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Purpose

In order to provide for the health, safety and welfare of all persons on property owned or controlled by Washington University in St. Louis (WUSTL), the following rules are established to control the use of unmanned aircraft systems (drones) and other flying devices by University faculty, staff, students, contractors and visitors.

In addition, WUSTL must comply with FAA requirements, state law, and any other locally applicable laws or regulations regarding unmanned aircraft systems. Inherent risks in the operation of such equipment require additional insurance provisions and policy considerations.

The operation of unmanned aircraft systems including drones and model aircraft is regulated by the Federal Aviation Administration (FAA) and relevant state law.

Definitions of UAS/Drone All-inclusive

In addition to UAS as defined by the Federal Aviation Administration (FAA), the University applies like interpretations for remote control and free-flight drones, helicopters, airplanes, mechanically propelled or propellant guided balloons, and rockets in this policy, as their safety and compliance risks are similar.

- **Certificate of Authorization or Waiver (COA):** According to the FAA, the COA is an authorization issued by the Air Traffic Organization to a public operator for a specific UAS activity. After a complete application is submitted, FAA conducts a comprehensive operational and technical review. If necessary, provisions or limitations may be imposed as part of the approval to ensure the UAS can operate safely with other airspace users. In most cases, FAA will provide a formal response within 60 days from the time a completed application is submitted.

- **Model Aircraft:** Model aircraft are considered UAS and viewed differently by the FAA than other UAS and have different regulations. Model aircraft operations are for hobby or recreational purposes only and are not for business purposes. Model Aircraft should be flown only in designated areas, fly no higher than 400 feet, be within eyesight of the operator at all times, not intentionally flown over unprotected persons or moving vehicles and remain at least 25 feet from individuals and vulnerable property. Statutory parameters of a model aircraft operation are outlined in Section 336 of Public Law 112-95 ([http://www.faa.gov/uas/media/Sec_331_336_UAS.pdf](http://www.faa.gov/uas/media/Sec_331_336_UAS.pdf)). Use of a UAS related to the university does not qualify as model aircraft.

- **University Lands:** University lands means all real property owned by, leased by, or otherwise subject to the control of the Board of Regents.

- **Unmanned Aircraft Systems (UAS):** A UAS is the unmanned aircraft and all of the associated support equipment, control station, data links, telemetry, communications and navigation equipment, etc., necessary to operate the unmanned aircraft. A UAS may have a variety of names including drone, unmanned aircraft vehicle, unmanned aircraft, quadcopter, quadrotor, etc. FAA regulation applies to UAS regardless of size or weight.
- Small Unmanned Air Systems (sUAS): Small unmanned aircraft means an unmanned aircraft weighing less than 55 pounds on takeoff, including everything that is on board or otherwise attached to the aircraft.

Use and Operation of UAS

Unmanned aircraft systems as defined in this policy may only be used on property that is owned by the University, or on property leased to the University, and they may only be used inside of buildings owned by the University or inside of buildings or structures leased to the University, under the following circumstances. (These requirements also apply to all University affiliated programs conducted off-campus, regardless of whether the University owns the space or land in question, or said space or land is leased to the University from a third party.):

- University research and educational programs that meet all FAA, federal, state and local codes and regulations, and University safety requirements (as prescribed by the Office of Environmental Health and Safety, and approved by the Office of Insurance & Risk Management). Research and education programs should provide proof of FAA approval along with an operating plan (described below) to either the Office of the Vice Chancellor for Research or the Office of the Provost, respectively. Research use of unmanned aircraft systems must be approved in writing through the Office of the Vice Chancellor for Research (OVCR). Educational uses of unmanned aircraft systems must be approved in writing by the Office of the Provost.

- Facilities and operations such as power plant stack structural safety and emissions inspections, which meet all FAA, federal, state and local codes and regulations, and University safety requirements, and are approved in writing by the Office of the Executive Vice Chancellor for Administration.

- Law enforcement, including Washington University Police Department (WUPD) and/or Medical School Protective Services, program use of a UAS in execution of search warrants or as part of a tactical response to an immediate threat is always authorized, subject to applicable laws and government regulations.

