Rise of the Drones: The Growing Proliferation of Unmanned Aircraft in the National Airspace System

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amazon.com

VIA FDMS

The Honorable Michael P. Huerta
Administrator
Office of the Administrator
Federal Aviation Administration
800 Independence Avenue SW
Washington, DC 20591

July 9, 2014

Re: Amazon Petition for Exemption

Dear Administrator Huerta:

At Amazon, our energy comes from inventing on behalf of customers. Amazon Prime Air, a new delivery system that will get packages to customers in 30 minutes or less using aerial vehicles, is one invention we are incredibly passionate about. We believe customers will love it, and we are committed to making Prime Air available to customers worldwide as soon as we are permitted to do so.

Amazon shares Congress's goal of getting small aerial vehicles (a.k.a., small unmanned aircraft systems, or "sUAS") flying commercially in the United States safely and soon. In the FAA Modernization and Reform Act of 2012, Congress directed the FAA "to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system" and, under Section 333 of that law, gave the FAA power to grant innovators "expedited operational authorization" to do so. By this petition, Amazon is seeking its first such authorization, in order to conduct additional research and development for Prime Air.

We are rapidly experimenting and iterating on Prime Air inside our next generation research and development lab in Seattle. In the past five months, we have made advancements toward the development of highly-automated aerial vehicles for Prime Air, including:

- Testing a range of capabilities for our eighth- and ninth-generation aerial vehicles, including agility, flight duration, redundancy, and sense-and-avoid sensors and algorithms;

- Developing aerial vehicles that travel over 50 miles per hour, and will carry 5-pound payloads, which cover 86% of products sold on Amazon; and

- Attracting a growing team of world-renowned roboticists, scientists, aeronautical engineers, remote sensing experts, and a former NASA astronaut.

Current FAA rules allow hobbyists and manufacturers of model aircraft wide latitude in flying their sUAS outdoors. Because Amazon is a commercial enterprise we have been limited to conducting R&D flights indoors or in other countries. Of course, Amazon would prefer to keep the focus, jobs, and investment of this important research and development initiative in the United States by conducting private research and development operations outdoors near Seattle – where our next generation R&D lab and distinguished team of engineers, scientists and aeronautical professionals are located. In order to allow outdoor R&D testing for Prime Air in the United States, we are submitting this petition for exemption pursuant to Section 333 of the FAA Modernization and Reform Act of 2012.

Granting Amazon an exemption to allow R&D testing outdoors in the United States is in the public interest because it advances Congress's goal of getting commercial sUAS flying in the United States safely and soon. It is a necessary step towards realizing the consumer benefits of Amazon Prime Air and, at this point, Amazon's continuing innovation in the United States requires the requested exemption for outdoor testing in support of our R&D.

Further, granting this request will do nothing more than allow Amazon to do what thousands of hobbyists and manufacturers of model aircraft do every day, and we will abide by much stronger safety measures than currently required for these groups by FAA policies and regulations. In this petition for exemption, we seek to engage in essentially the same type of sUAS operation that the FAA would permit us to currently – but for the fact that Amazon is not a hobbyist or manufacturer of a model aircraft.

One day, seeing Amazon Prime Air will be as normal as seeing mail trucks on the road today, resulting in enormous benefits for consumers across the nation. We respectfully submit this petition for exemption so that Prime Air can be ready to launch commercial operations as soon as eventually permitted by subsequent FAA action.

Information Supporting this Petition as Specified in 14 C.F.R. §11.81

(a) Mailing address and other contact information such as a fax number, telephone number, or e-mail address

Amazon.com
Legal Department
Re: Prime Air Exemption Petition
440 Terry Ave. North
Seattle, WA 98109
Fax: 206-266-7010
Email: prime-air-exemption@amazon.com

(b) The specific section or sections of 14 C.F.R. from which Amazon seeks an exemption

- 14 C.F.R. § 21.191(a) – *Experimental Certificates*
- 14 C.F.R. § 45.23(b) – *Display of marks; general*
- 14 C.F.R. § 91.9(b) – *Civil aircraft flight manual, marking, and placard requirements*
- 14 C.F.R. § 91.203(a) and (b) – *Civil Aircraft: Certifications Required*

We believe an exemption from the regulations noted above will be sufficient to conduct the R&D described in this exemption request. To the extent that FAA may deem it necessary, however, we also request an exemption from any regulations ancillary to the foregoing that may be needed to facilitate the desired operations.[1]

(c) The extent of relief Amazon seeks, and the reason Amazon seeks the relief

We seek an exemption from several interrelated provisions of 14 C.F.R. Parts 21, 45 and 91 to the extent necessary to engage in private, non-commercial R&D operations of sUAS on our own property that would otherwise be expressly permitted if conducted by a hobbyist or a

