

UAS Policy

Appendix A: May 12, 2016 FAA Guidance on Educational Use of UAV's

May 12, 2016

Re: FAA Interpretation Concerning "Educational Use" of Unmanned Aircraft Systems (Drones)

New FAA Interpretation

On May 4, 2016, the FAA issued a regulatory interpretation memo addressing the subject of "Educational Use of Unmanned Aircraft Systems (UAS)." The memo attempts to clarify who can operate a UAS at an educational institution and the conditions of operation.

Under this interpretation, students can now operate a UAS in conjunction with a large variety of (but not all) classes and courses, without having to obtain formal FAA approval. Any such student operation, however, must still conform with the rules applicable to model aircraft operations. Additionally, there can be no kind of compensation that relates, directly or indirectly, to the student's operation of the UAS.

Here are the memo's key points.

Significant Change for Students

(a) Students **can** operate a UAS without formal FAA authorization as a component of a science, technology or aviation related course or class, or a course or class related to television and film production or the arts in general.

Note: This does not appear to apply to UAS specific courses or classes, that is, courses or classes whose entire purpose is to teach UAS flight instruction, design, etc. It appears that operation of a UAS as part of such a course or class still requires formal FAA authorization.

(b) The student's operation must comply with the FAA's rules for model aircraft operations.

Note: As a reminder, the model aircraft rules require, among other things, that (i) the UAS be operated within an established set of safety guidelines, (ii) the UAS be flown within the operator's visual line of sight, and (iii) any operation within 5 miles of an airport or heliport be cleared beforehand with the facility.

(c) The student cannot receive, directly or indirectly, any form or type of compensation that relates to his/her operation of the UAS. This includes grants, sponsorships, honorariums and cost reimbursement agreements.

Note: General financial aid and work-study are **not** considered compensation.

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Note: A student who operates a UAS as part of or in connection with a faculty member's research activity, university research or university business is considered as being compensated. Any such UAS operation still requires formal FAA authorization.

Not Much Change for Faculty

(a) Faculty **cannot** operate a UAS without formal FAA authorization as part of a class or course. In general, faculty still must obtain formal FAA authorization to operate a UAS.

(b) Faculty **can**, without formal FAA authorization, provide "limited assistance" to students who are operating a UAS as part of the class or course. "*De minimis* limited" faculty participation in a student's UAS operation is permissible and allowable.

Note: The memo does not define the terms "limited assistance" or "*de minimis*", nor does it provide examples of what sort of participation would fit. Presumably, activities such as helping a student land a UAS, or helping a student regain control, or ensuring that the student comports with the model aircraft rules would be considered minor in nature.

No Real Change for Pure Hobbyists

(a) Pure hobbyists can, without formal FAA authorization, operate a UAS at or on educational institutions. The hobbyist cannot receive, directly or indirectly, any form or type of compensation. The operation must comply with the model aircraft rules.

(b) Activities that qualify as a hobby or recreational use include flying a UAS to promote the safe use of UAS or to encourage interest in aviation as a hobby or recreational activity.

Appendix B: June 13, 2014 FAA Clarification on Educational Use of UAV's

Federal Aviation Administration

Memorandum

Date: 13 June 2014
To: James Williams, Manger, UAS Integration Office, AFS-80
From: Mark W. Bury Chief Counsel for International Law, Legislation and Regulations, AGC-200
Prepared by: Karen L. Petronis, Senior Attorney for Regulations, AGC-210
Subject: UAS Operations by Public Universities for Aeronautical Research

This responds to your memo of March 2013 requesting clarification of allowable operations of Unmanned Aircraft Systems (UAS) by state universities authorized as operators of public aircraft. More specifically, you request a clarification of the provisions on commercial purpose

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and governmental function under 49 USC 40125(a)(1) and (2). In this memorandum, we are addressing the use of UAS by public universities to conduct aeronautical research.

For purposes of this analysis, we presume the following:

- UAS are aircraft and are subject to the public aircraft statute just as manned aircraft.
- Provisions of the statute regarding flight crewmembers and qualified non-crewmembers are not applied to UAS analysis.
- The statutory prohibition on compensation is interpreted broadly, based on a concept of non-competition with civil entities, and is as stated in Paragraph 10.c. the Public Aircraft Operations Advisory Circular AC OO-1.1A.¹
- Public aircraft operations are generally not subject to the regulations in 14 CFR Chapter I except those that affect all aircraft, such as air traffic operations. Public aircraft UAS COAs are issued to provide a means to operate a UAS in accordance with 14 CFR 91.113.

The current unavailability of routine civil operation of UAS has caused a considerable rush by government entities to qualify as public aircraft operators and be the sole source for near-unregulated UAS operations. In doing so, those entities may not have been aware that the window of opportunity provided by the public aircraft statute also comes with significant restrictions.

