Liability Risk Consulting &
Aerospace Insurance Solutions

UNMANNED AERIAL SYSTEMS (UAS)

COMMERCIAL BEST PRACTICES FOR U.S.

SAMPLE

Unmanned aerial vehicles (UAVs), unmanned aerial systems (UASs), drones – call them what you will. People have always been free to fly them but with evolving restrictions. Thanks to newly-enacted rules from the U.S. Federal Aviation Administration (FAA), you have more freedom to utilize drones for commercial purposes. The following sample policy and guidelines lay the groundwork for your company to develop best practices related to commercial UAS usage. We advise you consult with your local counsel for additional operating restrictions and review both federal regulations and the subtle differences in the law of your municipality or state.

Revised: September 2016

Policy

It is [COMPANY's] policy to utilize technology in a practical, effective, and safe manner. [COMPANY] realizes the incredible benefits of UAS technology for our business. We also realize that we need to operate UAVs safely in order to best realize those benefits.

Definitions

FAA: The United States Federal Aviation Administration, the federal agency with jurisdiction over manned and unmanned aerial systems.

UAV: Unmanned Aerial Vehicle

UAS: Unmanned Aerial/Aircraft System; sometimes prefaced as a Small Unmanned Aerial/Aircraft System (sUAS).

Drone: The common term for UAVs or UASs. While technically speaking a drone is a larger unmanned flying system, for purposes of this sample Policy we will use "drone" interchangeably with UAS to represent devices that [COMPANY] seeks to use.

Remote Pilot in Command: The official term given by the FAA for the individual who either directly operates the UAS or directly supervises another individual operating the UAS. The Remote Pilot in Command must have a Remote Pilot Airman Certificate and otherwise abide by the necessary FAA regulations and this policy.

Covered Data: Information collected by UAS operations that would be able to identify a particular person; i.e., data that could link to an individual's name or other personally identifiable information.

Purpose & Background

This guide will explain the FAA regulations governing [COMPANY's] use of drones, and will also explain best practices building out from those regulations.

Over the last few years, the FAA has gone to considerable effort to come up with a set of regulations governing recreational, educational, and commercial use of drones. Along with the FAA allowing greater leeway for drone operation with new regulations (particularly the finalized regulations regarding commercial use), the FAA has also emphasized its intent to enforce its regulations by way of fines.

Furthermore, simply operating within the regulations does not guarantee safety. Therefore we all must take care to ensure safe operation of drones within our control (owned, leased, or otherwise contracted) to limit potential liability related to injury to others, property damage, and infringement of privacy.

Current FAA Regulations & UAV Operation Best Practices

As referenced, there are separate registration and operation regulations for recreational versus commercial use. [COMPANY] will abide by the commercial use requirements pursuant to Part 107 of the FAA regulations. These went into force on August 26, 2016. This policy incorporates by reference the Part 107 Summary of Small Unmanned Aircraft Rule published by the FAA on June 21, 2016 (attached in the Appendix and available at https://www.faa.gov/uas/media/Part_107_Summary.pdf). [COMPANY] may also continue to operate UASs under an existing Section 333 Exemption, should one exist, instead of abiding strictly by the Part 107 Regulations.

NOTE: At no point should [COMPANY's] employees, contractors, or guests operate [COMPANY's] UASs outside the scope of their employment or contract.

NOTE: Nor should [COMPANY's] employees, contractors, or guests operate their own UASs on [COMPANY] property for recreational or commercial purposes without the express written authorization of their supervisor.

NOTE: [COMPANY] also encourages supervisors to look into local requirements specific to their municipality and state, as such may put stricter limits on operations than the FAA regulations and these policy statements.

I. Pilot Requirements

1. Any UAS operation by [COMPANY] must have an assigned remote pilot in command ("remote pilot") for that operation.
2. The remote pilot must hold a Remote Pilot Airman Certificate granted by the FAA.
3. If another individual will be operating the UAS for a given flight plan, a remote pilot must directly supervise that individual.
    i. NOTE: A remote pilot may only serve as pilot in command for one unmanned aircraft at a time.
4. All remote pilots must ensure they give their supervisor at [COMPANY] an up-to-date copy of their Remote Pilot Airman Certificate. It is the responsibility of each pilot to keep that certificate current.

i. It is the supervisor or other designated individual's responsibility to maintain copies of Certificates as well as related documentation confirming completion of initial and recurrent knowledge tests as required under §107.73.