[1] Given the nature of the specific relief sought by this exemption request under 14 C.F.R. §§ 21.191(a), 45.23(b), 91.9(b) and 91.203(a) and (b), and the particular contours of our desired testing operations and proposed safeguards, a request for relief from any associated or implementing requirements of several related provisions that may otherwise be applicable, such as 14 C.F.R. §§ 91.7(a) (civil aircraft airworthiness); 91.103(b) (pre-flight action); 91.109 (flight instruction); 91.119 (minimum safe altitudes); 91.121 (altimeter settings); 91.151(a) (fuel requirements in VFR conditions); 91.405(a) (maintenance required); 91.407(a)(1) (operation after maintenance, preventative maintenance, rebuilding, or alteration); 91.409(a)(2) (inspections); and 91.417(a) and (b) (maintenance records), should either be unnecessary as moot or deemed incorporated herein. Nevertheless, we seek an exemption from any such specific provisions to the extent FAA finds it necessary to grant this request.

manufacturer producing such sUAS.[2] We have detailed, below, a significant set of safeguards that will apply to these R&D operations. Operations under these safeguards will provide for a level of safety exceeding the level of safety required of similar sUAS operations that FAA authorizes currently and without requiring compliance with the regulations from which we seek an exemption. Moreover, our operations will not "create a hazard to users of the national airspace system or the public or pose a threat to national security"[3] and are thus consistent with the congressional mandate in Section 333 of the FAA Modernization and Reform Act of 2012, which gives FAA a mechanism to allow certain UAS to operate safely in the national airspace system.

We also intend to use one or more of the six FAA-selected test sites and seek a special airworthiness certificate (experimental category) for our sUAS. However, it would be impractical for Amazon to pursue either one of these avenues as our sole or even primary method of R&D testing at this time, and doing so would unnecessarily tax scarce FAA resources. For example, it would be an unreasonable burden on both the FAA and Amazon if we were required to apply for a special airworthiness certificate for every sUAS design or testing configuration while we are in R&D and conducting rapid prototyping.

(d) The reasons why granting Amazon's request would be in the public interest; that is, how it would benefit the public as a whole

As described above, Prime Air will be a new delivery system that is poised to offer enormous consumer benefits by delivering packages to customers in 30 minutes or less. Please see the introduction for details on how granting this request would benefit the public.

(e) The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which Amazon seeks the exemption

Our R&D operations will provide for a level of safety that far exceeds the level of safety required by FAA for hobbyists and manufacturers of model aircraft.[4] The following operating procedures will apply during the R&D testing conducted under this exemption request:

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[2] *See* Pub. L. No. 112-95, § 336, 126 Stat. 77-78.

[3] *See id.*, § 333, 126 Stat. 76.

[4] Because Amazon's desired testing operations could not possibly be conducted using conventional aircraft, the level of safety required of hobbyists and manufacturers of model aircraft is the appropriate comparison.

- The sUAS will (i) have a maximum weight of less than 55 pounds; (ii) be rotor-powered via a battery source; and (iii) be U.S.-registered and display marks in accordance with 14 C.F.R. Part 45, Subpart C.[5]

- Our sUAS R&D testing under this exemption will be conducted (i) within the visual line of sight of the operator and/or one or more observers; (ii) at less than 400 feet AGL; and (iii) within Class G airspace.

- The operations will be conducted in a confined area over isolated Amazon private property located a sufficient distance away from (i) any airport, heliport, seaplane base, spaceport or other location with aviation activities; (ii) any densely populated areas; and (iii) any military or U.S. government installations or airfields.[6]

- All operations will remain within the lateral and vertical boundaries of the operating area, taking into account all factors, including wind, gross weight and glide distances, that may affect the capability of the sUAS to remain within the airspace boundary; moreover, the integrity of the operating area will be reinforced by geo-fencing,[7] including the ceiling height of no more than 400 feet AGL.

- Our sUAS R&D testing under this exemption will be conducted (i) under the supervision of a designated pilot in command (PIC) who has final responsibility for the operation in accordance with 14 C.F.R. § 91.3 and either (A) holds a current FAA private pilot certificate issued under 14 C.F.R. Part 61, Subpart E, a higher FAA pilot certification, or a FAA-recognized equivalent[8] or (B) has completed FAA private pilot ground instruction and passed the FAA private pilot written

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[5] To the extent that FAA determines that the Amazon sUAS operating under this exemption must bear an "experimental" marking, we seek an exemption from 14 C.F.R. § 45.23(b) to accommodate the required markings pursuant to 14 C.F.R. § 45.29(f).

[6] We will apply separately for the necessary certificates of waiver from the requirements of 14 C.F.R. §§ 91.113 and 91.119 and the associated airspace authorization. Specific details of the operating area, including latitude and longitude, and aeronautical charts and/or photographs, will be provided in conjunction with that application process.

[7] Geo-fencing is a feature in a software program that uses GPS or radio frequency triangulation to define geographical boundaries. A geo-fence is a virtual barrier – effectively an electronic box in which the sUAS will be confined.

[8] A private pilot certificate should be sufficient for the PIC to conduct these research and development sUAS flights. *See* 14 C.F.R. § 61.113(b).

examination or FAA-recognized equivalent; and (ii) using only operators that have completed training on the normal, abnormal, and emergency procedures in specific details and demonstrated proficiency with the sUAS being operated.

- No operator or observer will engage in, nor may an operator or observer permit, any activity during a critical phase of flight which could distract any operator or observer from the performance of his/her duties or interfere in any way with the proper conduct of his/her duties.

