Operating Unmanned Aerial Systems (UAS) on University-Owned or University-Managed Property

Enacted: 1 December 2013
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NOTE: This policy only addresses university research applications of sUAS. For non-research applications and permissions (marketing, public affairs coverage of events, work related use of sUAS on campus), contact Kevin Leach (kleach@ou.edu) in the OU Office of Risk Management.

Abbreviations:

- **FAA** - Federal Aviation Administration
- **OVPRP** - Office of the Vice President for Research and Partnerships
- **NAS** - National Airspace System
- **COA** - Certificate of Authorization (granted by the FAA for airspace use in the NAS)
- **sUAS** - small Unmanned Aerial System *under 55 lbs
- **KAEFS** - Kessler Atmospheric and Ecological Field Station

1. Background

The Federal Aviation Administration (FAA) has jurisdiction over all navigable airspace in the United States. The FAA's primary mission is to ensure the safe and efficient oversight and management of the national airspace system (NAS). Any operation of aircraft that endangers public safety, either on the ground or in the air, is prohibited by the FAA. Violations can carry very stiff federal penalties.

All aircraft whether manned or unmanned (sUAS) are subject to FAA rules and regulations. The FAA classifies all aircraft as belonging to one of two categories: public or civil. As stated by the FAA, a public aircraft is one that is only for the U.S. government or owned and operated by the government of a state, the District of Columbia, or a territory or possession of the U.S. or a political subdivision. Any aircraft that doesn't meet the definition of a public aircraft is considered a civil aircraft.

In terms of hobby and recreational operation of unmanned aircraft, Section 336 of the modernization act also includes a requirement that when the hobby or recreational aircraft is flown within 5 miles of an airport, the operator must provide the airport operator/manager prior notice. It is important to remember that the entire University of Oklahoma Norman campus lies within a 5-mile radius of Max Westheimer Airport (KOUN) and therefore is subject to this clause.

In order for public universities to operate sUAS for research purposes, they must apply for and be granted a Certificate of Authorization (COA) from the FAA to enable limited operation of unmanned aircraft in the NAS1. Note that COAs are granted to the university, not to individuals. Furthermore, COAs are only available to government agencies or public entities for operations that are considered public aircraft operations.

The FAA publishes specific guidance for other sUAS operations: (for education; for commercial uses; for recreation, etc. Simply go the FAA sUAS website). Because UAS are becoming an important tool for many different types of research, it is necessary for the University of Oklahoma Norman campus to formalize processes to manage UAS operations, ensure full compliance with all state and federal laws and regulations, and ensure all university operations are covered by OU/state insurance via the OU Office of Risk Management. The policy described herein ensures that the university has clear lines of authority and well-defined internal

processes to identify, manage, and mitigate risk, and thus ensure safe and legal operation of sUAS in furtherance of its institutional goals and objectives.

This policy applies to university faculty, staff, and students using or proposing to use sUAS for purposes that are part of their official university research activities. Any faculty, staff, or students operating sUAS for hobby or recreational purposes should consult the local chapter of the Academy of Model Aeronautics (AMA) to locate an AMA-sanctioned location where such sUAS use is approved.

Additionally, **this policy applies only to sUAS operations on/over property owned or managed by the University of Oklahoma.** For operations on other property, contact the Office of the OVPRP (405-325-3806).

2. Overview of COA Process

Because of the potential legal and risk management issues involved in managing a COA, faculty, staff, and students on the University of Oklahoma Norman campus who wish to pursue a COA application for research purposes must complete a three-step process. Prior to beginning this process, it is strongly recommended that the applicant consult with Melany Dickens-Ray (mdickens@ou.edu), Associate Vice President for Research and Partnerships, to ensure a smooth and timely application process. It is also recommended that the applicant review the FAA's most recent UAS FAQ and information online at https://www.faa.gov/uas/resources/faqs.

- The **first step** involves completing a narrative, not to exceed two single-spaced pages and submitted to the Vice President for Research and Partnerships, that BRIEFLY describes the following: (a) the nature (research, instruction, other) and goals of the work to be undertaken, (b) the need for unmanned aerial system(s) (UAS), (c) the type of vehicle(s) to be utilized and the manner in which it/they will be operated, (d) the schedule of activities to be undertaken, and (e) the sources and nature of financial support, if appropriate. Much of this information is required for the COA application and can be extracted from it. It is also recommended that the faculty member meet with the OU Aviation Department prior to initiating the checklist to discuss issues such as airworthiness, training, and access to requisite personnel such as qualified visual observers and pilot/operators.

