Uncrewed Aircraft System (UAS)/Drone Request Approval for a Flight Operation User Quick Reference

Owner:	Enterprise Risk Management/Environmental Health and Safety
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Contents

USERGUIDE CONTENT

This UAS/Drone user guide provides direction regarding the completion of the following Flight Operation Forms:
- Request Approval for a Flight Operation on CMU property or airspace.
- Request a Change to a Flight Operation.
- Cancel a Flight Operation.

To access the UAS/Drone web page and view the UAS/Drone program, select the following link: https://www.cmu.edu/ehs/Workplace-Construction/drone.html

For additional assistance with the registration process, email drones@andrew.cmu.edu.

VIEWING THE REQUEST APPROVAL FOR A FLIGHT OPERATION FORMS
To view any of the Flight Operation Forms described please sign into the web application, open a web browser, and go to: https://cmu.service-now.com/uas

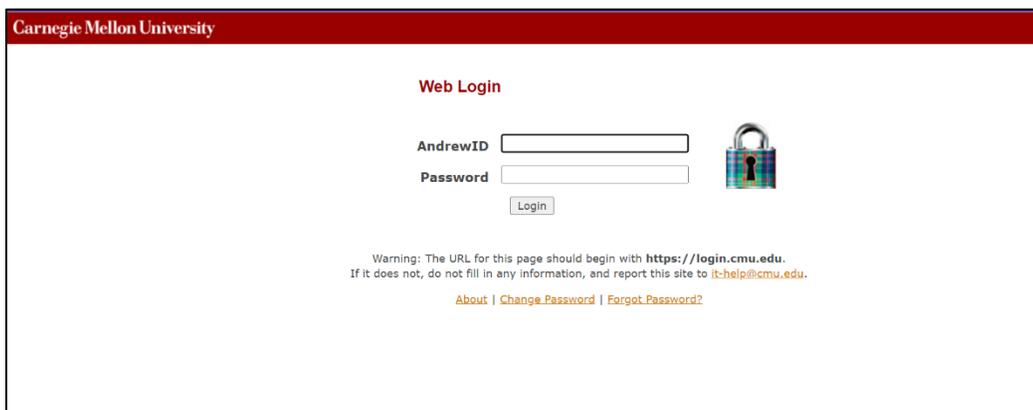The web login screen for Carnegie Mellon University will appear:

Figure 1 Web Login Screen

After logging in, you will be directed to the UAS/Drone Portal which contains all 3 of the registration forms (Requesting Approval for a Flight Operations, change to a Flight Operation and Cancel a Flight Operation Form).
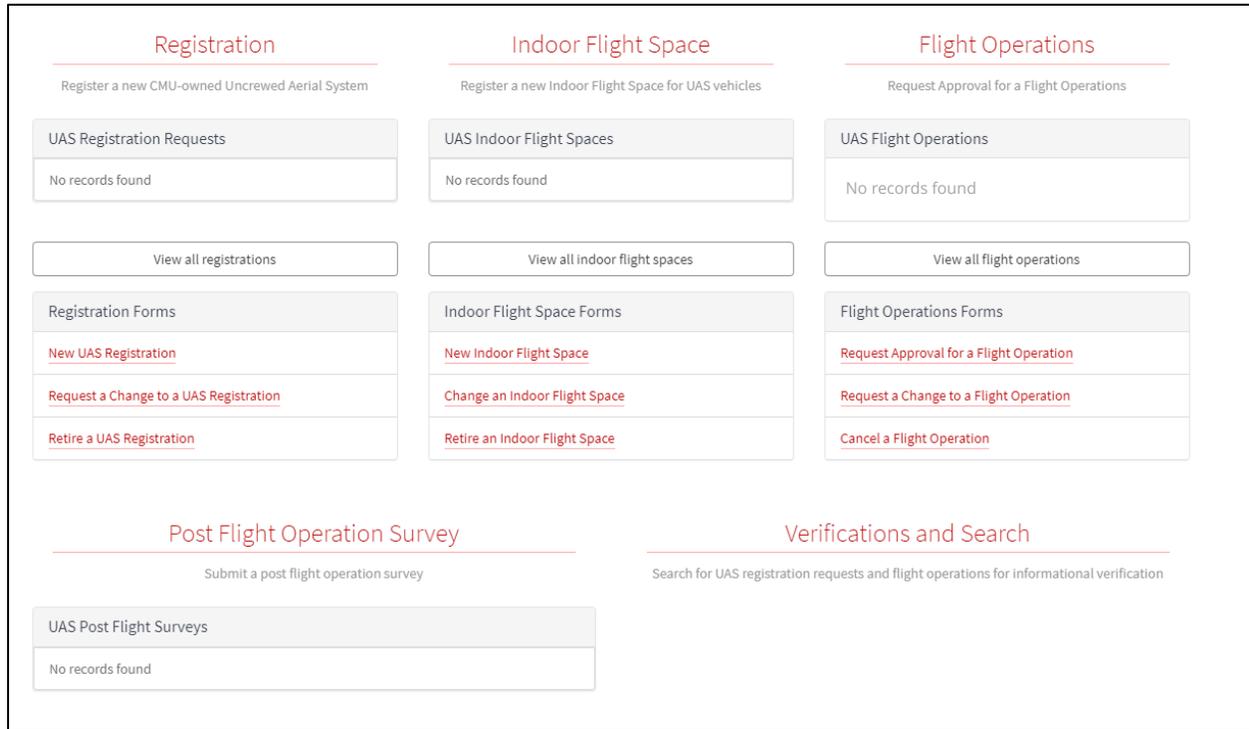
Figure 2 UAS/Drone Portal

REQUEST APPROVAL FOR A FLIGHT OPERATION FORM

The Flight Operation Request Form is completed by staff, faculty, or students who request to fly a UAS/Drone over university property. The form is submitted to EHS who will verify the UAS/Drone registration, pilot training, insurance coverage, and applicable contracts. The Flight Operations Request Form will be routed to the space owners and the committee for comments and feedback.