- Operators will maintain the sUAS system in a condition for safe operation, and conduct a pre-flight inspection prior to each flight so as to ensure that the sUAS, control station, data link equipment, payload, and support equipment are in a condition for safe operation and in a configuration appropriate for the purpose of the intended flight.

- The operators and observers will maintain two-way communications with each other during all operations; if unable to maintain two-way communications, or if any condition occurs that may otherwise cause the operation to be unsafe, the operator will immediately conclude the operation.

- Each sUAS will safely stop operating and return automatically to a specific location on Amazon's private property if the communications link is lost.

- For each sUAS, the observer will have the ability to press a physical button, that will be within his/her reach at all times, that reduces power to the vehicle so as to force a controlled landing; both the hardware and communication for this safety system will be physically separate from the sUAS flight control systems.

- Testing operations will be conducted on private property, and only Amazon employees, contract personnel, and invitees will be invited to the operations area; security measures will be put in place to deter unauthorized access.

- The aircraft documentation required by 14 C.F.R. §§ 91.9 and 91.203(b), as applicable, will be available to the PIC referred to above at any time Amazon's sUAS are operating.

We will effectively operate our own private model airplane field, but with additional safeguards that go far beyond those that FAA has long-held provide a sufficient level of safety for public model airplane fields – and only with sUAS. Indeed, the combination of the geo-fencing and lost-

link procedures described above will ensure the sUAS stays within the tightly defined operating area within our private property.

(f) A summary FAA can publish in the FEDERAL REGISTER, stating: (1) The rule from which you seek the exemption; and (2) A brief description of the nature of the exemption you seek

Petitioner: Amazon.com, Inc.

Sections of 14 C.F.R. Affected: §§ 21.191(a); 45.23(b); 91.9(b); and 91.203(a) and (b)

Description of Relief Sought: Petitioner seeks relief from the requirements of 14 C.F.R. §§ 21.191(a); 45.23(b); 91.9(b); and 91.203(a) and (b) to conduct private, non-commercial small unmanned aircraft systems (sUAS) operations on its own property subject to operating procedures that meet or exceed those that FAA requires for similar operations.

(g) Any additional information, views or arguments available to support your request

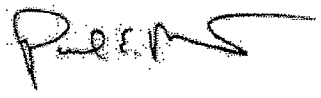
Please see the introduction to this exemption request.

(h) If you want to exercise the privileges of your exemption outside of the United States, the reason why you need to do so.

The research and development operations described in this exemption request will be conducted wholly within the United States.

Please do not hesitate to contact me via email at prime-air-exemption@amazon.com if you have any questions or concerns.

Respectfully submitted,



Paul Misener
Vice President, Global Public Policy
Amazon.com

FAA News

Federal Aviation Administration, Washington, DC 20591

June 21, 2016

SUMMARY OF SMALL UNMANNED AIRCRAFT RULE (PART 107)

Operational Limitations	• Unmanned aircraft must weigh less than 55 lbs. (25 kg). • Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the remote pilot in command and the person manipulating the flight controls of the small UAS. Alternatively, the unmanned aircraft must remain within VLOS of the visual observer. • At all times the small unmanned aircraft must remain close enough to the remote pilot in command and the person manipulating the flight controls of the small UAS for those people to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses. • Small unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle. • Daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting. • Must yield right of way to other aircraft. • May use visual observer (VO) but not required. • First-person view camera cannot satisfy “see-and-avoid” requirement but can be used as long as requirement is satisfied in other ways. • Maximum groundspeed of 100 mph (87 knots). • Maximum altitude of 400 feet above ground level (AGL) or, if higher than 400 feet AGL, remain within 400 feet of a structure. • Minimum weather visibility of 3 miles from control station. • Operations in Class B, C, D and E airspace are allowed with the required ATC permission. • Operations in Class G airspace are allowed without ATC permission. • No person may act as a remote pilot in command or VO for more than one unmanned aircraft operation at one time. • No operations from a moving aircraft. • No operations from a moving vehicle unless the operation is over a sparsely populated area. • No careless or reckless operations. • No carriage of hazardous materials.

