FAA Modernization and Reform Act of 2012⁸ (Public Law 112–95). This law authorized appropriations to the FAA from Fiscal Year 2012 through Fiscal Year 2015, but also directed the Secretary of Transportation, in consultation with representatives of the aviation industry and other federal agencies, to develop a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system.

That legislation included a special rule for model aircraft, which barred the FAA from making rules governing the use of unmanned, noncommercial aircraft – including drones that complied with minimal requirements. The legislation did not afford the same freedom to “non-hobby” or commercial drones, and the FAA responded with “Part 107” regulations⁹, effective Aug. 29, 2016.

Under the Part 107 FAA regulations, insurance companies and other commercial operations can fly a drone that is less than 55 pounds for work or business by following three main steps.

1. **The Drone** – Drones are defined as “aircraft” under federal law, but unlike other aircraft, drones are not subject to any FAA airworthiness certification requirements. Instead, drone operators must verify the physical drone themselves. The drone and all attachments – which may not include hazardous material - must not exceed 55 pounds, and drones must have appropriate anti-collision lighting. The drone must be registered with the FAA, which costs \$5 and is valid for 3 years. Once registered, the FAA registration number must be clearly visible¹⁰ on an outside surface of the drone by engraving or permanent marker.
2. **The Drone Pilot** – To legally operate a drone commercially, the operator/pilot needs to obtain a drone pilot license, formerly referred to as a “remote pilot certificate with a small UAS rating.” To be eligible to get a Remote Pilot Certificate, a candidate must be at least 16 years old, be able to read, write, speak, and understand English, and be in a physical and mental condition to safely fly a drone. The candidate must take and pass a knowledge test at an FAA-approved knowledge testing center.

⁵ 49 U.S.C. §§ 40103, 44502, and 44701-44735

⁶ 49 U.S.C. § 40103(b)(1)

⁷ 49 U.S.C. § 40103(b)(2)

⁸ Public Law 112–95—Feb. 14, 2012, at <https://www.congress.gov/112/plaws/publ95/PLAW-112publ95.pdf>

⁹ Part 107 of Chapter 14 of the Code of Federal Regulations, see FAA Commercial Operations Branch Part 107 UAS Operations at https://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afx/afs/afs800/afs820/part107_oper/

¹⁰ https://www.faa.gov/uas/getting_started/register_drone/media/UAS_how_to_label_Infographic.pdf

NAMIC ISSUE ANALYSIS

After passing the test a candidate must complete FAA Form 8710-13 for a remote pilot certificate using the electronic FAA Integrated Airman Certificate and/or Rating Application system and pass a Transportation Security Administration security background check. Upon completion, a remote pilot certificate will be issued from the electronic FAA Integrated Airman Certificate and/or Rating Application system. The pilot must have this certificate on their person while operating a drone commercially.

3. **Drone Operations:** A preflight inspection by the remote pilot in command is required. Other Part 107 rules require that commercial drone flights must remain in the visual line-of-sight of the remote pilot in command and the person manipulating the flight controls of the drone, or alternatively, within VLOS of an observer. Commercial drone flights may not operate over any persons not directly participating in the operation or under a covered structure or inside a covered stationary vehicle. Additionally, commercial drone flights under Part 107:

- Must be daylight-only operations, or civil twilight, 30 minutes before official sunrise to 30 minutes after official sunset, local time.
- Must yield right of way to other aircraft.
- Cannot exceed groundspeed of 100 mph, or 87 knots, or an altitude of 400 feet above ground level or, if higher than 400 feet, must remain within 400 feet of a structure.
- May operate in Class G airspace¹¹ without Air Traffic Control permission, and in Class B, C, D and E airspace with Air Traffic Control permission.
- Cannot operate from a moving aircraft or vehicle.

Drones can and do crash, and some accidents need to be reported to the FAA. If the drone accident results in a serious injury to a person or damage to property more than \$500, the remote pilot in command is required under § 107.9 to report the incident to the FAA within 10 calendar days.

Operational Waivers - Drone operators may request to fly specific drone operations not allowed under part 107 by requesting an operational waiver. A waiver is an official document issued by the FAA that approves certain operations of aircraft outside the limitations of a regulation. These waivers allow drone pilots to deviate from certain rules under part 107 by demonstrating they can still fly safely using alternative methods. Applying for a waiver requires a description of the proposed operation, and of the possible operational risks and methods proposed to lessen/mitigate those risks.