5. All remote pilots must keep a copy of their certificate with them while operating UASs.
6. All remote pilots must abide by the Operating Rules listed in this policy and all other applicable rules and regulations as set forth by the FAA.

II. Aircraft Requirements

1. All [COMPANY's] UASs must be registered in accordance with FAA rules. The individual responsible for UAS procurement is responsible for registering the UAS(s) with the FAA. Copies of each UAS's registration must be given to the risk manager or other assigned supervisor.
2. All UASs must weigh less than 55 lbs (25 kgs). This includes any payload (camera or other data-collection equipment, packages, etc.).
3. In addition to the preflight inspection checklist referred to in Section III, remote pilots or other designated maintenance personnel should take care to regularly maintain UASs in accordance with manufacturer recommendations to ensure they remain in good working order.
4. All UASs should be maintained so that should the FAA make a request, [COMPANY] can present the UAS and any applicable maintenance records for testing and inspection.

III. Operating Rules

For all flights, it is [COMPANY's] policy for the remote pilot in command to create a written or verbal flight plan and review same with any visual observer or other [COMPANY] employees or contractors who will be participating or observing the operation.

The flight plan should take into account (1) the operational objective, (2) surrounding buildings and other topography, (3) weather patterns, and (4) special considerations like nearby airports, hospitals, schools, and special events. In particular concerning the policy items at Section V, Privacy Considerations, where practicable [COMPANY] encourages those involved in the operation to notify third parties who may be within or near the flight plan of the impending operations.

Part 107 outlines standard operating rules. These and other considerations are summarized below.

1. The remote pilot in command must conduct a pre-flight inspection. The remote pilot should record the pre-flight inspection via hard copy document or appropriate web-based application. (See a sample of a preflight inspection checklist at Appendix 2)
2. The remote pilot may not go forward with the operation if he or she believes that there are any physical or mental conditions, drug- or alcohol-induced or otherwise, that would interfere with the safe operation of the UAS.
3. The remote pilot must maintain visual line-of-sight at all times.
4. Where possible, a visual observer should assist in operations.
5. No operations over people unless those people are directly participating in the operation.
6. Operations within daylight hours only. [COMPANY] UASs may operate during twilight hours (30 minutes before official sunrise to 30 minutes after official sunset) if the UAS has anti-collision lighting.
7. UASs must always yield the right-of-way to other aircraft.
8. Maximum groundspeed of **100 mph** (87 knots).
9. Maximum altitude of **400 feet** above ground level.
   i. A UAS may go above 400 feet if it remains within 400 feet of a structure.
10. Operations must stay within Class G airspace – well away from airports. However, should the pilot in command determine that to perform [COMPANY] duties operations may move into Class B, C, D or within the lateral boundaries of the surface area of Class E airspace, the remote pilot must request and receive permission from the appropriate Air Traffic Controller. Please see Appendix 1 for further information.
11. Operations should also, where practicable, stay at least one mile away from heliports, including hospitals with heliports.
12. UASs may only fly when visibility is at least at 3 miles.
13. No operations from a moving aircraft.
14. No operations from a moving vehicle unless the operation is over a sparsely populated area.
15. No careless or reckless operations (e.g., no stunt flying).
16. No carriage of hazardous materials.
17. In the event of operations that lead to serious injury, loss of consciousness, or property damage of at least $500, it is the remote pilot's responsibility to make an official report to the FAA. This can be done in coordination with designated [COMPANY] supervisors or personnel.

IV. Operating Limitations – Waivers

1. All remote pilots must make sure UAV operation falls within the standard FAA Part 107 operating rules.
2. If it becomes clear that compliance with a certain or multiple of Part 107's limitations is not practical to get the full benefit of [COMPANY's] UAV usage, the remote pilot or responsible individual should bring such to the attention of the risk manager or other assigned supervisor.
3. [COMPANY] will then make an application to the FAA for a waiver for the specific Part 107 limitation.
4. Waivers are available for:

    - Operation from a moving vehicle or aircraft (§ 107.25)*
    - Daylight operation (§ 107.29)
    - Visual line of sight aircraft operation (§ 107.31)*
    - Visual observer (§ 107.33)
    - Operation of multiple small unmanned aircraft systems (§ 107.35)
    - Yielding the right of way (§ 107.37(a))
    - Operation over people (§ 107.39)
    - Operation in certain airspace (§ 107.41)
    - Operating limitations for small unmanned aircraft (§ 107.51)

    *No waiver of this provision will be issued to allow the carriage of property of another by aircraft for compensation or hire.

