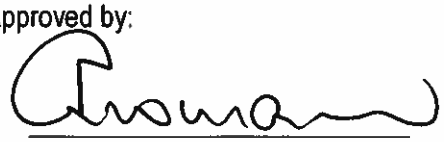
McMaster University

Risk Management Manual Program

Complete Program Title: **Remotely Piloted Aircraft Systems (RPAS) Program**	Risk Management Manual (RMM) Number: **115**
Approved by:  **Vice-President, Administration**  **President and Vice-Chancellor**	Date of Most Recent Approval: **September 2019**
Date of Original Approval: **N/A**	Supersedes/Amends Program dated: **N/A**
Responsible Executive: **Vice-President, Administration**	Enquiries: **Environmental and Occupational Health Support Services (EOHSS)** eohss@mcmaster.ca
DISCLAIMER: *If there is a discrepancy between this electronic program and the written copy held by the program owner, the written copy prevails.*	

1 PURPOSE

1.1 To ensure that McMaster University is in compliance with the Canadian Aviation Regulations with respect to the operation of Remotely Piloted Aircraft Systems (RPAS) formerly known as Drones or UAVs. Compliance on campus shall be strictly adhered to due to the presence of the helipad.

1.2 To outline the procedures for operating RPAS both on and off campus.

2 SCOPE

2.1 All members of the McMaster community (faculty, staff, visitors, volunteers and students) who operate RPAS both on campus and off campus for the purposes of a McMaster University affiliated activity (work, study, promotion, etc.).

3 Related Documents

3.1 Occupational Health and Safety Act (OHSA), R.S.O. 1990

3.2 Freedom of Information and Protection of Privacy Act, R.S.O. 1990

3.3 Canadian Aviation Regulations Part IX – Remotely Piloted Aircraft Systems

3.4 Criminal Code of Canada

4 DEFINITIONS

4.1 ***Advanced Operations –***

If you meet **any 1** of these conditions, you are conducting advanced operations:

- Operation in controlled airspace
- Operation over bystanders
- Operation within 30 metres (100 feet) of bystanders (measured horizontally)

4.2 ***Basic Operations –***

If you meet **all 3** of these conditions, you're conducting basic operations:

- Operation in uncontrolled airspace
- Operation more than 30 meters (100 feet) horizontally from bystanders
- Never operating over bystanders

4.3 ***NOTAM (Notice to Airmen)*** *is received from NAV Canada and informs pilots about events and obstacles that might affect them.*

4.4 ***Visitor*** *is anyone other than McMaster faculty, staff, students or volunteers who is performing activities on campus and includes contractors and other third- party groups.*

4.5 ***Visual line-of-sight*** or ***VLOS*** means unaided visual contact at all times with a remotely piloted aircraft that is sufficient to be able to maintain control of the aircraft, know its location, and be able to scan the airspace in which it is operating in order to perform the detect and avoid functions in respect of other aircraft or objects.

4.6 **Acronyms:**

EOHSS – Environmental and Occupational Health Support Services

FHS Safety Office – Faculty of Health Sciences Safety Office

JHSC – Joint Health and Safety Committee

MOL – Ministry of Labour

OHSA – Occupational Health and Safety Act

SFOC – Special Flight Operations Certificate

RPAS – Remotely Piloted Aircraft Systems

5 RESPONSIBILITIES

5.1 Role of Senior Managers (Deans / Directors / Chairs / Managers):

Senior Managers shall:

- Provide the required resources and direction to support and maintain the Remotely Piloted Aircraft Systems Program; and
- Ensure supervisors are informed of the Remotely Piloted Aircraft Systems Program and applicable procedures to be followed.

5.2 Role of Supervisors

Supervisors Shall:

- Ensure that any work under their direction is in compliance with the procedural requirements of this program;
- Contact EOHSS and inform of the details of the operation of RPAS on or off campus.
- Ensure that any contractors operating RPAS under their direction maintain compliance with this program.

5.3 Role of Faculty, Staff, Students, Visitors and Volunteers

- All individuals operating RPAS on campus or off campus for the purposes of a McMaster affiliated activity must follow the procedural requirements of this program.
- Individuals conducting Basic Operations must pass the Transport Canada Small Basic Exam.
- Individuals conducting Advanced Operations must pass the Transport Canada Small Advanced Exam and pass a flight review with a flight reviewer.
- Individuals must apply for a Special Flight Operations Certificate (SFOC) as per the Canadian Aviation Regulations under the following conditions;
    - Operating outside of the rules for basic or advanced operations.
    - RPAS weighs over 25 kilograms.