These waivers have proven to be generally difficult to obtain and the FAA standards on which they are assessed are neither clear or standardized. As a member of the FAA Drone Advisory Committee¹² Task Group on 107 Waivers, NAMIC is working on specific advice to the FAA on how to better define and communicate the requirements that the FAA will apply in consideration of Part 107 waivers for insurance company drone operations.

¹¹ See Classes of Airspace, Types of Controlled Airspace, at https://www.faa.gov/gslac/ALC/course_content.aspx?clD=42&slD=505&preview=true

¹² For a description the DAC and its responsibilities, See https://www.faa.gov/uas/programs_partnerships/drone_advisory_committee/

INSURANCE DRONE OPERATIONS 2020 LAW AND REGULATION

STATE LAW AND RULES

The position of the FAA¹³ is that Congress has provided it with exclusive authority to regulate aviation safety, the efficiency of the navigable airspace, and air traffic control, among other things. State and local governments are not permitted to regulate any type of aircraft operations, such as flight paths or altitudes, or the navigable airspace, without FAA approval.

The FAA does acknowledge that laws traditionally related to state and local police power¹⁴ – including land use, zoning, privacy, trespass, and law enforcement operations – generally are not subject to federal regulation. This can include those laws requiring police to obtain a warrant prior to using a drone for surveillance; prohibiting drone use for voyeurism; limits on drone use for hunting or fishing or to interfere with or harass an individual who is hunting or fishing; and making it illegal to attach firearms or similar weapons to drones.

These broad preemption contentions do not appear to be in accord with the FAA official comments accompanying the promulgation of Part 107 regulations about its scope. In the Federal Register notice accompanying the final rule, the FAA made clear that “The FAA is not persuaded that including a preemption provision in the final rule is warranted at this time. Preemption issues involving small UAS necessitate a case-specific analysis that is not appropriate in a rule of general applicability. Additionally, certain legal aspects concerning small UAS use may be best addressed at the state or local level. For example, state law and other legal protections for individual privacy may provide recourse for a person whose privacy may be affected through another person’s use of a UAS.”¹⁵

Accordingly, states have considered¹⁶ and passed numerous drone laws. Some limit drone flights near critical infrastructure. Oklahoma, for example, prohibits¹⁷ flying drones within 400 feet of critical infrastructure and state lawmakers are reportedly discussing proposed legislation to regulate the flying of drones over private property in rural areas. In Nevada, a person who owns or lawfully occupies real property in this state may bring an action under state law¹⁸ for trespass against the owner or operator of an unmanned aerial vehicle that is flown at a height of less than 250 feet over the property. Oregon law¹⁹ enables a person who owns or lawfully occupies real property in this state to bring an action against any person or public body that operates an unmanned aircraft system that is flown over the property. Drone provisions vary from state to state and are constantly under additional legislative consideration. Prudent insurance company drone operations require a thorough review and understanding of current and applicable drone law and regulation.

¹³ Press Release – FAA Statement–Federal vs. Local Drone Authority, July 20, 2018 at https://www.faa.gov/news/press_releases/news_story.cfm?newsId=22938&omniRss=press_releasesAoc&cid=102_P_R

¹⁴ Footnote 14, *supra*.

¹⁵ Operation and Certification of Small Unmanned Aircraft Systems (RIN 2120-AJ60) Federal Aviation Administration, at page 545. https://www.faa.gov/uas/media/RIN_2120-AJ60_Clean_Signed.pdf

¹⁶ At least 38 states considered legislation related to drones in the 2017 legislative session <http://www.ncsl.org/research/transportation/current-unmanned-aircraft-state-law-landscape.aspx#1>; AUVSI references 228 drone bills being considered in 47 states in 2019. <http://cqrcengage.com/auvsi/statelegmap>

¹⁷ Enrolled House Bill No. 2599 at http://webserver1.lsb.state.ok.us/cf_pdf/2015-16%20ENR/hB/HB2599%20ENR.PDF

¹⁸ 105 NEV. REV. STAT. § 493.103 at <https://www.leg.state.nv.us/NRS/NRS-493.html#NRS493Sec103>

¹⁹ 2017 ORS 837.380 at <https://www.oregonlaws.org/ors/837.380>

NAMIC ISSUE ANALYSIS

CIVIL AND CRIMINAL LIABILITY

The question, particularly for insurers using drones and all providers of property/casualty insurance, is what are the standards for liability for privacy, trespass and other civil violations? According to a 2017 study²⁰ by the Bard College Center for the Study of the Drone, 133 localities in 31 states, home to more than 30 million people, have enacted drone rules in recent years. The most common local restrictions include prohibitions against flying drones over public property and private property without the property owner's consent. There have been more state and local drone limitations enacted since 2017 as well. These can include civil and criminal liability. In 2017, a Utah couple reportedly²¹ used a camera on a drone to take footage of people in their bedrooms and bathrooms and were charged in 4th District Court with one count of voyeurism using concealed or disguised electronic equipment, a misdemeanor.