V. Privacy Considerations

[COMPANY] is committed to respecting the public's privacy and operate UASs in a transparent and accountable manner. [COMPANY] encourages all those involved in UAS operations to be aware of and follow the below policy points. If UAS operations are more likely than not to intentionally or unintentionally invade third-parties' privacy, the remote pilot in command should consult with the appropriate supervisor, risk manager, or legal counsel.

1. All remote pilots and other involved [COMPANY] employees and contractors must conduct UAS operations in a responsible, ethical, and respectful way.

2. Where practicable, [COMPANY] strongly encourages those involved in the operation to notify third-parties of UAS operations where such UAS operations may result in the collection of covered data concerning those third-parties.
3. Flight plans and operations should avoid collecting and storing covered data when possible.
4. Flight plans and operations where practicable should avoid third-party private property without the express permission of the property owner or operator.
5. [COMPANY] mandates that all employees use the utmost care to limit the use and sharing of covered data or other data that could infringe on a privacy interest of a third-party.
6. [COMPANY] will make an effort, and encourages its employees and contractors likewise, to secure potentially covered data or other data that could infringe on a privacy interest of a third party in the same manner as it would data not collected by UAS operations.

VI. Outside Contractors

1. The [COMPANY] representative responsible for coordinating the work of contractors who will be utilizing UASs on [COMPANY's] behalf is responsible for providing that contractor with a copy of this policy.
2. The contractor must agree to abide by the FAA's Part 107 regulations – or [COMPANY] or the contractor's Section 333 Exemption – and related policy points within this document.
3. The contractor must agree, as a part of its contract, to indemnify and hold [COMPANY] harmless from any liability stemming from personal injury or property damage arising from the contractor's UAS operations.
4. The contractor must further agree to procure adequate insurance of $____ million to protect against such liability, and provide [COMPANY] with a certificate of insurance showing [COMPANY's] additional insured status.

Helpful Links:

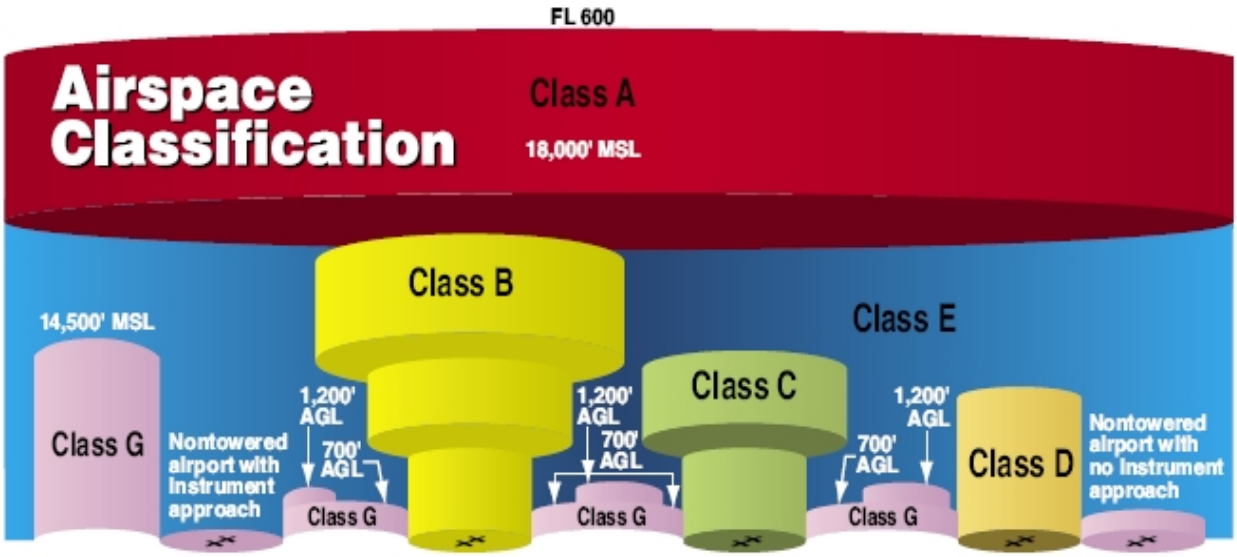
[COMPANY] encourages its employees and contractors to be knowledgeable participants in UAS operations. To that end, [COMPANY] refers employees and contractors to the below helpful links:

- FAA's general page for Unmanned Aircraft Systems information: https://www.faa.gov/uas/
- FAA Summary of Small Unmanned Aircraft Rule (Part 107): https://www.faa.gov/uas/media/Part_107_Summary.pdf
- Information on FAA's Section 333 Exemptions: https://www.faa.gov/uas/beyond_the_basics/section_333/
- FAA's Becoming a Pilot: https://www.faa.gov/uas/getting_started/fly_for_work_business/becoming_a_pilot/
- FAA's Sample Preflight Inspection Checklist: https://www.faasafety.gov/files/gslac/courses/content/451/1458/Preflight%20Inspection%20Checklist.pdf
- Privacy Concerns: the National Telecommunications and Information Administration's May 2016 report, "Voluntary Best Practices for UAS Privacy, Transparency, and Accountability" : https://www.ntia.doc.gov/files/ntia/publications/uas_privacy_best_practices_6-21-16.pdf

APPENDIX 1: Airspace Classes

As a reminder, it is [COMPANY] policy to stay within Class G airspace. If, to properly conduct [COMPANY] UAS operations, it is deemed necessary to enter Class B, C, D, or within the lateral boundaries of the surface area of Class E airspace, the pilot in command must receive prior permission from the appropriate Air Traffic Controller.

If the pilot in command, in consultation with his/her supervisor, determines that UAS operations will frequently need to enter airspace beyond Class G (or needs to otherwise go beyond the FAA Part 107 restrictions), the supervisor should work with the risk manager or other appropriate [COMPANY] employee to request a waiver from the FAA.



(Source: *FAASafety.gov*)

APPENDIX 2: FAA Sample Preflight Inspection Checklist

Part 107 Small Unmanned Aircraft Systems (sUAS)

Sample Preflight Inspection Checklist

Even if the small unmanned aircraft system (sUAS) manufacturer has a written preflight inspection procedure, it is recommended that the Remote Pilot in Command (Remote PIC) ensure that the following inspection items are incorporated into the preflight inspection procedure required by part 107 to help the Remote PIC determine that the sUAS is in a condition for safe operation.

Conduct a preflight visual or functional check of the aircraft, including (but not limited to) the steps below.

- ☐ Visually inspect the condition of the unmanned aircraft system components
- ☐ Inspect the airframe structure, including undercarriage, all flight control surfaces and linkages
- ☐ Inspect registration markings for proper display and legibility
- ☐ Inspect moveable control surface(s), including airframe attachment point(s)
- ☐ Inspect servo motor(s), including attachment point(s)
- ☐ Inspect the propulsion system, including powerplant(s), propeller(s), rotor(s), ducted fan(s), etc.
- ☐ Verify all systems (e.g. aircraft, control unit) have an adequate energy supply for the intended operation and are functioning properly
- ☐ Inspect the avionics, including control link transceiver, communication/navigation equipment and antenna(s)
- ☐ Calibrate UAS compass prior to any flight
- ☐ Inspect the control link transceiver, communication/navigation data link transceiver, and antenna(s)
- ☐ Check that the display panel, if used, is functioning properly
- ☐ Check ground support equipment, including takeoff and landing systems, for proper operation
- ☐ Check that control link correct functionality is established between the aircraft and the control station
- ☐ Check for correct movement of control surfaces using the control station
- ☐ Check on board navigation and communication data links
- ☐ Check flight termination system, if installed
- ☐ Check fuel for correct type and quantity
- ☐ Check battery levels for the aircraft and control station
- ☐ Check that any equipment, such as a camera, is securely attached
- ☐ Verify communication with UAS and that the UAS has acquired GPS location from at least 4 satellites
- ☐ Start the UAS propellers to inspect for any imbalance or irregular operation
- ☐ Verify all controller operation for heading and altitude
- ☐ If required by flight path walk through, verify any noted obstructions that may interfere with the UAS
- ☐ At a controlled low altitude, fly within range of any interference and recheck all controls and stability

Adapted from: Advisory Circular 107, *Small Unmanned Aircraft Systems* (as amended)

Current as of: May 2016

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