- The **second step** involves completing an internal application checklist (see below) to ensure that appropriate steps have been taken to safely operate a UAS within the COA framework and to manage and mitigate all associated risks. **Note that the internal application checklist must be completed for each new COA application.**

- The **third step** involves completing and submitting the online FAA COA application. **Be aware that a new COA application must be submitted for each aircraft to be operated in a specific air space.** Also, because the COA is held by the university, not by individuals, the Office of the Vice President for Research and Partnerships Norman campus is the university office responsible for coordinating the submission of and serving as the formal custodian for all OU COAs, regardless of their application area (research, education, outreach). **The Norman campus Vice President for Research and Partnerships has final approval and oversight over all matters involving Norman campus COAs.**

3. COA Advisory Committee

The Vice President for Research and Partnerships will chair an Advisory Committee to assist in the development of university policies and procedures regarding COAs. Membership will include, at a minimum, individuals from the following Norman campus offices/organizations: Senior Vice President and Provost, Vice President for Research and Partnerships, Export Controls, Technology Development, Aviation, Risk

Management, Faculty Senate, and Legal Counsel. The committee will meet at least once per year and at other times as needed, and will serve in other capacities as noted below.

4. Internal COA Application Checklist

No COA application involving University of Oklahoma personnel, land, airspace, or technologies may be submitted until **ALL** of the items shown in the checklist below have received appropriate sign-off from the entities listed **AND** until final overall approval is received from the Vice President for Research and Partnerships. It is the responsibility of the individual faculty, staff, or student seeking the COA to coordinate completion of the checklist for that COA. In situations where a COA application is being sought for airspace over land not owned by the university, an MOU between the university and the landowner must be negotiated or other arrangements made prior to the submission of the completed checklist to the Vice President for Research and Partnerships. The Office of Legal Counsel must approve such arrangements.

5. Process for Submitting the COA (After Internal Checklist Is Completed and Approved)

The Office of the Vice President for Research and Partnerships will maintain a repository of successful COA applications for new applicants to consult. The same office will also attempt to answer questions related to the COA process and direct COA applicants to other personnel who may be able to provide additional guidance. However, as noted above, faculty, staff, and students proposing to fly a UAS are responsible for completing the internal COA checklist and drafting the FAA COA application. The VPRP's office will serve as the formal contact for all COA technical matters.

Once a completed FAA COA application has been drafted by the faculty and/or staff member requesting the COA, it must be reviewed and approved by the Office of the Vice President for Research and Partnerships. The COA Advisory Committee may be consulted as part of that review. The Vice President for Research and Partnerships and/or Advisory Committee will provide advice, as appropriate, to strengthen the application, mitigate institutional risk and liabilities, and expedite FAA approval.

The Office of the Vice President for Research and Partnerships, on behalf of the university, will officially submit all COA applications. Additionally, the Office of the Vice President for Research and Partnerships will maintain oversight for the execution of COAs held by the university. The Advisory Committee will periodically review university-held COAs and assist in revising, as necessary, the university's COA policy. Any problems arising from the operation of a university-held COA must be promptly reported, as noted in the checklist.

University of Oklahoma Norman Campus COA Checklist

Updated: 17 February 2022

Each item in the checklist listed below must be formally approved in writing (email is acceptable) by an appropriate official representing each department or office prior to submission to the Vice President for Research and Partnerships (OVPRP) point of contact (currently Ken Carson kencarson@ou.edu). It is the responsibility of the faculty, staff, or student organizing a COA application to complete each step by contacting each department or office. However, the OVPRP POC will assist and guide faculty in completing the checklist (contact Ken Carson; kencarson@ou.edu)

***Items in this checklist can be addressed in parallel; there is no requirement for accomplishing the items in sequence.**

Item 1: Review/assessment of sUAS vehicle airworthiness certificate or self-certification (Aviation Department signoff, Ken Carson contact, alternates Eric Metoyer, George Hicks).

Item 2: The full legal name and FAA licensure information of the (or all) duly licensed pilot(s), holding an FAA authorized medical certificate, who will serve as the Pilot in Command for COA activities covered by the application (OU Aviation Department signoff, Ken Carson contact, Eric Metoyer or George Hicks alternate). Provide scanned copy of medical certificate to POCs.