Drones threaten to alter the concept of home as a personal sanctuary, accessing spaces previously considered private by tradition. A ten-foot fence may seem to ensure privacy, but not to a drone overflight. Fourth Amendment rights are now easily pierced by drones²². Precluding drone flights to protect privacy is not easy or simple. It is a federal crime²³ – and often a state crime²⁴ as well - to interfere with or threaten to interfere with the operation of any aircraft; and it is prohibited to interrupt the signal between the drone and its operator, per FCC²⁵ regulations.

LAW AND REGULATION OF COMMERCIAL DRONE OPERATIONS – 2020 AND BEYOND

OPERATIONS - INSURANCE DRONE USE IS SIGNIFICANT AND GROWING

As noted above, the FAA expects the number of overall commercial drones and operators to increase dramatically. The FAA Aerospace Forecast 2019-2039²⁶ anticipates that the market for commercial drones is growing faster than anticipated and could triple between now and 2023. In 2017, the FAA had forecasted that there would be around 230,00 commercial drones in 2019; actual data far exceeds that trend with over 277,000 aircraft registered by the end of 2018. The FAA projects that the commercial/non-model drone sector will have over 835,000 aircraft in 2023 and, based on past growth, that estimate may be very conservative. Insurance companies employ 17 percent of all commercial drones²⁷, and PwC has reported that drone technology could help the insurance industry save as much as \$6.8 billion annually²⁸.

State Farm, the first insurer in the U.S. to receive permission from the FAA to operate commercial drones, was the first insurer granted a waiver by the FAA in 2018 to assess widespread damage, as well as for individual aerial roof inspections of customers' homes and property from Hurricane Michael. In early 2019, State Farm was granted the first FAA drone waiver to conduct operations over people or beyond the pilot's visual line of sight, which they use to assess property damage in inaccessible areas.

²⁰ Local and State Drone Laws, Bard College Center for the Study of the Drone, at <https://dronecenter.bard.edu/state-and-local-drone-laws/>

²¹ Utah couple charged with voyeurism for allegedly taking videos using a drone, Salt Lake Tribune at <https://archive.slttrib.com/article.php?id=4946115&itype=CMSID>

²² The Next Big Privacy Concern Is Up in the Air, Wall Street Journal, <https://www.wsj.com/articles/the-next-big-privacy-concern-is-up-in-the-air-11561042733>

²³ 18 U.S. Code § 32. Destruction of aircraft or aircraft facilities

²⁴ See, e.g. Virginia Code § 5.1-22. Interference with operation of aircraft; penalties; venue. <https://law.lis.virginia.gov/vacode/title5.1/chapter1/section5.1-22/>

²⁵ See, Jammer Enforcement, at <https://www.fcc.gov/general/jammer-enforcement>

²⁶ The FAA Aerospace Forecast 2019-2039, https://www.faa.gov/data_research/aviation/aerospace_forecasts/

²⁷ Federal Aviation Administration, FAA aerospace forecast, fiscal years 2018–2038, available at https://www.faa.gov/data_research/aviation/aerospace_forecasts/

²⁸ Clarity from above, PwC global report on the commercial applications of drone technology, available at <https://www.pwc.pl/pl/pdf/clarity-from-above-pwc.pdf>

INSURANCE DRONE OPERATIONS 2020 LAW AND REGULATION



Drones will be used more and more in the insurance lifecycle, particularly claims management and fraud prevention. With respect to risk assessment, drones can be used to quickly and cheaply gather detailed data on insured properties to both recommend preventative measures and determine damage following an event. That data can be accessed and reviewed quickly and efficiently. It has been estimated that drone claims adjustment can process three houses in an hour, while a human adjuster can process only about three houses in a day; increasing inspection efficiency by up to 85 percent.²⁹

Drones and aerial-imagery will soon become commonplace for claims in general and in particular after catastrophes. And as aerial image capture technology and services continue to increase and improve, drone usage by insurers is very likely to grow correspondingly. The head of UAV Operations and Technologies for Geomni, a Verisk business, sees³⁰ insurers' drone use as more than just an experiment; it's a big part of their tool set. The challenge for insurance companies right now, he said, is integrating the use of drones with the processes they already have in place. "[Insurers] all want to embrace it, but they're looking for the technologies to bridge the gap between a flying camera, which is what a drone is, and a tool that's really going to help them integrate it directly into their workflows as part of the claims settlement process. So that's one challenge towards getting to that 100 percent or 90 percent adoption and acceptance."