After you sign in, you will be in the UAS/Drone Portal within ServiceNow. On the right side of the screen are two ways to access the Request Approval for a Flight Operation Form. The first option is by clicking on the title Flight Operations title or by scrolling down towards the bottom of the page and selecting Request Approval for a Flight Operations.
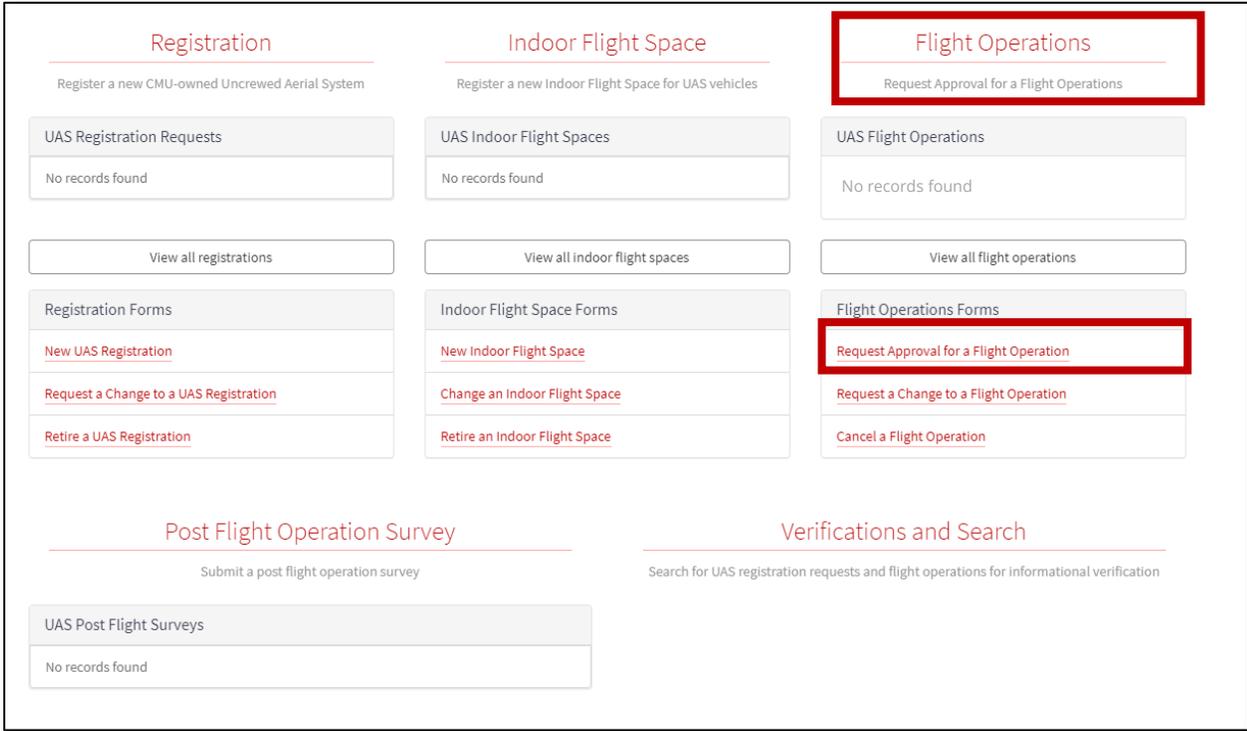
Figure 3 Request Approval for a Flight Operations Link