Item 3: Prior to beginning operations, assuming the FAA COA is approved, appropriate insurance coverage will be obtained and be in place prior to operation through the OU Department of Campus Safety (Department of Campus Safety signoff, Kevin Leach or office staff).

OU Risk Mgt will need to know:

- ***Vehicle name and manufacturer (if turnkey)***
- ***number of engines***
- ***fixed wing or copter***
- ***total weight***
- ***max forward airspeed capable***
- ***lights on vehicle?***
- ***Each PIC will need to fill out an insurance operator form***
- ***Each PIC will need to scan and send their FAA license to OVPRP POC kencarson@ou.edu***

Item 4: For Operations at KAEFS - Burn ban plan in place (POC signoff, Meghan Bomgaars or official responsible for other OU COA operational locations being proposed).

Item 5: Plan in place for notifying all local landowners in the over-flight radius of planned operations each time the UAS is flown (KAEFS Director signoff, Meghan Bomgaars or official responsible for any other OU COA location being proposed).

For operations within 5 miles of any airport – OVPRP POC will coordinate/communicate with airport manager and if Class D, C, B – FAA ATC.

Item 6: Flight plan to ensure that no trespass of private property will occur and that flights do not create a nuisance (noise, hazard or concern) for any properties in place (KAEFS Director signoff, Meghan Bomgaars or official responsible for any other OU COA location being proposed).

If there are any issues during operations, the PIC must contact OVPRP POC via cell phone, 405-306-7687.

Item 7: Plan in place to notify and provide OU Marketing with contact information upon approval of FAA COA and agreement that **any public communications** in regard to such OU research activity will be coordinated with OU Marketing office (Public Affairs signoff, TBD).

Item 8: Plan in place for integrating COA activity so that it does not disrupt non- sUAS research performed at COA site (typically this is KAEFS, KAEFS Director signoff, Meghan Bomgaars or official responsible for any other OU COA location being proposed).

Item 9: Plan in place for coordinating COA activities with local fire and police agencies (KAEFS Director signoff, Meghan Bomgaars, or official responsible for any other OU COA location being proposed).

Item 10: Written affirmation from responsible faculty representative in place that the COA will be used only for noncommercial, research purposes (send written [email] confirmation to VPRP POC signoff, Ken Carson).

Item 11: Export Control review and approval of application completed (Export Control signoff, Andrew Reader).

Item 12: Affirmation in place that any complaint against the COA activity will immediately be reported to OVPRP POC Ken Carson via cell phone, who will in turn inform OU sUAS Advisory Committee and OVPRP POC (Communication facilitation between Faculty Rep and OVPRP rep Ken Carson POC).

Item 13: Affirmation in place that any sUAS flight incidents, accidents, or damage related to sUAS flight in COA activity **will be reported immediately** following the Incident Reporting Procedure. (VPRP signoff, Ken Carson POC).

Item 14: Applicant represents, warrants, and certifies that at all times, all applicable laws shall be complied with (Faculty Rep email to sUAS Committee OU Legal POC); Legal Counsel signoff.

Item 15: To the extent that surveillance is to be deployed pursuant to a COA, a special notification will be sent and reviewed by the VPRP Office (Ken Carson) and the Office of Legal Counsel before a COA application can proceed.

Item 16: Prior to beginning operations (assuming the COA is approved), the pilot in command and research project director must complete Environmental Health and Safety Office Hazard Communication/General Safety training (Chris Snider, University Environmental Health & Safety Officer).

Item 17: Final approval by the Norman Campus OVPRP that all required items on this checklist have been satisfied with appropriate signoff (Assoc. VPRP Melany Dickens-Ray).

Faculty Research Representative: _____
Date:

OVPRP sUAS POC: Ken Carson: _____
Date:

OVPRPP coordination with OU sUAS Committee & Committee Approval: _____
Date:

OVPRPP Assoc. VPRP Approval: Melany Dickens-Ray: _____
Date:

Addendum 1 - Utilizing OU's "Blanket COA"

The FAA granted a “blanket COA” to OU in April 2016 that allows operation of small UAS (less than 55 lbs) at altitudes under 400 ft and in “Class G” airspace. Although the blanket COA expedites access to flight operations and reduces the number of applications that OU must submit to the FAA, it does not change OU’s internal responsibilities for safety and risk oversight.

