

STANDARD OPERATING PROCEDURE FOR USE OF UNMANNED AERIAL VEHICLES (UAV)

ON UNIVERSITY OF CALGARY CAMPUSES, OWNED OR LEASED LANDS

Issued: December 12, 2019

This Standard Operating Procedure (SOP) addresses the use of Unmanned Aerial Vehicles (UAV's) on University owned or leased lands or within University buildings. It also addresses the use of UAV's used for university purposes on lands owned by others.

This SOP will ensure that UAV's and pilots meet or exceed the Canadian Aviation Regulations for Remotely Piloted Aircraft Systems. These regulations are enforced by Transport Canada and the RCMP and contain serious penalties for both the pilot and the company should they not be followed.

This SOP also addresses issues of privacy as well as safety and insurance matters that arise from the use of UAV's.

NOTE: Exceptions to this Standard Operating Procedures may be authorized by the department of Risk Management & Insurance.

Any inquiries regarding these Standard Operating Procedures should be forwarded to riskmgmt@ucalgary.ca or 403-220-2674.

UNIVERSITY OWNED/LEASED OUTDOOR SPACES

- 1) UAV's flown on University of Calgary (UCalgary) campuses, owned or leased lands are **restricted** to those used for UCalgary purposes only.
- 2) As the majority of UCalgary lands are designated Controlled Air Spaces, pilots are required to obtain flight authorizations, a restricted operations certificate and carry an air radio during flight, tuned into appropriate frequencies at all times (*monitor YYC international, heliports, STARS, etc.*) Further details are in the Procedural section of this document.
- 3) The pilot has completed the Flight Procedures indicated at the bottom of this document.
- 4) Flights will be restricted to only 1 UAV at a time above a campus or section of property.
- 5) The use of UAV's in outdoor spaces **excludes**:
 - a) Flights conducted within 30 meters of all residence buildings/hotels including Student Family Housing;
 - b) Flights conducted near crane towers:
 - i) No flights within 60 meters horizontally of crane towers nor closer than 30 meters to the end of the boom radius;
 - ii) No flights within 30 meters of the top of the crane towers;
 - c) Filming of events;
 - d) Filming of people without written permission;
 - e) Flights that are higher than 122 meters from the ground; and
 - f) Flights that are less than 1.9 kilometers from the heliports at the Children's Hospital and the Foothills Hospital unless the pilot has obtained a Special Flight Operations Certificate (SFOC) issued by Transport Canada with respect to this particular flight.
- 6) All flights must have a pilot-in-command and a visual observer.
- 7) UAV's can only be flown during the daylight – starting 30 minutes after sunrise and stopping 30 minutes before sunset.
- 8) Departments are responsible to contact:
 - a) Conference and Events Management to ensure that the date, time and location of filming does not conflict with any other use of the outdoor area.

- b) Project Management Office in Facilities Development if the UAV will be operating within the vicinity of any buildings under construction or crane towers.
- 9) Departments/pilots must complete the items indicated in the **Flight Procedures** section of this document.
- 10) Where UCalgary departments are using contractors to conduct UAV flights, a written contract must be reviewed and approved by Supply Chain Management and Risk Management & Insurance prior to the use of the UAV. **All third party UAV's are required to be registered as per the Canadian Aviation Regulations and confirmation of the registration must be sent to the University of Calgary as part of the contractual obligations.**
- 11) Where UCalgary academic staff members, employees or students are piloting the UAV:
 - a) The pilot must be registered through the Risk Management & Insurance department;
 - b) Only UCalgary-owned drones can be used. They must be registered through Risk Management & Insurance and must carry the corresponding UC Tag on the body of the UAV.
- 12) The use of UAV's for recreational or third party purposes is prohibited above lands that UCalgary owns, leases or operates.

UNIVERSITY OWNED/LEASED INDOOR SPACES

Olympic Oval Ice/Track Area

- 1) UAV's can be used within the Olympic Oval ice/track areas under the following conditions:
 - a) All Users:
 - i) The entire space must be reserved/rented and no other portion of the open space can be used for any other purpose during the UAV flight.
 - ii) Pilots are required to pre-test to ensure that the GPS on the UAV's will remain connected at all times during flight.
 - iii) Personnel in the area are limited to:
 - (1) Production crew (if third party);
 - (2) UCalgary authorized research personnel; and
 - (3) Supervisory Olympic Oval staff.
 - iv) Public entrances to the area must have signage indicating that a UAV Flight Operation is taking place and that the area is restricted to authorized personnel only.
 - b) Third Parties must have a written contract with the University that has been reviewed by the Olympic Oval and Risk Management & Insurance prior to the use of the UAV.
- 2) The pilot has completed the **Flight Procedures** indicated at the bottom of this document.
- 3) The use of UAV's in the Olympic Oval ice/track area **excludes**:
 - a) Filming of events
 - b) Filming of people (excepting when the area has been leased to a third party for the purposes of commercial filming and where all personnel are employees/contractors of the third party).

The use of a UAV's for recreational or other purposes is **prohibited** within the Olympic Oval.

All other indoor areas

- 1) UAV's can be used within UCalgary buildings under the following conditions:
 - a) Use is **restricted** to UCalgary research purposes only.
 - b) Research is being conducted by UCalgary academic staff members, employees and/or students.
 - c) The area is appropriate for UAV flight use and items that can be easily damaged have been removed.
 - d) The area is appropriately locked/cordoned off to ensure that non-authorized personnel cannot enter.
 - e) Doors/public entrances to the area have signage indicating that a UAV Operation is taking place and that the area is restricted to authorized personnel only.