REGULATION – FAILURE TO LAUNCH

The FAA published three new actions in the Federal Register in early 2019 that are designed to encourage the safe testing and deployment of drones:

- A notice of proposed rulemaking that would permit drones to operate over people and fly at night³¹;
- An interim final rule that would require small unmanned aircraft owners to display the registration numbers on an external surface of the aircraft³²; and,
- An advanced notice of proposed rulemaking that seeks public input to identify major drone safety and security issues.³³

²⁹ How Drones Are Disrupting The Insurance Industry, Robotics Tomorrow, 8/06/19, available at <https://www.roboticstomorrow.com/article/2019/07/how-drones-are-disrupting-the-insurance-industry/13938>

³⁰ How Drones and Aerial Imagery Use Rose to New Heights Post 2018 Catastrophes, Insurance Journal at <https://www.insurancejournal.com/magazines/mag-features/2019/04/01/521812.htm#>

³¹ Operation of Small Unmanned Aircraft Systems Over People, [Docket No.: FAA-2018-1087; Notice No. 18-07] Federal Register / Vol. 84, No. 30 / Wednesday, February 13, 2019, page 3856.

³² External Marking Requirement for Small Unmanned Aircraft, [Docket No. FAA-2018-1084, Amdt. No. 48-2] Federal Register, Vol. 84, No. 30, Wednesday February 13, 2019, at page 3669.

³³ Safe and Secure Operations of Small Unmanned Aircraft Systems [Docket No.: 2018-1086; Notice No. 18-08], Federal Register Vol. 84, No. 30 Wednesday, February 13, 2019, at page 3732.

NAMIC ISSUE ANALYSIS

The proposed rule that would permit drones to operate over people and to fly at night is the most beneficial to insurance companies using drones and providing coverage for policyholders using drones. The existing FAA rules under Part 107 prohibit operating a drone over people, which has been an impediment to insurers' drone use in any populated area and has limited the amount and range of overall commercial drone use.

NAMIC had been advocating for this rule for more than three years and has worked with the FAA and state authorities to develop safer drone operation requirements to enable insurers to more effectively use drones to evaluate and inspect properties, assess damage claims and – perhaps most importantly – provide more and better insurance services to policyholders in disaster response. These proposals are a positive response to our advocacy and a significant step toward even more developments for safer and more effective drone use by insurers.

Drone Operations Over People - The proposed new rule will allow drones to be flown over people within the confines of three categories. For Category 1, operators will not be prohibited to fly unmanned aircraft weighing 0.55 pounds or less over people. Small Unmanned Aircraft System operations under Part 107 would continue to be subject to all existing FAA requirements; however, the agency does not plan to propose any additional restrictions as a condition of flying over people. For those in Category 2, the FAA sets performance-based requirements allowing a small aircraft weighing more than 0.55 pounds to operate over people if the manufacturer can demonstrate that a crash by that drone into a person would result in an injury below an FAA-designated severity threshold. Specifically, the small drone must be designed not to result in an injury as severe as the injury that would result from a transfer of 11 ft-lbs. of kinetic energy from a rigid object. In Category 3, the FAA would allow for a higher injury threshold than Category 2 but limit an individual's exposure to the risk of injury through operational limitations. In this case, the speed and other factors of the drone would be proven to mitigate the frequency of impact. For this category, the FAA will require a small drone to be designed, upon impact with a person, not to result in an injury as severe as the injury that would result from a transfer of 25 ft-lbs. of kinetic energy from a rigid object.

Before a small UAS could be used to fly Category 2 or Category 3 operations over people, the manufacturer would have to demonstrate to the FAA's satisfaction that the aircraft meets the proposed requirements. The FAA plans to offer an optional pre-accepted means of compliance that measures the transfer of kinetic energy upon impact that could allow for pre-accepted manufacturers to use if they so choose. Other compliance methods could be acceptable as well.