As you are entering information within the Request Approval for a Flight Operation Form, you will have the option to save your answers as you go along. Then, if you need to close the form before you are ready to submit, you will be able to return to the draft form without losing your progress.
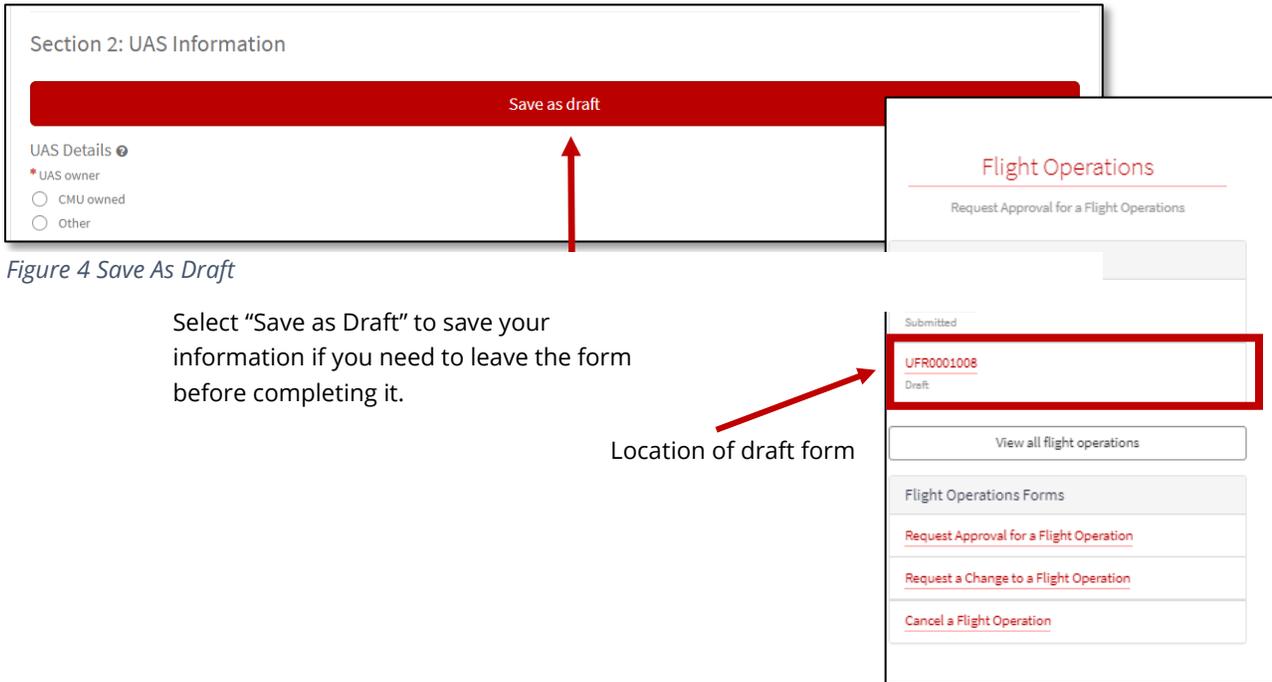

Figure 4 Save As Draft

Select "Save as Draft" to save your information if you need to leave the form before completing it.

Location of draft form

Figure 5 Location of Draft Form

At the top of the form, you will find the 5 sections listed with links to each section. By clicking on the link, you will be taken to the selected section of the form.

Figure 6 Form Sections

At the bottom of the Request Approval for a Flight Operation Form, you will find a listing of the required sections. The sections will disappear once answers have been provided. All questions with asterisk (*) require a response prior to submitting the form.

By clicking on the ❓ symbol found throughout the form you can expand/collapse the additional information text.
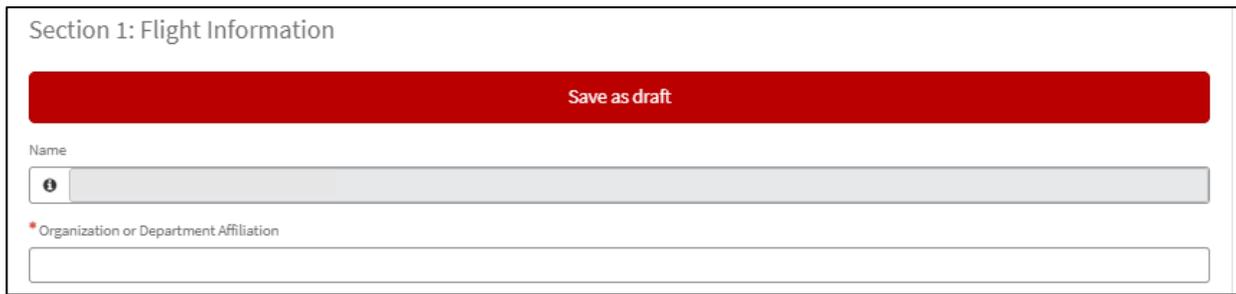

Figure 7 Additional Information Text

The form collects the following information:

Section 1: Flight Information
The requester must be an active staff, faculty, or student of Carnegie Mellon.
- Name: The name field is atomically populated with your user information, verify this information is correct.
- Organization or Department Affiliation: Indicate your current organization or department affiliation.

Figure 8 Flight Information Section

Operational Details:
Describe the reason for operating the UAS/Drone. Include information about any data that will be collected and how that data will be used. Describe any connection to faculty research projects and/or sponsored research projects. If the operation is connected to an academic course, provide the name and number of the course and the name of the instructor.
- Flight Name: Provide the name of your intended flight.
- Purpose: Describe the reason for operating the UAS/Drone, by selecting one of the following:
    - Research – Flight is connected to a faculty research project or sponsored research project.
    - Teaching - Flight relates to an academic course.
    - Training – Flight is for pilot training.
    - Facilities – Flight is associated with a facilities project.
    - Other – Use the text box to describe the reason for the flight.
- Aerial Photography or Videography: Use the text box to include information about any data that will be collected and how that data will be used. Describe any aerial photography or videography connected to the UAS/Drone operation. If video recording includes audio recording, indicate what audio will be recorded, whether individual persons will be audio recorded, and whether those persons have consented to the audio recording.
- Payload Description: Use the text box provided to describe any payload the UAS/Drone will carry.

Figure 9 Operation Details Section

Flight Details:
Provide the details of the operational date(s), time(s), take-off and landing location. Detail any known flight paths. If available, attach a map or illustration.