	• Requires preflight inspection by the remote pilot in command. • A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. • Foreign-registered small unmanned aircraft are allowed to operate under part 107 if they satisfy the requirements of part 375. • External load operations are allowed if the object being carried by the unmanned aircraft is securely attached and does not adversely affect the flight characteristics or controllability of the aircraft. • Transportation of property for compensation or hire allowed provided that- o The aircraft, including its attached systems, payload and cargo weigh less than 55 pounds total; o The flight is conducted within visual line of sight and not from a moving vehicle or aircraft; and o The flight occurs wholly within the bounds of a State and does not involve transport between (1) Hawaii and another place in Hawaii through airspace outside Hawaii; (2) the District of Columbia and another place in the District of Columbia; or (3) a territory or possession of the United States and another place in the same territory or possession. • Most of the restrictions discussed above are waivable if the applicant demonstrates that his or her operation can safely be conducted under the terms of a certificate of waiver.
Remote Pilot in Command Certification and Responsibilities	• Establishes a remote pilot in command position. • A person operating a small UAS must either hold a remote pilot airman certificate with a small UAS rating or be under the direct supervision of a person who does hold a remote pilot certificate (remote pilot in command). • To qualify for a remote pilot certificate, a person must: o Demonstrate aeronautical knowledge by either: ▪ Passing an initial aeronautical knowledge test at an FAA-approved knowledge testing center; or ▪ Hold a part 61 pilot certificate other than student pilot, complete a flight review within the previous 24 months, and complete a small UAS online training course provided by the FAA. o Be vetted by the Transportation Security Administration. o Be at least 16 years old. • Part 61 pilot certificate holders may obtain a temporary remote pilot certificate immediately upon submission of their application for a permanent certificate. Other applicants will obtain a temporary remote pilot certificate upon successful completion of TSA security vetting. The FAA anticipates that it will be able to issue a temporary remote pilot certificate within 10 business days after receiving a completed remote pilot certificate application. • Until international standards are developed, foreign-

	certificated UAS pilots will be required to obtain an FAA-issued remote pilot certificate with a small UAS rating. A remote pilot in command must: • Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the rule. • Report to the FAA within 10 days of any operation that results in at least serious injury, loss of consciousness, or property damage of at least $500. • Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is in a condition for safe operation. • Ensure that the small unmanned aircraft complies with the existing registration requirements specified in § 91.203(a)(2). A remote pilot in command may deviate from the requirements of this rule in response to an in-flight emergency.
Aircraft Requirements	• FAA airworthiness certification is not required. However, the remote pilot in command must conduct a preflight check of the small UAS to ensure that it is in a condition for safe operation.
Model Aircraft	• Part 107 does not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112-95. • The rule codifies the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the NAS.

Section 333 vs. Part 107: What Works for You?

 The Federal Aviation Administration's (FAA) new small drone rule – formally known as Part 107 – is effective on August 29. You may also be wondering what happens to your Section 333 exemption grant or petition for exemption. View the video here.

The biggest question is whether you are better off flying under the provisions of Part 107, or should continue using your existing exemption?

Your exemption is valid until it expires – usually two years after it was issued. Even after Part 107 becomes effective, you may choose to fly following the conditions and limitations in your exemption.

However, if you want to operate under the new Part 107 regulations, you'll have to obtain a remote pilot certificate and follow all of the rule's operating provisions. You must apply for a waiver if some parts of your operation don't meet the rule's requirements.

If you already have a Certificate of Waiver or Authorization under your Section 333 exemption – a "COA" – you can continue to fly under the COA limitations until it expires. If you don't already have a COA, you probably won't need one when the new drone rules go into effect.

However, if you want to fly in controlled airspace, you will need permission from FAA air traffic control. Details about obtaining that permission will be online at www.faa.gov/uas when the small drone rule is effective on August 29, 2016.

If you applied for a Section 333 exemption but haven't received it yet, you should have received a letter from the FAA with specific information about the status of your petition. Generally, if your petition is pending and falls within the provisions of the rule, you should follow the steps outlined in the rule.

Whether you choose to fly under your exemption or under the new small drone rule is your choice, depending on how you want to operate your aircraft. You'll have to compare the conditions and limitations in your exemption to the operating requirements in the rule to determine which one best addresses your needs.

Part 107 compared to the 333 Exemption

Topic	General 333 and Blanket COA [1]	Part 107 [2]
Initial training	At least a sport-pilot's license and current flight review	Pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center; **or** Hold a Part 61 pilot certificate other than student pilot, complete a flight review within the previous 24 months, and complete a small UAS online training course provided by the FAA
Recurrent training	Biennial flight review	Pass a recurrent aeronautical knowledge test every 24 months; **or** hold a part 61 pilot certificate other than student pilot, satisfy the certificate flight review requirements, and complete an online training course every 24 months.
Medical certificate	FAA medical certificate	Pilots must ensure that they don't have any condition that would interfere with safe drone operation
Crew size	At least 2: Pilot + visual observers	1 pilot with a remote pilot airman certificate with a small UAS rating; **or** 2 crew members, with the operator under the direct supervision of a person who holds a remote pilot certificate (remote pilot in command)
Flight restrictions	Must not operate in: 1. Prohibited Areas 2. Special Flight Rule Areas 3. DC Flight Restricted Zone 4. Temporary/Permanent Flight Restricted Areas Special permission for airports in controlled airspace and certain airports in uncontrolled airspace	Must not operate in: 1. Class A airspace (18,000 feet and above) 2. Prohibited or restricted areas 3. Temporary/Permanent Flight Restricted Areas Prior authorization needed from air traffic control when in controlled airspace (Class B, C, D and airport Class E)
Time of day	Daylight hours only	Only between official sunrise and sunset, with anti-collision lights used during civil twilight (dusk and dawn)
Weight limit	55 pounds	55 pounds
Speed limit	100 miles per hour	100 miles per hour