- WUPD and Medical School Protective Services use of UAS involving WiFi reception near, or aerial photography of residences or points of public congregation, outside of instances authorized by search warrant or in tactical response to immediate threats must be approved by the Office of the Executive Vice Chancellor for Administration and must meet all FAA, federal, state and local codes and regulations, and University safety requirements.

- Central Fiscal Unit and/or Medical School approved public affairs efforts, such as creation of University promotional materials that meet all FAA, federal, state and local codes and regulations, and University safety requirements, and are approved in writing by the Office of the Executive Vice Chancellor for Administration.
Third parties UAS Requests:

Third Party entities planning to use a UAS over University property must obtain approval from the University’s UAS review team (defined below in the Grievances section), provide proof of FAA approval, must be under a contract that defends, indemnifies and holds the University harmless from damage to University property or other resulting claims of any kind, must follow University safety requirements, and must provide insurance as required by the Office of Insurance and Risk Management. (An example includes University construction contractors who have all appropriate FAA licenses and/or exemptions, who wish to use drones with WiFi reception and/or aerial photography to monitor construction projects on University property.) Third parties must provide an operating plan to the University review team.

Recreational UAS Use:

At this time, the University is not allowing the use of “Micro” classified UAS for hobby, non-commercial use, as defined by the FAA in their draft regulation; however this may change once FAA regulations are finalized.

Micro UAS in current draft FAA regulation are defined as weighing under 4.4 pounds (2 kilograms), made of frangible material which breaks apart when striking a person to avoid injury, are allowed to be only flown to a maximum altitude of 400 feet above ground level, can only operate in FAA “G-class” airspace and not within five (5) miles of an airport, only operated during daylight hours, must be under continuous visual control of the operator, and a FAA operator certificate is required.

UAS operations Plan:

A proposed operations plan (Appendix C) is required to be submitted prior to the use of a UAS and approved.

- Equipment to be used,
- Proposed dates and times,
- Locale(s) including the resident or temporary populations therein,
- Purpose of the operation,
- The identity of the pilot(s) or other remote operator(s)
- All forms of data (including imagery) to be collected and how such data is to be used,
- Advance notification process to alert responsible and impacted University parties, and local city/county officials (if needed or requested by the University review team), so University members and neighbors will be made aware of upcoming flights,
- Proof of insurance and indemnification of the University, if third party,
- Current status of any required licenses or permissions, and
- Provisions for security of the equipment, both during and outside the operation, and of any sensitive data collected.

The University review team may issue a one-time approval or a blanket approval may be issued for routine, multiple, or regularly scheduled flights, however blanket approved operators must update and resubmit their operating plan in advance if there are going to be any changes from the previously approved plan, including but not limited to, changes in dates, times, locales, purpose,
equipment used, identity of pilots and remote operators, security, notifications and required licenses and/or permissions. The UAS operating plan, in addition to being submitted, must be presented to the Provost’s Office or the Office of the Executive Vice Chancellor for Administration for approval for research-teaching or facilities-safety-security-Public Affairs operations, respectively.

Any operation of an UAS on University property for any purpose shall require the prior filing, minimum of one week, of an UAS operating plan with either the Washington University Police Department (WUPD) for operations on the Danforth Campus and its associated properties, or the Office of Protective Services for operations on the Medical School Campus and its associated properties.

Sanctions

Violations of this policy will be handled by the respective judicial or performance review boards for faculty, staff and students, being the Advisory Committee on Tenure and Academic Freedom, Human Resources, and the Office of Student Conduct, respectively. Violations resulting in a fatality or serious injury, or repeat violations, may result in performance sanctions up to and including suspension and termination.

Grievances

Decisions by the University review team, comprised of representatives from WUPD or Medical School Protective Services, Environmental Health & Safety (EH&S), Office of Insurance and Risk Management, and Facilities Planning and Management or Facilities Management Department, are advisory to the Executive Vice Chancellor (EVC) for Administration for non-research and non-education uses of UAS, and grievances may be directed to the EVC for Administration. Decisions by the University review team on research or education uses of UAS are advisory to the Office of the Vice Chancellor for Research and the Office of the Provost, respectively, and grievances may be directed to those offices.