The specific question raised by your request is whether some UAS operations by a university may qualify as aeronautical research under the description of "governmental function" under §40125, and whether the funding of such research, when made by a grant to an educational institution, rises to level of prohibited compensation to conduct a public aircraft operation.

We are not prepared to say that the use of a UAS by a governmental entity to conduct 'research' of any kind qualifies as a governmental function under § 40125, thereby allowing it to be done under a public aircraft VAS CGA. The public aircraft statute's description of governmental function includes the term "aeronautical research." We do not interpret this term to encompass any research conducted using an aircraft (manned or unmanned). If Congress meant all research, that term could easily have been included without modification and would have included any research conducted by a government entity for any reason (provided it did not have a commercial purpose).

We interpret the term "aeronautical research" in a more limited sense to include research about aircraft, as the statute by its nature includes federal entities that carry on such research as their daily activities, such as the National Aeronautics and Space Administration, and the parts of the U.S. military that develop aircraft as their function. The term "aeronautical research" would have at its core the development of aircraft and systems. For VAS, we interpret the term as research and testing of the aircraft themselves, the control systems, equipment that is part of the aircraft (such as sensors), flight profiles, or development of specific functions and capabilities for them.

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In our opinion, expanding the types of research that may be conducted using a public aircraft beyond the categories of aeronautical research described would not be consistent with the intent of §40125. Therefore, a research program to design a VAS to evaluate the capabilities of an unmanned aircraft for soybean field monitoring could be considered aeronautical research, whereas using an off-the-shelf VAS - as opposed to some other available means - to monitor moisture levels in a soybean field as part of an agricultural research project would not qualify as aeronautical research.² If a research project does not have at its core the development of the aircraft and aircraft systems and uses, but rather focuses on the thing being observed or monitored using an aircraft, then it is not aeronautical research. Non-aviation research that incidentally uses an aircraft does not qualify as aeronautical research, and would need another governmental function before it would qualify as a public aircraft operation.

A state university with a VAS public aircraft COA could use its COA for aeronautical research if such research is the state's intended mission. The findings of the research would have to belong to the state regardless of the source of funding, including research grants from private entities. To find otherwise would mean a private entity could pay a state university to operate a public aircraft to conduct aeronautical research solely for the private entity's benefit. The provision of funding under this scenario would constitute compensation for the operation of the public aircraft. In the case of UAS, a private entity might use such a funding arrangement to enter into a partnership with a public university solely to get the benefit of the university's COA.³

The public aircraft statute exists to free governments from regulation, not to confer a benefit on government entities that is unavailable to civil operators. There is no new operational authority that can be read into the public aircraft statute simply because a government entity is the operator. The public aircraft statute and UAS COAs do not exist to create a loophole of exclusive operation, or allow state universities to become exclusive providers of certain aircraft operations by any entity willing to fund them as 'research.' Consideration of whether a UAS is easier, cheaper, or arguably safer than a larger manned aircraft in a given application does not factor into the analysis of whether the operation constitutes a valid public aircraft operation. Neither utility nor novelty alone create a governmental function to support the operation of a public aircraft.

Accordingly, government entities, including qualified state educational institutions, may use a UAS to conduct aeronautical research as public aircraft operations as outlined above. Such aeronautical research may be funded by a grant (without being a commercial purpose) provided that the results of the research belong to the state (university) and the research does not carry the property of another (including the entity funding the grant). Other types of research that are simply conducted using an aircraft and that do not meet one of the other functions in 49 USC 40125 (a)(2), (or a reasonable expansion of a listed function) do not qualify as public aircraft operations, and COAs should not be granted when permissible purposes are not stated as the intended use.

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¹ What Constitutes a "Commercial Purpose" that Removes Someone from PAO Status? In general, the FAA interprets the commercial purpose prohibition in 49 U.S.C. § 40125(a)(1) to mean that there can be no type of reimbursement to government entities for PAO, except under the one set of specific circumstances described in that section. Specific instances of whether an operation has a commercial purpose may be submitted for interpretation to the FAA Office of the Chief Counsel, International Law, Legislation, and Regulations Division (see Appendix 2). As detailed in Paragraph 8 above, a government entity may contract with a private operator (and pay that operator) to conduct a PAO on behalf of the government entity. The statutory prohibition on commercial purpose prevents a government entity from getting paid or reimbursed to operate a PAO, not for paying for contracted services.

² Similarly, using an aircraft in the day-to-day activities of an agricultural extension service, if not related to development of an aircraft, would also not qualify as a governmental function.

³ These limitations on funding arrangements would not, however, apply if a public university or other government entity accepted grant funding to operate a civil aircraft. It is only when a government entity seeks to use an unregulated public aircraft that these restrictions arise under the statute.