- Time Period: Select if the flight operations are for one flight or multiple flight during a time:
  - Single – one flight with a start and end time.
  - Multiple – more than one flight within a time.
- Flight Date: Select the date of your flight (or of your first flight if multiple)
- Take off Site: Provide the location where the UAS/Drone will launch.
- Landing Site: Provide the location where the UAS/Drone will land.
- Flight Plan: Describe in the text box provided the operational area of the UAS/Drone. Detail any know flight paths. If available, attach a map or illustration by scrolling down to the bottom of the form and select the paperclip icon and add any attachment needed.
- Flight Parameters: Describe in the text box how the UAS/Drone will be operated, including maximum altitude, maintenance of visual-line-of-sight, coordination with spotters, etc.

Figure 10 Flight Details Section

Attach documents by scrolling down to the bottom of the form and click on the paperclip and select the map you wish to include in your form.


Figure 11 Attachments Section

Section 2: UAS/Drone Information
UAS/Drone Details: Provide details on the UAS/Drone that will be used during the flight operations.

- UAS/Drone Owner: Indicate where the UAS/Drone is CMU owned or not.
  - o If **CMU owned** UAS/Drone is selected, a new field will appear including a drop-down menu containing registered UAS/Drone. Select the drone that will be used during the flight operations.
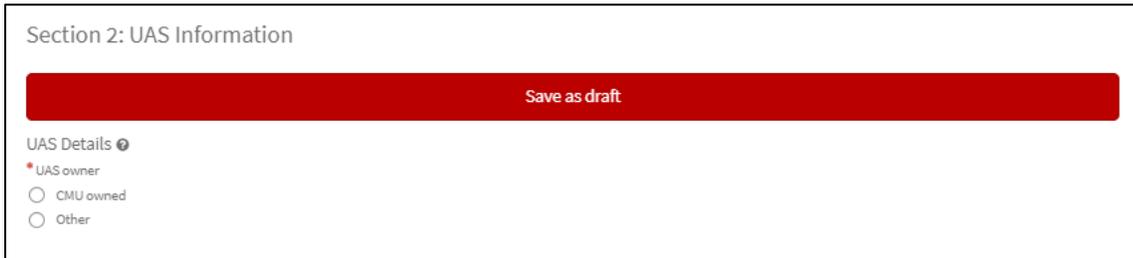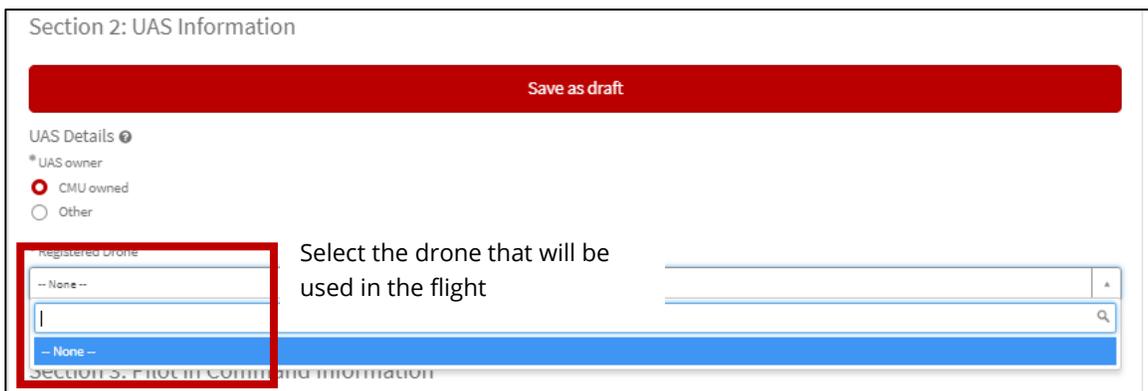

Figure 12 UAS/Drone Information

Figure 13 UAS/Drone Information

- o If **Other** is selected additional field will appear to gather more information on the UAS/Drone.
  - ▪ Nickname: Enter the unique UAS/Drone identifier like a name or number the department has picked that is meaningful to you.
  - ▪ Type: Select the type of vehicle –
    - Commercially purchased – the UAS/Drone was purchased from a manufacturer.
    - Modified purchase – the UAS/Drone was purchased from a manufacturer and modified for our use.
      - o When **Commercially** or **Modified** purchase is selected the following fields will appear:
        - ▪ Manufacture Name: List the UAS/Drone manufacture
        - ▪ Model Number: Document the UAS/Drone model number found on the UAS/Drone
        - ▪ Serial Number: Document the UAS/Drone serial number found on the UAS/Drone

- Take Off Weight: Enter the number of pounds (lbs.). Enter the total weight that includes batteries, camera, payload, and more.
- Remote ID Capabilities: Identify if the UAS/Drone can be operated via a remote control.
- FAA Registration Number: Provide the FAA Registration Number for the UAS/Drone

Figure 14 UAS/Drone Information Other Fields

- Custom built – UAS/Drone was built specifically for a group or project.
  - When **Custom built** is selected the following fields will appear:
    - Take Off Weight: Enter the number of pounds (lbs.). Enter the total weight that includes batteries, camera, payload, and more.
    - Remote ID Capabilities: Identify if the UAS/Drone can be operated via a remote control.
    - FAA Registration Number: Provide the FAA Registration Number for the UAS/Drone

Figure 15 UAS/Drone Information Custom Built

- **UAS/DRONE Owner**: Identify who owns the UAS/Drone that will be used during the flight.
  - Affiliation: Indicate if the UAS/Drone is Corporate, personally owned, or Other. The questions that will appear in this section change based on the type of UAS/Drone used (i.e., Commercially purchased, Modified purchase or Custom built).
    - If the UAS/Drone is **Corporate owned** or **personally owned** are selected the following questions will appear:
      - UAS/Drone Owner Name: Indicate who owns the UAS/Drone.
      - UAS/Drone Owner Email Address: Provide the UAS/Drone owner's email address.
      - UAS/Drone Owner Phone Number: List the UAS/Drone owner's phone number.
      - Evidence of FAA Registration: Provide a copy of the FAA registration certificate for the UAS/Drone that is intended to be flown.
        To attach the document, scroll to the bottom of the form to the paperclip icon. Select the icon and select the document to be attached with the completed form.