Part 107 compared to the 333 Exemption

Topic	General 333 and Blanket COA [1]	Part 107 [2]
Weather	3 mile visibility, 500 feet below clouds, 2000 feet horizontally away from clouds	3 mile visibility, 500 feet below clouds, 2000 feet horizontally away from clouds
Height limit	400 feet	400 feet above ground level; if you're flying within a 400-foot radius of a structure, you can fly higher, but not more than 400 feet above the structure's immediate uppermost limit
Visual line of sight	Required	Required
Operation from a moving vehicle	Not allowed	Allowed if from ground or water vehicles in sparsely populated areas and not transporting property for compensation or hire
Operation above people	Not allowed if not participating or under covered structure providing protection	Not allowed if not participating or under covered structure providing protection or if in a moving vehicle
Operation of multiple UAVs at the same time	Not allowed	Not allowed
Buffer	At least 500 feet from other property	No buffer
Aircraft registration	Required	Required
Aircraft allowed	Specified by FAA	Any aircraft under 55 pounds
NOTAM filing	Yes	No
Monthly COA reporting	Yes	No
Incident reporting	Yes	No later than after 10 days of a serious injury to any person or any loss of consciousness or damage greater than $500

Skyward is the leading operations management solution for commercial drone businesses. The cloud-based software integrates a global drone airspace map with flight planning and logging tools, fleet and equipment management and a digital system of record. Skyward is dedicated to bringing commercial drone operators around the world the tools they need to manage safe and professional drone programs. For the latest Skyward news, follow us on Twitter @SkywardIO or read our blog at skyward.io/blog.

[1] Based on April 2016 Blanket COA and Exemption No. 15857 retrieved from FAA.gov on April 27, 2016.

[2] Based on the FAA's Summary of Part 107, which will take effect in late August.

Select Year: 2018 Go

The 2018 Florida Statutes

Title XLVII	Chapter 934	View Entire Chapter
CRIMINAL PROCEDURE AND CORRECTIONS	SECURITY OF COMMUNICATIONS; SURVEILLANCE	

934.50 Searches and seizure using a drone.—

(1) SHORT TITLE.—This act may be cited as the "Freedom from Unwarranted Surveillance Act."

(2) DEFINITIONS.—As used in this act, the term:

(a) "Drone" means a powered, aerial vehicle that:

1. Does not carry a human operator;
2. Uses aerodynamic forces to provide vehicle lift;
3. Can fly autonomously or be piloted remotely;
4. Can be expendable or recoverable; and
5. Can carry a lethal or nonlethal payload.

(b) "Image" means a record of thermal, infrared, ultraviolet, visible light, or other electromagnetic waves; sound waves; odors; or other physical phenomena which captures conditions existing on or about real property or an individual located on that property.

(c) "Imaging device" means a mechanical, digital, or electronic viewing device; still camera; camcorder; motion picture camera; or any other instrument, equipment, or format capable of recording, storing, or transmitting an image.

(d) "Law enforcement agency" means a lawfully established state or local public agency that is responsible for the prevention and detection of crime, local government code enforcement, and the enforcement of penal, traffic, regulatory, game, or controlled substance laws.

(e) "Surveillance" means:

1. With respect to an owner, tenant, occupant, invitee, or licensee of privately owned real property, the observation of such persons with sufficient visual clarity to be able to obtain information about their identity, habits, conduct, movements, or whereabouts; or

2. With respect to privately owned real property, the observation of such property's physical improvements with sufficient visual clarity to be able to determine unique identifying features or its occupancy by one or more persons.

(3) PROHIBITED USE OF DRONES.—

(a) A law enforcement agency may not use a drone to gather evidence or other information.

(b) A person, a state agency, or a political subdivision as defined in s. 11.45 may not use a drone equipped with an imaging device to record an image of privately owned real property or of the owner, tenant, occupant, invitee, or licensee of such property with the intent to conduct surveillance on the individual or property captured in the image in violation of such person's reasonable expectation of privacy without his or her written consent. For purposes of this section, a person is presumed to have a reasonable expectation of privacy on his or her privately owned real property if he or she is not

observable by persons located at ground level in a place where they have a legal right to be, regardless of whether he or she is observable from the air with the use of a drone.

(4) EXCEPTIONS.—This section does not prohibit the use of a drone:

(a) To counter a high risk of a terrorist attack by a specific individual or organization if the United States Secretary of Homeland Security determines that credible intelligence indicates that there is such a risk.

(b) If the law enforcement agency first obtains a search warrant signed by a judge authorizing the use of a drone.

(c) If the law enforcement agency possesses reasonable suspicion that, under particular circumstances, swift action is needed to prevent imminent danger to life or serious damage to property, to forestall the imminent escape of a suspect or the destruction of evidence, or to achieve purposes including, but not limited to, facilitating the search for a missing person.

(d) By a person or an entity engaged in a business or profession licensed by the state, or by an agent, employee, or contractor thereof, if the drone is used only to perform reasonable tasks within the scope of practice or activities permitted under such person's or entity's license. However, this exception does not apply to a profession in which the licensee's authorized scope of practice includes obtaining information about the identity, habits, conduct, movements, whereabouts, affiliations, associations, transactions, reputation, or character of any society, person, or group of persons.