Resources

Federal Aviation Administration – Unmanned Aircraft Systems and related security waiver requirements
(Note: FAA approvals for experimental certificates typically take 60 to 90 days to receive, but can take up to one year or more, depending on circumstances.)

https://www.faa.gov/uas/
Appendix A: Unmanned Aircraft Request Process

WUSTL Faculty and Staff sUAS “Drone” Request

Step I: Complete WUSTL UAS (Drone) Use Application and send to Environmental Health and Safety: ehs@wustl.edu

WUSTL Drone Use Application

Step II: Register Small Unmanned Aircraft with the FAA. “Click” on link below to access the FAA registration site.

https://registermyuas.faa.gov/

Step III. Follow the FAA Small Unmanned Aircraft Rule - Part 107 requirements

Step IV. Contact the Office of Environmental Health & Safety (EH&S) 314-362-6816 for coordination and approval.

Third Party UAS “Drone” Request on WUSTL Campuses

The third party UAS user is required meet all FAA requirements to operate an UAS to complete the following information prior to operating a UAS on WUSTL campuses:

Step I. Complete and submit the WU operating plan submission (Appendix A).

Step II. Complete and sign the WUSTL UAS consent form agreement (Appendix D)

Step III. After forms are complete, send copy to ehs@wustl.edu
Appendix B: sUAS Operational Limitation Checklist

The following are operational limitations required by the FAA:

- The UA shall not be flown at an indicated airspeed exceeding 87 knots. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.

- The UA shall only be operated below 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

- The UA shall be operated within VLOS of the PIC and VO (unaided by a device other than corrective lenses).

- All operations will use a VO. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC will be able to communicate verbally at all times.

- The PIC will be designated prior to the flight and the PIC designation will apply for the duration of the applicable flight.

- The PIC is responsible for ensuring that the VO can perform the required functions.

- Any time the UA is operating, all documents required under 14 C.F.R. § 91.9 and § 91.203 shall be available to the PIC at the GCS. Such documents shall be made available to the Administrator or any law enforcement official upon request.

- Prior to each flight the PIC shall inspect the UAS for any inoperable components, items or equipment to ensure the UAS is in a condition for safe flight. If the inspection reveals a condition that affects safe operations, the UAS shall not be operated until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight. The inspection will include the GCS. Any discrepancies and all maintenance or alterations shall be documented in the aircraft records, such records to be made available to the Administrator upon request.

- Any UAS that has undergone maintenance or alterations that affect its operation or flight characteristics, e.g., replacement of a flight critical component, will undergo a functional test flight prior to conducting further operations. Functional test flights will only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight will be conducted in such a manner so as to not pose an undue hazard to persons or property.

- The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe flight.
- The operator will follow the UAS manufacturers’ maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.
- Each UAS operated under the requested exemption will comply with all manufacturer safety bulletins.
- Record of the UAS maintenance, preventive maintenance, alternations, status of replacement/overhaul component parts, and the total time in service of the UAS shall be documented and maintained.
- Flight operations will not occur within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport’s management is obtained, or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management will be made available to the Administrator or any law enforcement official upon request.
- The UA shall not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.
- Upon loss of communication or GPS signal, the UA shall return to the point of take-off, descend, and land.
- The PIC is required to abort the flight in the event of unanticipated obstacles or emergencies.
- The PIC shall not begin a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five (5) minutes or with the reserve power recommended by the manufacturer if greater.
- Prior to conducting any operations, the operator shall obtain a Certificate of Waiver or Authorization (COA). Operator shall follow the conditions and limitations for the FAA’s “blanket” Certificate of Waiver or Authorization (COA) for flights at or below 200 feet AGL. https://www.faa.gov/news/updates/?newsId=82245. For operations outside the blanket parameters, operator will obtain a separate COA specific to the proposed operation.
- The UA shall be marked with an identification (N-Number) in accordance with 14 C.F.R. § 45.23, such markings to be as large as practicable pursuant to 14 C.F.R. § 45.29(f), and identified by a serial number registered in accordance with 14 C.F.R. Part 47.
- The UA shall at all times remain clear and yield the right of way to all other manned operations and activities (e.g. gliders, ultralights, parachutes).
- The UAS shall not be operated by the PIC from any moving vehicle or device.
- If the UAS loses communications or loses its GPS signal, the UA will return to a pre-determined location within the private or controlled-access property.
- The UAS shall at all times be operated 500 feet away from all non-participating persons, vessels, vehicles, and structures unless:

  - Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator will ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations will be immediately terminated in a manner ensuring the safety of nonparticipating person; and

  - The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

- The PIC, VO, operator trainees or essential person are not considered nonparticipating persons.