Based on your selected answer, additional questions will appear.

Figure 16 Additional Fields

- If **Other** is selected the following questions will appear:
  - Other Affiliation: Provide the affiliation or organization's name.
  - UAS/Drone Owner Name: Identify an owner from the listed affiliation.
  - UAS/Drone Owner Email Address: Provide this owner's email.
  - Evidence of FAA Registration: Provide a copy of the FAA registration certificate for the UAS/Drone that is intended to be flown.
    To attach the document, scroll to the bottom of the form to the paperclip icon. Select the icon and select the document to be attached with the completed form.

Based on your selected answer, additional questions will appear.

Figure 17 Additional Fields

Section 3: Pilot in Command Information

Pilot in Command: Provide details surrounding the UAS/DRONE Pilot who will be conducting flight operations.

- Pilot Name: Enter the name of the pilot.

Figure 18 Pilot in Command Information

- Pilot Affiliation: Select if the pilot is affiliated with CMU or not. Based on the selection, additional fields will appear:
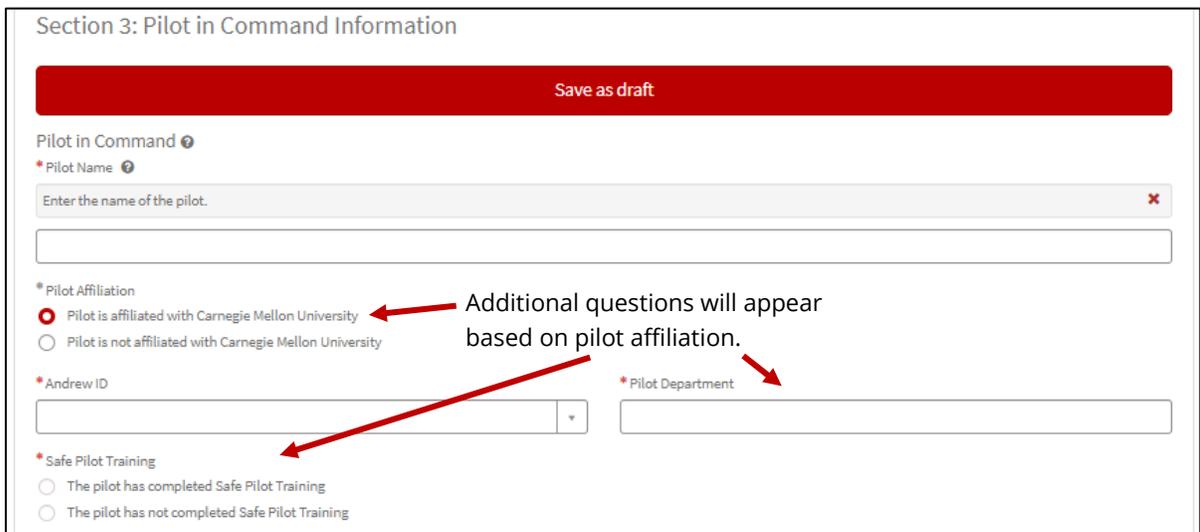 - **Affiliated with CMU**: Provide Andrew ID, Pilot Department, and indicate if the pilot has completed or not completed Safe Pilot Training.

Figure 19 Affiliated with CMU

  - If the Pilot has completed the Safe Pilot Training, please provide the date training was completed or attach the SciShied certificate.

Figure 20 Safe Pilot Training

- o **Not affiliated with CMU**: Provide the following information:
  - ▪ Email address: List the Pilot's email address.
  - ▪ Phone number: Indicate the Pilot's phone number.
  - ▪ Insurance Coverage: Provide the name of the Insurance carrier and policy number affiliated with the Pilot.
  - ▪ Acknowledge that the Pilot not affiliated with CMU as attached documents to support insurance coverage.

Figure 21 Pilot in Command Information

- o Pilot Preparedness: Training applies to CMU faculty, staff, and students who operate or plan to operate UAS/Drone on University Property. Please verify if the Pilot has read and understood how to operate the UAS/Drone vehicle.

Figure 22 Pilot Preparedness

o **Flight Type**: Select the flight type planned, recreational, commercial, or other. Depending on what is selected, the FAA Recreational Knowledge Test Certification documents will need to be attached or documents supporting that the pilot received Section 107 Pilot License.

Figure 23 Flight Type

o **Compensation**: Indicate if the pilot is compensation or not. If yes, select the box and provide the compensation amount.

Figure 24 Compensation

▪ If the flight type is **Other**, and the pilot is **compensated**, an additional acknowledgement will appear. Please indicate that documents have been attached to support the pilot received Section 107 Pilot License.