(e) By an employee or a contractor of a property appraiser who uses a drone solely for the purpose of assessing property for ad valorem taxation.

(f) To capture images by or for an electric, water, or natural gas utility:

1. For operations and maintenance of utility facilities, including facilities used in the generation, transmission, or distribution of electricity, gas, or water, for the purpose of maintaining utility system reliability and integrity;

2. For inspecting utility facilities, including pipelines, to determine construction, repair, maintenance, or replacement needs before, during, and after construction of such facilities;

3. For assessing vegetation growth for the purpose of maintaining clearances on utility rights-of-way;

4. For utility routing, siting, and permitting for the purpose of constructing utility facilities or providing utility service; or

5. For conducting environmental monitoring, as provided by federal, state, or local law, rule, or permit.

(g) For aerial mapping, if the person or entity using a drone for this purpose is operating in compliance with Federal Aviation Administration regulations.

(h) To deliver cargo, if the person or entity using a drone for this purpose is operating in compliance with Federal Aviation Administration regulations.

(i) To capture images necessary for the safe operation or navigation of a drone that is being used for a purpose allowed under federal or Florida law.

(j) By a communications service provider or a contractor for a communications service provider for routing, siting, installation, maintenance, or inspection of facilities used to provide communications services.

(5) REMEDIES FOR VIOLATION.—

(a) An aggrieved party may initiate a civil action against a law enforcement agency to obtain all appropriate relief in order to prevent or remedy a violation of this section.

(b) The owner, tenant, occupant, invitee, or licensee of privately owned real property may initiate a

civil action for compensatory damages for violations of this section and may seek injunctive relief to prevent future violations of this section against a person, state agency, or political subdivision that violates paragraph (3)(b). In such action, the prevailing party is entitled to recover reasonable attorney fees from the nonprevailing party based on the actual and reasonable time expended by his or her attorney billed at an appropriate hourly rate and, in cases in which the payment of such a fee is contingent on the outcome, without a multiplier, unless the action is tried to verdict, in which case a multiplier of up to twice the actual value of the time expended may be awarded in the discretion of the trial court.

(c) Punitive damages for a violation of paragraph (3)(b) may be sought against a person subject to other requirements and limitations of law, including, but not limited to, part II of chapter 768 and case law.

(d) The remedies provided for a violation of paragraph (3)(b) are cumulative to other existing remedies.

(6) PROHIBITION ON USE OF EVIDENCE.—Evidence obtained or collected in violation of this act is not admissible as evidence in a criminal prosecution in any court of law in this state.

History.—s. 1, ch. 2013-33; s. 1, ch. 2015-26; s. 10, ch. 2017-150.

Select Year: 2018 Go

The 2018 Florida Statutes

Title XXV AVIATION | Chapter 330 REGULATION OF AIRCRAFT, PILOTS, AND AIRPORTS | View Entire Chapter

330.41 Unmanned Aircraft Systems Act.—

(1) SHORT TITLE.—This act may be cited as the "Unmanned Aircraft Systems Act."

(2) DEFINITIONS.—As used in this act, the term:

(a) "Critical infrastructure facility" means any of the following, if completely enclosed by a fence or other physical barrier that is obviously designed to exclude intruders, or if clearly marked with a sign or signs which indicate that entry is forbidden and which are posted on the property in a manner reasonably likely to come to the attention of intruders:

1. An electrical power generation or transmission facility, substation, switching station, or electrical control center.
2. A chemical or rubber manufacturing or storage facility.
3. A mining facility.
4. A natural gas or compressed gas compressor station, storage facility, or natural gas or compressed gas pipeline.
5. A liquid natural gas or propane gas terminal or storage facility with a capacity of 4,000 gallons or more.
6. Any portion of an aboveground oil or gas pipeline.
7. A wireless communications facility, including the tower, antennae, support structures, and all associated ground-based equipment.

(b) "Drone" has the same meaning as s. 934.50(2).

(c) "Unmanned aircraft system" means a drone and its associated elements, including communication links and the components used to control the drone which are required for the pilot in command to operate the drone safely and efficiently.

(3) REGULATION.—

(a) The authority to regulate the operation of unmanned aircraft systems is vested in the state except as provided in federal regulations, authorizations, or exemptions.

(b) Except as otherwise expressly provided, a political subdivision may not enact or enforce an ordinance or resolution relating to the design, manufacture, testing, maintenance, licensing, registration, certification, or operation of an unmanned aircraft system, including airspace, altitude, flight paths, equipment or technology requirements; the purpose of operations; and pilot, operator, or observer qualifications, training, and certification.

(c) This subsection does not limit the authority of a local government to enact or enforce local ordinances relating to nuisances, voyeurism, harassment, reckless endangerment, property damage, or other illegal acts arising from the use of unmanned aircraft systems if such laws or ordinances are not specifically related to the use of an unmanned aircraft system for those illegal acts.

(d) A person or governmental entity seeking to restrict or limit the operation of drones in close proximity to infrastructure or facilities that the person or governmental entity owns or operates must apply to the Federal Aviation Administration for such designation pursuant to s. 2209 of the FAA Extension, Safety, and Security Act of 2016.