Depending on the particular research operation application/scenario, the COA oversight process is amended as follows:

Scenario 1. For research projects that require altitudes above 400 ft or for any flight operations other than Class G airspace, OU will be required to submit a new COA application and our existing process (Items 1-16) will be followed “as is.” The “blanket COA” is not applicable to this scenario.

Scenario 2. For new research projects (or new researchers), the COA process (Items 1-16) should be followed as is with no changes. The only difference is that at the end of the process, OU is not required to submit a new COA application to the FAA.

Scenario 3. If a researcher changes or adds a vehicle to an existing research project and the vehicle is in roughly the same size and weight class, the following items will need to be reviewed from the checklist:

- Export control approval and check (Item 11)
- Airworthiness checks (Item 1)

Scenario 4. If a researcher adds a new vehicle to an existing research project, but the new vehicle differs significantly from an existing vehicle, i.e., changing from a 5lb vehicle to a 50lb vehicle, the following checklist items will require a review:

- Export control approval and check (Item 11)
- Airworthiness check (Item 1)
- Risk management approval (Item 3)

Scenario 5. If a researcher adds a new location to a project, but the research focus and vehicle remain the same, the following items will need to be reviewed:

- Land use agreements (Item 5, Item 6, Item 8, Item 13)
- Risk Management (Item 3, Item 4)
- Approval by OU Public Affairs (Item 7)

Addendum 2 - Utilizing FAA "Part 107" Rules

In order to use the FAA's Part 107 rules (14 CFR Part 107), the process will be similar to the "blanket COA" process, with the following differences:

1. The UAS operator must possess an FAA Part 107 license (called a "remote pilot airman certificate with a small UAS rating")
2. Visual observers are optional (at the discretion of the operator)
3. All operations must follow Part 107 requirements (altitude, airspeed, etc.)
4. For any research operation of UAS on OU Norman campus property, the operator must also follow the general OU campus UAS operations policy.
5. PICs should follow sUAS OU Standard Operating Procedures as articulated in the OU sUAS Standard Operations Procedures handbook (available from OVPRP POC)
6. PICs will attend an annual sUAS operations safety / risk mitigation meeting typically held each January.

For "commercial off-the-shelf" (COTS) platforms that are "ready to fly," no airworthiness check or examination is required if the gross system take-off weight is 5lbs or less. For all other UAS, an airworthiness inspection and sign-off are required.

It is strongly recommended that researchers become familiar with the general FAA requirements for UAS/sUAS operations prior to submitting any university requests. The latest FAA information can be found at https://www.faa.gov/uas/.

Depending on the particular research operation application/scenario, the COA oversight process is amended as follows to address Part 107 operations:

Scenario 1. For research projects that require operating altitudes above 400 ft (above ground level) or for any flight operations other than in Class G airspace, OU will be required to submit a new COA application (or seek a Part 107 "waiver" from the FAA) and our existing process (Items 1-16) must be followed as is.

Scenario 2. For new research projects (or researchers who are new to OU), the COA process (Items 1-16) must be followed as is with no changes. The only difference is that at the end of the process, OU is not required to submit a new COA application (if applicable) to the FAA. This applies to both Part 107 or COA operations.

Scenario 3. If a researcher changes or adds a vehicle to an existing previously approved research project and the vehicle is in roughly the same size and weight class as vehicle(s) already approved for the existing COA, the following items will need to be reviewed from the checklist:

1. Export control approval and check (Item 11)
2. Airworthiness checks (Item 1)

Scenario 4. If a researcher adds a new vehicle to an existing previously approved research project but the new vehicle differs significantly from an existing vehicle already approved for the COA, i.e., transitioning from a 5lb vehicle to a 50lb vehicle, the following checklist items will require a review:

1. Export control approval and check (Item 11)
2. Airworthiness check (Item 1)
3. Risk management approval (Item 3)

Scenario 5. If a researcher adds a new location to a project but the research focus and vehicle remain the same, the following items will need to be reviewed:

1. Land use agreements (Item 5, Item 6, Item 8, Item 13)
2. Risk Management (Item 3, Item 4)
3. Approval by OU Public Affairs (Item 7)

NOTE: Any other scenario not explicitly addressed in this Addendum may be considered upon a written request to the VPRP office. It is recommended that the researcher/staff member contact Melany Dickens-Ray (mdickens@ou.edu) prior to submitting the request to discuss the specific requirements and options.