Figure 25 Flight Type Other Section

Section 4: Safety Details

Pilot in Command Supervisor: Provide information on the person(s) who will be supervise those who have not yet completed CMU drone training, but who are operating UAS/Drone while conducting training flights or operations.

- Supervisor Presence: Indicate if a PiC Supervisor will be present or that one is not needed.
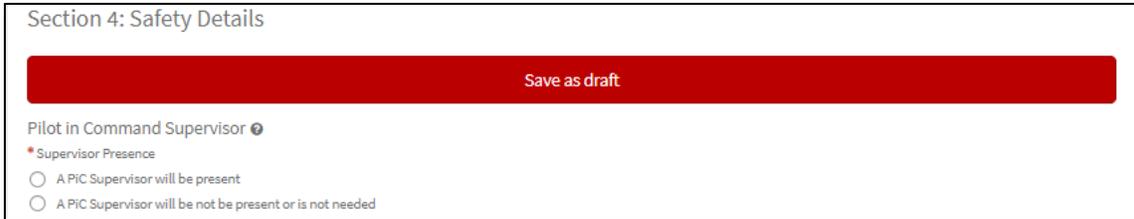

Figure 26 Safety Details

- o If a **PiC Supervisor** will be present, additional fields will appear requesting the Supervisor's Name, their affiliation to CMU.
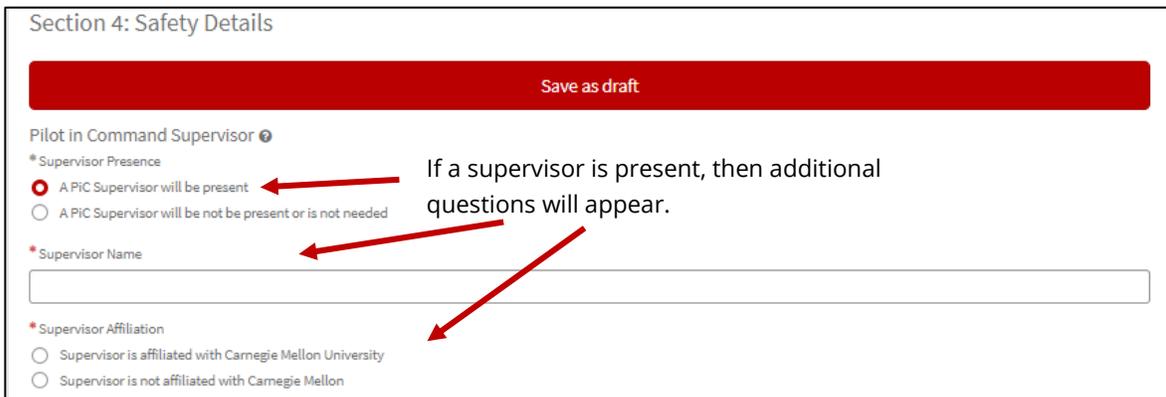

Figure 27 If a PiC Supervisor will be Present Additional Fields

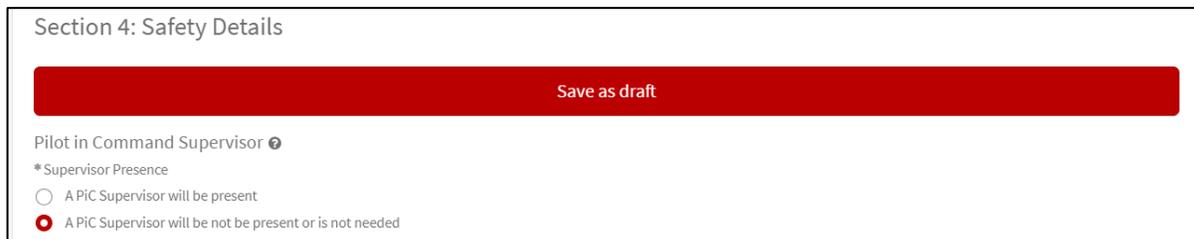- o If a **PiC Supervisor** will **not** be present, no additional questions will appear.

Figure 28 If a PiC Supervisor will not be Present

- o **Supervisor Affiliation**: If the Supervisor is affiliated with CMU additional questions will appear requesting the Andrew ID and department.

Figure 29 Supervisor Affiliation with CMU Additional Fields

- o **Supervisor Affiliation**: If the Supervisor is **not** affiliated with CMU, the additional questions that appear will appear request the indivual's email address and phone number.

Figure 30 Supervisor Affiliation: If the Supervisor is not affiliated with CMU

Operational Safety: Provide details on the safety measures used to keep pedestrians safe, prevent buildings and structures to be damaged, what items will result in a flight cancellation and any additional crew members.
- Plan for Pedestrian Safety: Provide plans to ensure pedestrian/bystander safety. Generally, FAA regulations prohibit the operation of UAS/Drone over persons not involved in the operation. Describe how you will avoid interference with/from pedestrians.
- Plan for ensure building and structural safety: Provide plans to ensure building safety. Describe how you will avoid causing damage to university property.
- Conditions for a flight cancellation: Identify items that will trigger a flight cancellation, such as deteriorating weather or equipment malfunction.
- **Visual Observers**: Select if visual observers will be present or not present during the flight.
  - o If **yes**, indicate if all visual observers have completed FAA Spotter Training, if they will complete the training by the start of the flight, or if FAA Spotter training will not be completed.

Figure 31 Visual Observers

- Additional Crew Members: Please list additional crew members, including the names, email address, phone numbers and their roles.