- Individual is not a Canadian citizen, permanent resident of Canada or a cooperation incorporated by or under the laws of Canada or a province.

- All individuals operating RPAS must report injuries, incidents and/or hazardous situations to their supervisor.

5.4 **Role of Environmental and Occupational Support Services**

EOHSS/FHS safety office shall:

- Review and approve the use of RPAS on and off campus;
- Assist the McMaster community in compliance with the procedural requirements of this program.

5.5 **Role of Joint Health and Safety Committees (JHSCs):**

JHSCs shall:

- Review and incidents, injuries or hazardous situations involving the operation of RPAS.

6 PROCEDURES

6.1 All RPAS with a maximum takeoff weight of 250 grams (g) up to and including 25 kilograms (kg) must be registered with Transport Canada. Registration can be completed via the following link:

https://www.tc.gc.ca/en/services/aviation/drone-safety/register-drone.html

6.2 Pilots must mark their drones with their registration number before they fly.

6.3 Prior to operation on campus or within any controlled airspace, pilots must contact NAV Canada to request the issuance of a NOTAM.

https://flightplanning.navcanada.ca/cgi-bin/CreePage.pl?NoSession=&Langue=anglais&Page=contact-us&TypeDoc=user-guide

The following link can be used to determine the type of airspace that you will be operating in.

https://nrc.canada.ca/en/drone-tool/

6.4 All pilots must be able to show their pilot certificate for either Basic Operations or Advanced Operations and proof of registration with Transport Canada while operating their RPAS.

6.5 All pilots must ensure that they have chosen the right drone for the type of operation that will be conducted

https://www.tc.gc.ca/en/services/aviation/drone-safety/choosing-right-drone.html

6.6 A Special Flight Operations Certificate (SFOC) is required to fly: at an advertised event, a drone weighing more than 25 kg, above 122 meters (400 ft) and/or outside the rules of Basic and Advanced Operations. A SFOC is also required for foreign pilots.

6.7 Approval from Transport Canada is required to fly closer than:

- 5.6 kilometres (3 nautical miles) from any airport and;
- 1.9 kilometres (1 nautical mile) from heliports or aerodromes used by helicopters only.

6.8 All pilots operating on McMaster campus or off campus for the purposes of a McMaster University affiliated activity must notify EOHSS by submitting the 'Notification of Remotely Piloted Aircraft Systems' form within 3 days of operation (Appendix A).

6.9 After receiving approval from EOHSS, all pilots operating on McMaster campus must provide notification to McMaster University Security Services by contacting the Dispatch Office at (905) 525-9140 ext. 24281.

6.10 All pilots must be able to show their pilot certificate for either Basic Operations or Advanced Operations, Special Flight Operations Certificate (if required) and proof of registration with Transport Canada while operating their RPAS.

6.11 Prior to operation, all pilots must conduct a site survey that takes into account the following factors;

- the boundaries of the area of operation
- the type of airspace and the applicable regulatory requirements
- the altitudes and routes to be used on the approach to and departure from the area of operation
- the proximity of manned aircraft operations
- the proximity of aerodromes, airports and heliports
- the location and height of obstacles, including wires, masts, buildings, cell phone towers and wind turbines
- the predominant weather and environmental conditions for the area of operation
- the horizontal distances from persons not involved in the operation

6.12 Pilots must have RPAS within their visual line-of-sight at all times during operation.

6.13 All contractors operating RPAS on campus must provide EOHSS with a certificate of insurance indicating $5 million in commercial general liability and must include McMaster University as additional insured.

6.14 RPAS weighing less than 250 grams (g) are exempt from the above requirements but must be operated in a way that does not pose a danger to aircraft or people.

6.15 Individuals who wish to operate RPAS indoors within McMaster University spaces must receive approval from EOHSS prior to operation. Approval may be subject to specific safety requirements.

Appendix A

McMaster University Notification of Remotely Piloted Aircraft Systems (RPAS) Operation

Name of Pilot:

Pilot Certificate: Y ☐ or N ☐ Advanced ☐ or Basic ☐

Date and Time of Operation:

Operating Location: On Campus ☐ or Off Campus ☐
Off Campus Location:

Transport Canada Registration Number: Marked on RPAS: Y ☐ or N ☐

Notification Provided to McMaster Security Services (if on campus): Y ☐ or N ☐

Contact with NAV Canada to Provide Operations Details: Y ☐ or N ☐

Pre-flight Site Survey: Y ☐ or N ☐

Operation Outside of Requirements for Basic or Advanced Operations: Y ☐ or N ☐

If yes to the above, please attached Special Flight Operations Certificate (SFOC).

If hired as a contractor to McMaster University, please attach a certificate of insurance.