- All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.

- UAS operations may not be conducted at night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

- The PIC shall possess either an airline transport, commercial, private, recreational or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver’s license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

- The operator will not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under the requested exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles, and structures. PIC qualification flight hours and currency will be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator’s PICs and VOs will only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC will operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

- Any incident, accident or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA shall be reported to the FAA’s UAS Integration Office within 24 hours. Accidents shall also be reported to the National Transportation Safety Board (NTSB). Further flight operations shall not be conducted until the incident, accident or transgression is reviewed by UAS Integration Office and authorization to resume operations is provided.

- The UAS shall be operated pursuant to this petition and the Flight Operations Documents, such documentation to be made available to the Administrator upon request. If a discrepancy exists between such documentation and the conditions and limitations directed by the Administrator in
granting the requested exemption, the conditions and limitation in the exemption shall take precedence and be followed.
Appendix C: Small Unmanned Aircraft Systems (UAS) ("Drones")
Proposed Operating Plan

Please supply the requested information to the Washington University Police Department or the Washington University School of Medicine Protective Services Office, depending on campus, and the Office of Environmental Health & Safety at least one week in advance of planned operation for review. Use of the UAS must be approved in writing by the Washington University review team, before operation can commence.

Washington University Police Department email: mark_glenn@wustl.edu
Washington University School of Medicine Protective Services email: jursch@wustl.edu
Environmental Health and Safety email: kingb@wustl.edu

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Appendix D: UAS consent form agreement

Date] [Addressee]

Re: Permission to operate an unmanned aircraft system ("UAS") on and over University premises

Dear ________________,

It is our understanding that you have requested permission to operate a UAS over University property for the purpose of ___________________________________. The specific equipment to be used is _____________________ (the “Drone”). Subject to the following conditions, permission is granted for ________________ to operate its Drone over an area of the Danforth Campus of Washington University in St. Louis bounded by ________________________ (the “Area”):

_______________________ will notify the Washington University Police Department a minimum of five (5) business days prior to its proposed date(s) of operation, which dates will be mutually agreed upon between ________________ and the University.

_______________________ represents and warrants that it will operate the Drone solely for the Purpose and only in the Area, all in accordance with applicable federal, state and local laws, regulations and ordinances including FAA rules and guidelines and in accordance with University policy pertaining to operation of UAS on University premises.

_______________________ will provide the University with a copy of its certificate of liability insurance evidencing coverage for the permitted operation of the Drone and listing The Washington University as an additional insured.

________________________ hereby transfers to The Washington University all right, title, and interest including the copyright, in and to the Aerial Data obtained by _____________________, its employees and agents, including without limitation, photographs, images, animation video and any and all other data obtained as a result of operating the Drone over the Area. The Washington University will have exclusive rights worldwide to publish, reproduce in any media, license, sell and/or alter the Aerial Data. The Washington University grants ________________ the right to use and display the Aerial Data for the sole purpose of _____________________, which permission may be terminated by the University at any time. ________________ will provide the Aerial Data to the University within ________ (__) days of concluding its Drone operations in the Area.

In consideration of being allowed to operate the Drone within the Area, ___________________ hereby agrees:
to release, waive, discharge, agrees not to sue, and agrees to hold harmless for any and all purposes The Washington University and it governing board, officers, employees, students, agents and volunteers (“Releasees”) from any and all claims, suits, actions or demands (including without limitation, reasonable attorneys’ fees and expenses) of any character for loss, damage or injury to person or property, including bodily or personal injury or death, in any way arising out of or resulting from the use of University property or facilities by ______________, its employees or agents. This release does not apply to bodily injury, personal injury or death caused by the gross negligence or willful misconduct of the University or its employees or agents.

To indemnify, defend and hold harmless the University, its governing board, officers, employees, agents, students and volunteers from and against any claim or loss arising out of or resulting from ______________ activities or the actions of ________________ employees, agents or contractors.

Should you agree to the foregoing, please confirm your acceptance by your signature below and return an original signed copy to me.

Sincerely,

__________________________

Accepted and Agreed to:

By: __________________________
Name: _________________________
Title: __________________________
Dated: _________________________