- f) Pilots are required to pre-test to ensure that the GPS on the UAV's will remain connected at all times during flight.
- 2) The department/pilot has completed the Flight Procedures indicated at the bottom of this document.
- 3) Laboratory areas that wish to be specifically designated for UAV research and flight are required to complete the Flight Procedures initially. Following that approval, they will be automatically designated for this use.
- 4) Only authorized research personnel may be present during the flight.
 - a) The use of UAV's in UCalgary buildings **excludes**:
 - a. All public areas that have not been cordoned off from public or non-authorized personnel entrance.
 - b. The use of a UAV's for recreational or other purposes.
- 4) Booking and use of public areas must be done through Conference & Events Management and with the approval of Risk Management & Insurance. There may be time restrictions placed upon such flights dependent on the use of the space.

THIRD PARTY OWNED/LEASED OUTDOOR SPACES (Domestic and International)

- 1) Where third party lands will be used for UCalgary UAV flights, the pilot/department is required to obtain the written permission of the landowner to allow for such use. The pilot is required to follow any directives/restrictions given by the landowner. This includes lands located within Canada as well as internationally.
- 2) Where permits are required (such as crown lands), the pilot is responsible for obtaining such documentation.
- 3) The use of UAV's for UCalgary purposes in third party owned/leased outdoor spaces **excludes**:
 - a) Filming of events;
 - b) Filming of people;
 - c) Flights that are higher than 122 meters from the ground as per Transport Canada regulations.
- 4) UAV's can only be flown during the daylight – starting 30 minutes after sunrise and stopping 30 minutes before sunset.
- 5) Where Landowners require the University to sign a contract for use of their land, it must be reviewed and approved by Legal Services prior to the flight of the UAV.
- 6) Where UCalgary academic staff members, employees or students are piloting the UAV:
 - a) The pilot must be registered through the Risk Management & Insurance department.
 - b) The pilot must be in possession of their drone pilot certificate, UAV system operating limitations and a UCalgary issued certificate of insurance during all UAV operations.
 - c) The pilot must ensure they are in compliance with all Transport Canada regulations surrounding UAV registration and operation.
 - d) Only UCalgary-owned drones can be used. They must be registered through Risk Management & Insurance and must carry the corresponding UC Tag on the body of the UAV as per Transport Canada regulations.
- 7) The use of University owned UAV's for recreational purposes is **prohibited**.
- 8) Where a University owned UAV will be used to provide research services for third parties, a contract with the third party must be created/reviewed through Legal Services.

This document was reviewed by the Executive Leadership Team on December 12, 2019.

UAV FLIGHT PROCEDURES

FOR FLIGHTS ON UCALGARY OWNED/LEASED LANDS OR WITHIN BUILDINGS

All Flights

- 1) UAV flights on University owned or leased lands or within University buildings must be approved by Risk Management & Insurance.
- 2) Pilots are responsible to:
 - a) Submit an online application to Risk Management and Insurance a minimum of four weeks prior to the flight. Application details must include:
 - a. Details and purpose of flight/ filming;
 - b. Dates/ times of flight;
 - c. Type of craft and Transport Canada registration number if applicable; and
 - d. Pilot information and Transport Canada Pilot Certificate – Advanced Operations.
 - b) Ensure they are in compliance with all Transport Canada regulations surrounding UAV registration and operation.
 - c) Have the required personnel in place for the flight, including at a minimum, a pilot-in-command and a visual observer.
 - d) The UAV Landing Zone must be cordoned off using a minimum of a 5 meter radius (pylons may be used) to ensure that only the pilot enters the space.
 - e) Comply with all other conditions and requirements as determined by UCalgary.
 - f) Non-UCalgary pilots must also produce a Certificate of Insurance evidencing General Liability Insurance/Aviation Insurance for a minimum of \$2 million dollars, including coverage for liability arising from the UAV and the pilot. The extended coverage for the UAV and the pilots name must be indicated on the document. This document must also name “The Governors of the University of Calgary” as Additional Insureds.
 - g) UAV’s must include a feature that automatically returns the UAV to its point of origin in the event of a loss of link. Any exceptions to this practice must be authorized by Risk Management & Insurance.
- 3) Pilots must provide the following documentation to Risk Management & Insurance, **a minimum of one week prior** to the flight:
 - a) A completed Operation of UAV checklist which must be retained in the department records;
 - b) A safety plan; and
 - c) An emergency/contingency plan.

Outdoor Flights must follow the process above plus:

- 4) Pilots must also:
 - a) Produce a Special Flight Operations Certificate (SFOC) issued by Transport Canada, where appropriate.
 - b) Obtain a Remotely Piloted Aircraft System (RPAS) Flight Authorization from NAV CANADA and submit to Risk Management & Insurance no later than one week before the flight.
 - c) Pilots must have ROC-A (restricted operation certificate - aeronautical).
 - d) Pilots must carry air radio during flight, tuned into appropriate frequencies at all times (*monitor YYC international, heliports, STARS, etc.*).
 - e) Use a device such as an anemometer to measure wind speed to ensure that drones are not flown in wind speeds over 30 km per hour (as per Transport Canada regulations).
 - f) Ensure that the weather is appropriate for the flight of a UAV, including ensuring that there is no chance of icing the wings or propellers.

REPORTING REQUIREMENTS:

5) Pilots are responsible to report all accidents/incidents/injuries to Campus Security immediately at 403-220-5333.

FOOTAGE:

- 6) The collection, use and ownership of footage will be addressed in the agreement.
- 7) The vendor will not film anyone in the video even if people are simply in the background/walking across campus. Department is required to review the footage to ensure no University academic staff members, employees, students, visitors, etc. are in the video.