(4) PROTECTION OF CRITICAL INFRASTRUCTURE FACILITIES.—

(a) A person may not knowingly or willfully:

1. Operate a drone over a critical infrastructure facility;

2. Allow a drone to make contact with a critical infrastructure facility, including any person or object on the premises of or within the facility; or

3. Allow a drone to come within a distance of a critical infrastructure facility that is close enough to interfere with the operations of or cause a disturbance to the facility.

(b) A person who violates paragraph (a) commits a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083. A person who commits a second or subsequent violation commits a misdemeanor of the first degree, punishable as provided in s. 775.082 or s. 775.083.

(c) This subsection does not apply to actions identified in paragraph (a) which are committed by:

1. A federal, state, or other governmental entity, or a person under contract or otherwise acting under the direction of a federal, state, or other governmental entity.

2. A law enforcement agency that is in compliance with s. 934.50, or a person under contract with or otherwise acting under the direction of such law enforcement agency.

3. An owner, operator, or occupant of the critical infrastructure facility, or a person who has prior written consent of such owner, operator, or occupant.

(d) Subparagraph (a)1. does not apply to a drone operating in transit for commercial purposes in compliance with Federal Aviation Administration regulations, authorizations, or exemptions.

(e) This subsection shall sunset 60 days after the date that a process pursuant to s. 2209 of the FAA Extension, Safety and Security Act of 2016 becomes effective.

(5) CONSTRUCTION.—This section shall be construed in accordance with standards imposed by federal statutes, regulations, and Federal Aviation Administration guidance on unmanned aircraft systems.

History.—s. 8, ch. 2017-150.

Select Year: 2018 Go

The 2018 Florida Statutes

Title XXV
AVIATION

Chapter 330
REGULATION OF AIRCRAFT, PILOTS, AND AIRPORTS

View Entire Chapter

330.411 Prohibited possession or operation of unmanned aircraft.—A person may not possess or operate an unmanned aircraft or unmanned aircraft system as defined in s. 330.41 with an attached weapon, firearm, explosive, destructive device, or ammunition as defined in s. 790.001.

History.—s. 9, ch. 2017-150.

MILITARY

Air Force drone crash closes remote Florida highway

Published July 18, 2013

July 17, 2013: In this photo made available by Dylan Dunaway shows heavy smoke near Highway 98 near Mexico Beach, Fla., after a drone crashed on takeoff from Tyndall Air Force Base. (AP)

TYNDALL AIR FORCE BASE, Fla. – An Air Force drone being tested at a nearby base crashed on takeoff Wednesday near a remote stretch of a Florida Panhandle highway. Officials say no one was injured but the road would be closed into Wednesday night.

The Air Force closed Highway 98 west of Panama City and east of Mexico Beach because of possible fires from the crash. Officials said the drone has a limited, 24-hour battery life and would be inactive after the battery depleted.

According to an Air Force fact sheet, the QF-4 is tested at nearby Tyndall Air Force Base and at Holloman Air Force Base in New Mexico. The plane is a modified F-4 Phantom aircraft, which has been in use since the 1950s.

Public information officials at Tyndall released a brief statement about the crash and declined to answer specific questions about the drone or the reason for the crash.

James Lewis is a military technology expert with the Center for Strategic and International Studies in Washington and said the QF-4 was likely used for target practice by Tyndall's F-22 Raptor pilots.

"It is an older fighter plane they have modified for use as a target," Lewis said. "The QF-4 is not a drone in the way we normally think of drones. It is not used for anything other than to be shot down. It is an old aircraft that would otherwise be sold for scrap."

The Air Force fact sheet said the plane is controlled remotely. simulates enemy aircraft maneuvers and missiles are fired at it. An explosive device in the plane destroys it if it becomes uncontrollable, the fact sheet said.

Highway 98 hugs the Gulf Coast and is a popular route for tourists looking for scenic drive from Panama City to Florida's Big Bend region.

FAA official: Drone, jetliner nearly collided over Florida

By Greg Botelho, CNN
Updated 11:16 AM ET, Sun May 11, 2014
Source: CNN

A Federal Aviation Administration official warned this week about the dangers of even small unmanned aircraft, pointing specifically to a recent close call involving a drone and a commercial airliner that could have had "catastrophic" results.

Jim Williams, the head of the FAA's Unmanned Aircraft Systems (UAS) office, discussed various potential perils during a presentation Thursday to those attending the Small Unmanned Systems Business Expo. A video of his talk in San Francisco, and those of others, to those who operate, create or otherwise are involved or interested in such unmanned aircraft was posted to YouTube.

After saying "the FAA has got to be responsive to the entire industry," Williams referred to a pair of incidents in which drones caused injuries to people on the ground. One came at an event at Virginia Motor Speedway in which an "unauthorized, unmanned aircraft" crashed into the stands, and in the other a female triathlete in Australia had to get stitches after being struck by a small drone.

Then, Williams segued to a pilot's recent report of "a near midair collision" with a drone near the airport in Tallahassee, Florida. The pilot said that it appeared to be small, camouflaged, "remotely piloted" and about 2,300 feet up in the air at the time of the incident.

