UNCREWED AERIAL SYSTEMS (UAS)

Health Safety and Compliance Guidance

March 2025

Contents

Introduction

The Uncrewed Aerial Systems (UAS) guidance document is intended to supplement the UAS Arrangement and focus on the technical and more detailed aspects of UAS usage on behalf of the University of Portsmouth. This guidance is only relevant for university staff including open-ended, fixed term, casual, PTHP, visiting contracts, and PhD students, if the PhD student has been given express permission by the accountable manager to fly on University business.

Uncrewed Aerial Systems (UAS), or Remotely Piloted Aircraft Systems (RPAS), commonly referred to as drones are regulated by the Civil Aviation Authority (CAA). This policy will use the term 'UAS' but is applicable to all drone nomenclatures.

The flying of any drone or model aircraft outside of an enclosed space in the UK is covered by Unmanned Aircraft Systems (UAS) Implementing Regulations. The University strictly adheres to CAA laws and regulations, as well as data protection legislation. The University supports staff and PhD researchers wishing to operate UAS in accordance with the terms set out in this policy. There is a separate policy that covers **students flying drones**.

Any questions about this arrangement should be directed to the **Health Safety and Compliance Team**, via hssservicedesk@port.ac.uk or drone@port.ac.uk

Abbreviations

A2 CofC:	A2 Certificate of Competence
AAIB:	Air Accidents Investigation Board
ATC:	Air Traffic Control
CAA:	Civil Aviation Authority
CHIRP:	Confidential Human Factors Incident Reporting Programme
DMARES:	Drone and Model Aircraft Registration and Education Scheme
FRZ:	Flight Restriction Zone
GVC:	General Visual Line of Sight Certificate
IMSAFE:	Illness, medication, stress, alcohol, fatigue, eating
MOR:	Mandatory Occurrence Reporting
MTOW:	Maximum Take Off Weight
RPAS:	Remotely Piloted Aircraft System
TRUCE:	Training for Unusual Circumstances and Emergencies
UAS:	Uncrewed Aerial Systems
UAS SO:	UAS Safety Officer
VLOS:	Visual Line of Sight
VOR:	Voluntary Occurrence Reports

Just Culture

The University of Portsmouth operates a Just Culture reporting environment with regard to UAS operations. The **Just Culture Manifesto** defines a Just Culture as "a culture in which front-line operators and others are not punished for actions, omissions or decisions taken by them which are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated."

At the University of Portsmouth this means that we will:

1. Ensure freedom to work, speak up and report without fear:
    - All persons involved in UAS operations should feel able to report their own errors or safety concerns without fear of repercussions, punishment or ridicule.
    - No blame shall be apportioned for errors made during UAS operations that do not stem from wilful behaviour or gross negligence.
    - No punitive actions shall be taken for persons reporting safety concerns regarding the safety systems set out by the policy and operations manual, or concerns regarding persons operating unsafely.
    - All reports shall be treated confidentially.
    - All outcomes of reports shall be communicated back to the originator, with due regard for confidentiality and data protection if third persons are involved.
    - Reporting of errors is encouraged to learn from errors and incidents and prevent incidents in the future.
    - No blame can or will be made for not operating. For example, it is the remote pilot's final decision if an operation can go ahead, and they cannot be disciplined for not operating or pressured to operate against their own judgement.

2. Support people involved in incidents or accidents:
    - Persons involved in accidents that have traumatic consequences shall receive the full support of their managers and the Employee Assistance Program.
    - All reports shall be followed up and lessons shall be learnt by the University UAS community.

- The experience shall be a positive learning experience, and all colleagues shall be supportive.
- The University UAS community shall be open to changing procedures, systems and operations.

3. Not accept unacceptable behaviour:
    - Wilful ignorance of safety procedures and/or negligence will be dealt with through the University disciplinary policy.
    - The University will support any criminal investigations and prosecutions taken by the relevant regulatory authorities and/or judiciary bodies.

4. Take a systems perspective:
    - The University UAS community will take a systems perspective on UAS safety.
    - UAS safety is a function of multiple factors including human, technical, informational, temporal, social, political, economic and organisational.
    - Lessons learnt shall be applied through a systems approach.

5. Design systems that make it easy to do the right things:
    - Existing processes shall be reviewed regularly to make UAS operations accessible.
    - System design shall be collaborative and constructive. Every member of the University UAS community shall be able to raise issues and suggest improvements.

Safety Specific Management Structures

The Accountable Manager role has been created to oversee UAS operations within the University and to be accountable to the CAA. The UAS Safety Officer roles have been created to act in a delegated capacity as instructed by the Accountable Manager to manage UAS operations, provide advice to the Accountable Manager and to provide internal training.