This proposal also includes several other requirements for remote pilots who operate over people:

- Any small unmanned aircraft used for Category 2 or Category 3 operations would have to be marked with a label that identified it as either Category 2 or Category 3 or both;
- Operators would be responsible for following the manufacturer's instructions;
- Remote pilots under existing rules must conduct certain pre-flight actions to ensure the safety of the operation, including assessing the operating environment and inspecting the small UAS. (§ 107.49); and
- Operations over people in moving vehicles (§ 107.39) remains prohibited.

It should be noted that this rule will not be finalized until rules in development for remote drone identification are finalized. This notice includes a provision that states, "the FAA plans to finalize its policy concerning remote identification of small UAS – by way of rulemaking, standards development, or other activities that other Federal agencies may propose – prior to finalizing the proposed changes in this rule that would permit operations of small UAS over people and operations at night." The FAA convened the UAS Identification and Tracking Aviation Rulemaking Committee to make recommendations

INSURANCE DRONE OPERATIONS 2020 LAW AND REGULATION

for the identification and tracking of small drones. The FAA has reviewed the ARC recommendations and initiated a separate rulemaking (RIN 2120-AL31) to propose remote identification requirements for UAS, but has not yet published any proposals in the Federal Register.

Drone Operations at Night - The FAA proposes to allow routine, small UAS operations at night under two conditions. The operator must complete knowledge testing or training, including new subject matter areas related to operating at night, and the small UAS must have anti-collision lights illuminated and visible for at least three miles.

External Registration Marking - The FAA has proposed an interim final rule that would require small unmanned aircraft owners to display the unique identifier assigned by the FAA upon completion of the registration process – the registration number – on an external surface of the aircraft. Presently, the registration number was only required anywhere on the aircraft, including internally. The FAA states that it is taking this action to address concerns expressed by the law enforcement community and the FAA’s interagency security partners regarding the risk a concealed explosive device poses to first responders who must open a compartment to find the small unmanned aircraft’s registration number.

Unfortunately, these regulations will not become effective before the finalization of as-yet unpublished rules on an Unmanned Aircraft Systems Traffic Management infrastructure, or UTM; a cloud-based, automated air traffic management system. The Department of Homeland Security’s Science and Technology Directorate has teamed up with NASA and the FAA to manage unmanned aerial vehicle traffic. NASA has [selected](#) two organizations in Nevada and Texas to host the final phase of its four-year series of increasingly complicated technical demonstrations to confirm that NASA’s UAS UTM system can safely and effectively manage drone traffic in an urban area.

In late April of 2019, Sens. Edward Markey, D-Mass., and John Thune, R-S.D., members of the Commerce, Science, and Transportation Committee, sent a letter to the Department of Transportation calling on the FAA to swiftly publish a proposed rule for remote identification of drones. The two stated that the remote identification could permit the public, the FAA, law enforcement, and others to remotely track and identify drones and their operators during flight. The Senate Commerce, Science and Transportation Committee then held a [hearing](#) entitled “New Entrants in the National Airspace: Policy, Technology, and Security Issues for Congress” on May 8, including testimony from Jay Merkle, the FAA’s executive director for unmanned aircraft systems integration.

A group 34 organizations, including NAMIC, the Airline Pilots Association, the Commercial Drone Alliance and the Small UAV Coalition, sent a [letter](#) to Congress May 16, 2019, and the Office of Management and Budget requesting in strong terms the implementation of the Remote ID ruling. A Remote ID such a system will go far to ensure public safety and the interests of compliant, law abiding drone pilots. On May 23, the website for the OIRA [updated](#) the publication of the NPRM to September of this year (which they missed), in a continuing series of FAA extending deadlines for drone rules. NAMIC will continue to advocate for remote ID rules that promote the best interests of NAMIC members and the general public.

The leadership of the U.S. House Transportation Committee then called on the FAA to hasten its regulatory process to require that drones be capable of being identified from the ground. In a July 2 letter, lawmakers urged Transportation Secretary Elaine Chao “to dedicate the necessary staff and resources for the rapid publication of a notice of proposed rulemaking (NPRM)” on the so-called requirement for small drones. The FAA postponed its planned release of an NPRM from July 21 to September, citing the complexity of drafting such a requirement. The agency has said that publication of a final Remote ID regulation could take up to two years.