"The pilot said that the UAS was so close to his jet that he was sure he had collided with it," Williams said. "Thankfully, inspection to the airliner after landing found no damage. But this may not always be the case."

According to the FAA, the incident took place on March 22 and involved as U.S. Airways Flight 4650 going from Charlotte, North Carolina, to Tallahassee.

Flightaware.com lists that flight as a CRJ-200, with a capacity for 50 passengers.

The pilot claimed to pass "an unreported and apparently remotely controlled aircraft ... five miles northeast of the Tallahassee airport, according to the federal agency.

Such close calls are rare, the FAA notes.

The pilot reported that the small unmanned aircraft involved looked similar to an F-4 Phantom jet, and not like a helicopter that might hold a camera that many associate more closely with drones. Such planes have gas turbine engines and can fly higher than an average drone, according to the FAA. Neither the drone in this case, nor its pilot, have been identified.

In its own statement, US Airways said that it was aware of this reported "incident with one of our express flights, and we are investigating."

Explaining why this event is significant, Williams referenced to the so-called "Miracle on the Hudson" from 2009, when US Airways Flight 1549 safely crash-landed in New York's Hudson River after striking at least one bird upon takeoff from LaGuardia Airport.

Airplane crash-lands into Hudson River

Such bird strikes are dangerous enough; a drone, even a small one, getting sucked into a jetliner's engine could be even worse, Williams said.

"Imagine a metal and plastic object -- especially with (a) big lithium battery -- going into a high-speed engine," he added. "The results could be catastrophic."

All these incidents speak to "why it is incredibly important for detect-and-avoid standards (for small unmanned aircraft) to be developed and right-of-way rules to be obeyed," Williams said. He added that such standards are in the works.

His agency reiterated this sentiment in its statement Friday.

"The FAA has the exclusive authority to regulate the airspace from the ground up, and a mandate to protect the safety of the American people in the air and on the ground," the agency said. "...Our challenge is to integrate unmanned aircraft into the busiest, most complex airspace in the world. Introduction of unmanned aircraft into America's airspace must take place incrementally and with the interest of safety first."

As to current regulations, Williams noted the FAA has appealed a federal judge's decision in a case involving businessman Raphael Pirker.

Pirker used a remotely operated, 56-inch foam glider to take aerial video for an advertisement for the University of Virginia Medical Center. The FAA then fined him $10,000 for operating the aircraft in a "careless and reckless manner."

A judge on March 6 agreed with Pirker that the FAA overreached by applying regulations for aircraft to model aircraft, and said no FAA rule prohibited Pirker's radio-controlled flight.

Pilot wins case against FAA over commercial drone flight

But on Thursday, Williams said that another judge had stayed this ruling pending the FAA's appeal.

"Nothing has changed from a legal standpoint," he said, "and the FAA continues to enforce the airspace rules."

Drones banned from Yosemite, other parks

SUBCONSULTANT AGREEMENT

ATTACHMENT "___" – UAS ADDENDUM

The following terms are applicable to SUBCONSULTANT SERVICES that require use of an unmanned aerial system ("UAS"), including an unmanned aerial vehicle ("UAV")

1. INSURANCE: In addition to the insurance specified in the Subconsultant Agreement or other form of agreement between (your name) and SUBCONSULTANT ""Agreement"), SUBCONSULTANT shall carry aircraft liability insurance or an equivalent UAS insurance policy covering loss or damage to the UAS (hull coverage), and liability arising from property damage or bodily injury to third parties, with limits of liability of no less than $____Million per claim and in the aggregate. All other requirements applicable to SUBCONSULTANT's general liability policies required in the Agreement shall apply equally to this policy.

2. INDEMNITY: In addition to the indemnity contained in the Agreement, SUBCONSULTANT shall, to the fullest extent permitted by law, indemnify, defend and hold (your name) (including their officers, directors and employees) thereof and the CLIENT (including their officers, directors and employees) thereof harmless from and against all claims, losses, damages, costs (including legal costs), actions and other proceedings made, sustained, brought or prosecuted in any manner (collectively "liability") based upon, occasioned by or attributable to any personal injury, property damage, claim of trespass or invasion of privacy, violations of law, or regulatory fines levied, arising from operation of the UAS, excepting liability caused by the sole negligence of (your name) or the CLIENT.

3. WARRANTY AND PERMITS: SUBCONSULTANT warrants that it has obtained all permits or exemptions required by law to operate any UAS included in the SERVICES, and that its operators have completed the training, certifications and licensure as required by the applicable jurisdiction in which the UAV will be operated.

SUBCONSULTANT, prior to commencing any SERVICES under this Agreement which involve operation of a UAS, shall provide documentation to (your name) of legal operation of the UAS, including, to the extent applicable by law; a copy of the permit or exemption to operate the UAS(s); copy of operator licenses and certifications; and certificate(s) of authorization for required flight paths or special flight operating certificate (or related applicable government exemption for the foregoing).

The foregoing shall be in addition to all other terms and conditions of the Agreement.

Acknowledged by SUBCONSULTANT:

Signature: _____

Name and Title: _____

Date: _____