Figure 32 Operational Safety

Section 5: Acknowledgements

CMU Policies and Procedures: By selecting the box, the individual/entity submitting this request agrees to and will abide by all university policies and procedures governing the use of Unmanned Aerial Systems, photography, and videography. UAS/Drone Pilot must maintain proof of approved CMU Flight Request Form during flight operations. Proof of flight approval may be digital or printed and must be presented to any university representative upon request.

FAA Policies and Procedures: By selecting the box below, the individual/entity submitting this request confirms they and/or the UAS/Drone Pilot will abide by all FAA rules and regulations on UAS/Drone, including requirements associated with UAS/Drone registration and UAS/Drone Pilot licensing requirements.

Figure 33 Acknowledgements

Additional Comments:
The text box can be used to provide any additional space or room details that will assist with the request process.

Figure 34 Additional Comments

Provide Attachments:
At the bottom of the form is the paperclip icon that can be selected if you would like to include any attachments with the completed form.
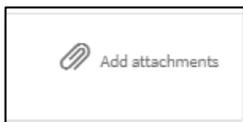

Figure 35 Add Attachments

Complete the Form:
Click on the red submit button when all the required fields have been completed. The form will be submitted to EHS for review.

Figure 36 Submit Button

The completed form is submitted to EHS who will verify the UAS/Drone registration, Pilot training, insurance coverage, and applicable contracts. The flight operations request will be routed to the space owners and the committee for comments and feedback. EHS will reach out with any additional questions and the approval once all steps have been completed. Once the flight is approved, the requester will receive notification of the approval.

REQUEST A CHANGE TO A FLIGHT OPERATION

The Flight Operation Change Form is used to communicate alterations to a previous approved flight plan. Once received, EHS reviews the requested changes, gets the additional approvals, and updates the original flight requests as needed.

To access the Request a Change to a Flight Operation Form, move to the bottom of the UAS/Drone portal and select Request a Change to a Flight Operation.

Figure 37 Request a Change to a Flight Operation Form Link

At the bottom of the form, you will find a listing of the required sections. The sections will disappear once answers have been provided. All questions with asterisk (*) require a response prior to submitting the form.

By clicking on the ❓ symbol, you can expand/collapse the additional information text.

Figure 38 Additional Information Text

Select a Registration:
Use the drop-down menu to select the flight you wish to edit.

Figure 39 Select a Registration Drop-down
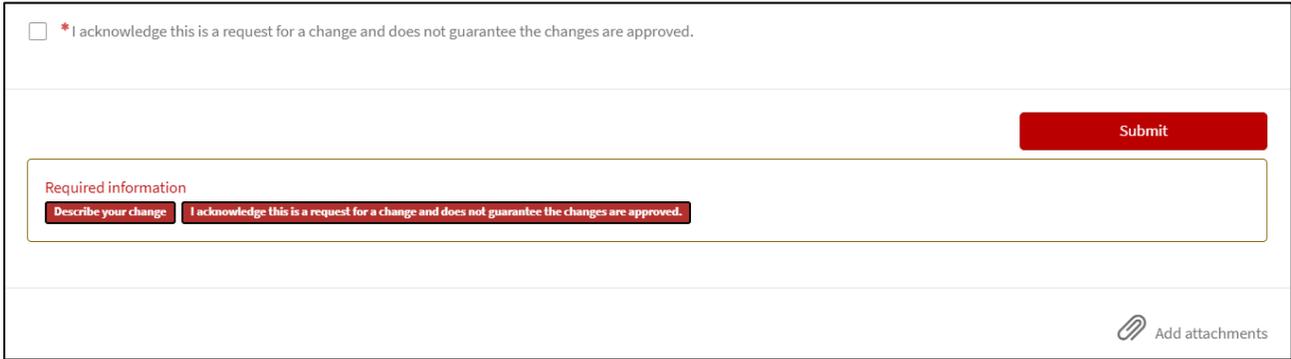
Describe your change:
Within the text box provided, describe the changes you would like to make, and attach your supporting documents. EHS will review the request and update the original flight records.

Figure 40 Describe Change Textbox

Indicate that you acknowledge this is a request for a change and does not guarantee the changes are approved. If attachments are warranted, select the paperclip icon, and attach the needed documentation. Once all the required fields are complete, click on the submit button to submit the form.

Once the form is submitted, it will go to EHS for review, at time it will be determined if additional reviews or approvals are needed before approving the flight changes.

Figure 41 Required Information

CANCEL A FLIGHT OPERATION

The Flight Operation Cancellation form is used by the flight requester to cancel an approved flight. EHS reviews the request and notifies space owners and other members of the cancellations.