NAMIC ISSUE ANALYSIS

Clear and comprehensive drone regulation has not been adopted at the state level either. While states like New Hampshire³⁴ continue to struggle to understand the ranges of federal and state authority over drone use in the state, the last time the FAA provided any real guidance in this area was a vague fact sheet³⁵ in 2015. State legislators continue to focus on drone issues locally, with each of Missouri, Georgia, Kentucky, and Tennessee enacting legislation restricting drone operations near correction institutes. Other states have addressed more general drone operations. Citing a need to ensure state law keeps up with the latest technology, more than a dozen legislators are backing a measure³⁶ that would add drone operators to New Jersey's trespassing and invasion of privacy statutes.

The Uniform Law Commission Committee on Tort Law Relating to Drones³⁷, on which NAMIC was an observer, has itself wrestled internally for years in an attempt to provide a state level response to the specific issues of when drone use constitutes trespass to land and violations of privacy. After great debate and consternation, the committee recommended its final draft model state law for commission approval this summer. At the risk of oversimplification, the final draft proposed applying state's tort to unmanned aircraft operations, clearly adopts the "aerial trespass" doctrine in relation to unmanned aircraft in the airspace above private land and clarifies that intentional unmanned aircraft intrusions on land are trespasses to land. The commission did not approve the final draft, however, and the future of any drone model state law remains uncertain at best.

Perhaps the most important drone regulatory gap is the lack of any federal or state regulation over invasion of privacy by drones, which as the Wall Street Journal has reported, "The Next Big Privacy Concern Is Up in the Air".³⁸ The article reiterates that FAA claims exclusive authority over drone operations, but FAA regulations are designed to protect the safety of the skies, not personal privacy, which as noted above is addressed by a few and varied state and local laws and ordinances, and poorly understood by local law enforcement. Insurance companies using drones, particularly in populated areas, may run substantial legal and reputational risk from nearby residents who may be greatly concerned by an insurers' drone operations and data capture.



³⁴ Bill to give the state authority to enforce drone laws stumbles over a definition, Concord Monitor, 5/29/2019, available at <https://www.concordmonitor.com/drones-new-hampshire-transportation-25884688>

³⁵ State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet, December 17, 2015, available at https://www.faa.gov/uas/resources/policy_library/media/UAS_Fact_Sheet_Final.pdf

³⁶ Move to Cover Drones in Trespassing, Invasion of Property Laws, NJSpotlight, 2/21/19, available at <https://www.njspotlight.com/stories/19/02/20/bill-would-extend-trespassing-invasion-of-property-laws-to-cover-drones/>

³⁷ Website and documents available at <https://www.uniformlaws.org/committees/community-home?CommunityKey=2cb85e0d-0a32-4182-adee-ee15c7e1eb20>

³⁸ Wall Street Journal, June 20, 2019, available at <https://www.wsj.com/articles/the-next-big-privacy-concern-is-up-in-the-air-11561042733>

CONCLUSIONS

Drones and related technology offer many opportunities to property/casualty insurance companies to provide better and more efficient insurance services to policyholders. These same advances will result in other persons using more drones in more ways for commercial and recreational purposes, which will require more and better property and liability insurance coverage solutions. This genie will not go back in the bottle and insurance companies will be well served in better understanding how to use and insure drones.

One major obstacle to property/casualty insurance companies using and insuring drones is the complexity and evolving nature of the law and regulation of drone operations for insurance companies and other commercial and hobby operators. Regulators initially banned drone operations, but federal and state rules have slowly loosened and evolved to enable more and different drone operations, as more is understood about these operations and their risks. Formerly prohibited practices are becoming more conditionally permitted, and formerly accepted practices are being subject to more granular review.

As permissible drone operations under the law become better defined and proliferate, there are many as yet unaddressed questions of the rights of other people and property subject to these drone flights and data captures that will become more and more of a societal and customer issue. Questions of rights to fly and rights to privacy/property will increase and these rights may clash and legislatures, regulators and law enforcement will be looked to for answers.

Which governmental authority will step up to make which calls of permissible or non-permissible drone operations is uncertain and more permissible drone operations will make it even less clear. The federal government in many areas of drone operation still preempts state and local laws, but in other areas of drone operations, the federal government has seemed to be willing to either share authority or defer to the states. States in turn may preempt local drone ordinances and regulation.

As insurance drone operations permissions and restrictions evolve nationally and locally, today's rules and predictions of future developments allow insurance companies an opportunity to better understand the terms and conditions in which they may operate drones for insurance services today and going forward. However, insurers must remain engaged and attentive to the changing landscape for drone regulation so that they remain current on requirements prior to putting UAS into operation.

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