To access the Cancel a Flight Operation Form, move to the bottom of the UAS/Drone portal and select Cancel a Flight Operation.
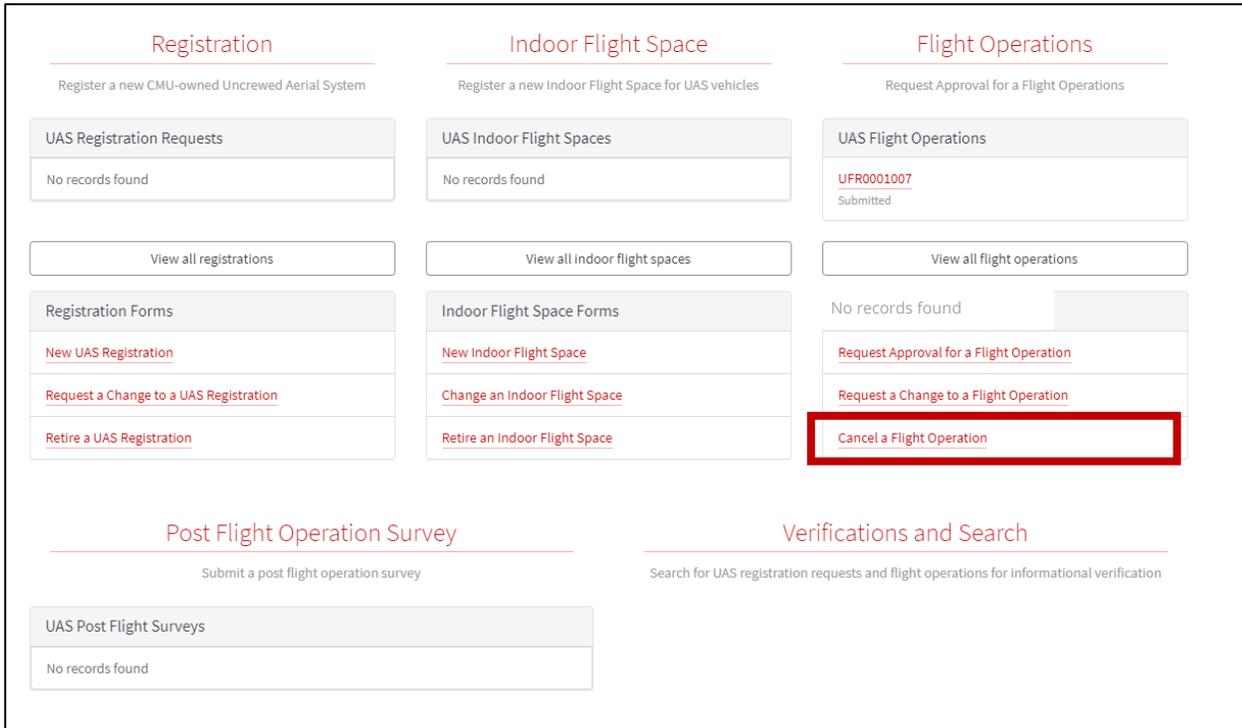

Figure 42 Cancel a Flight Operation Form Link

At the bottom of the form, you will find a listing of the required sections. The sections will disappear once answers have been provided. All questions with asterisk (*) require a response prior to submitting the form.

By clicking on the ❓ symbol, you can expand/collapse the additional information text.
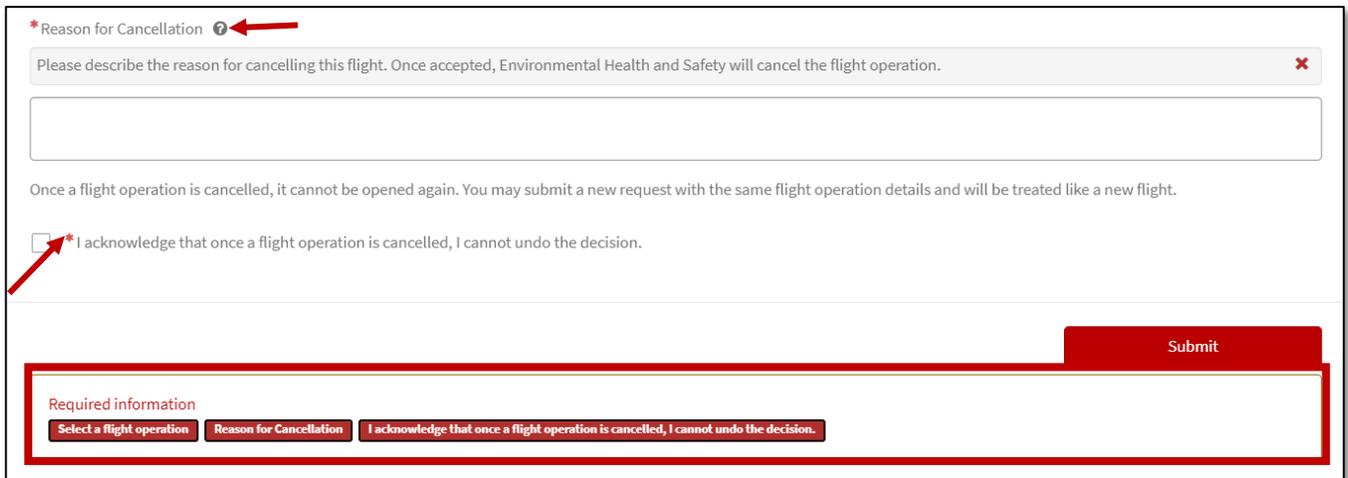

Figure 43 Additional Information Text

Select a flight operation:

The flight operation field is atomically populated with your registered flights, select the flight you wish to cancel.

Figure 44 Select Flights

Reason for Cancelation:

Within the open text box, please describe the reason for canceling the selected flight.

Figure 45 Reason for Cancelation

Acknowledge and Submit form:

Read over the acknowledgement information and select the box. Note that once a flight is canceled, it cannot be reopened. Once complete, select the submit button and the information will go to EHS for review and will be distributed as needed.

Figure 46 Submit Section