The duty of these roles is to act as a central coordinating body for matters concerning the University's UAS operations, decide policy and agree on action plans to be submitted to the Health, Safety and Wellbeing Committee where necessary and carry out reviews and/or other work as directed by the Health, Safety and Wellbeing Committee. The UAS SO will organise and run appropriate meetings to allow staff to feed back into the policy decision process.

UAS Operations Reporting Structure

The responsible person for UAS operations at the University is the Director of Estates and Campus Services. Operational oversight and accountable person has been assigned to the Health Safety and Compliance Manager supported by the UAS Safety Officers and the Health Safety and Compliance Team.

Incident Reporting

The University Accident Reporting Policy states that all accidents, near misses and dangerous occurrences must be reported via a **HS1 form** as soon as possible. This applies to people and equipment. This is in accordance with and in addition to the **AAIB**, **AirProx** (a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised), **MOR requirements** and **VOR** (Voluntary reports are classed as occurrences not captured by the mandatory reporting system and other safety-related information which is perceived by the reporter as an actual or potential hazard to aviation safety).

The University of Portsmouth is committed to and will ensure the immediate and accurate reporting of any eventuality which falls within the AAIB and MOR scheme. Every member of staff who is witness to, or aware of, an incident is responsible for reporting this to Health Safety and Compliance. The Health Safety and Compliance Manager, or a delegated person, is responsible for reporting to the **AAIB**, **AirProx**, **CHIRP**, **MOR** or **VOR**, as applicable.

All occurrences which are considered to have endangered, or might have endangered, any aircraft (including the UAS), any person, or property must be reported. Examples of other reportable occurrences include events such as:

- Loss of control/data link – where that loss resulted in an event that was potentially prejudicial to the safety of other airspace users or third parties;
- Navigational failures;
- Display failures;
- Crew Resource Management (CRM) failures/confusion;
- Structural damage/heavy landings;
- Flight programming errors (e.g., incorrect speed programmed).
- Incursion into restricted airspace.

General Enquiries

All UAS-related enquiries can be made to drone@port.ac.uk.

Staff Operating Requirements

Applicable to All Operations

- Remote pilots must ensure their own or others' health and safety are not put at risk when carrying out work activities and to take due care of their own and others' health and safety.
- Remote pilots must ensure they comply with information, instruction and training which is provided.
- Remote pilots must ensure they report any safety hazards, incidents or concerns to their Line Manager and Health Safety and Compliance via **HS1 form** within 48 hours. Or in the case of no computer access, ensure this is done by the line manager.
- Remote pilots must ensure they do not, intentionally or recklessly, interfere with or misuse machinery/equipment or PPE provided by the University in the interests of health, safety and welfare.
- Remote pilots must ensure they do not, without consent from the manager/supervisor, introduce any equipment for use in connection with the University, alter any fixed installations, alter or remove health and safety notices or machinery/equipment or otherwise take any action which may create hazards for others.
- All remote pilots must **register** with Health Safety and Compliance prior to commencing operations.

- All University purchased UAS must be **registered** with Health Safety and Compliance prior to commencing operations.
- All University UAS must be commissioned and operated as per the manufacturer's guidance.
- All University operated UAS should have their firmware updated when available and checked before commencing operations.
- All University UAS operations are subject to a **risk assessment**.
- All new operation plans must be signed off by the UAS SO. Repeat or routine operations previously notified must only be shared again if the operations plan changes significantly, or after one year following approval.
- If the operations plan indicates that the accountable manager must sign off on an operation the accountable manager must be informed.
- Battery charging procedures and locations are subject to a fire risk assessment. The University Fire Safety Manager can advise on fire safety.
- All crew are responsible for assessing their own fitness to participate in every operation, any medical concerns should be raised with Occupational Health via line management referral.
    - **IMSAFE** (Illness, medication, stress, alcohol, fatigue, eating)
    - Staff must follow the **Employee Alcohol and Drugs Policy**
    - Staff operating UAS are classed as a 'dry role', which means they must not drink alcohol when at work, including during lunch breaks. Heavy drinking the night before may mean they are unfit to operate UAS on the following day.
- All remote pilots shall ensure they practice their skills and maintain currency before operational flying.
    - New pilots in the open category should record a minimum of 3 take-off and landing procedures totalling 1 hour of flying time in a safe training environment on each type of platform (multi-rotor or fixed-wing). Safe environments are dependent on the operating category for the type of UAS.
    - If a pilot in the open category has not flown in the three months prior to an operation in the Open Category operation, a 30-minute practice flight with a minimum of two take-off and landing procedures in a safe environment is required. Safe environments are dependent on the operating category for the type of UAS.
    - Pilots in the open category who have not flown in the past 12 months in any category are classed as new pilots.

- The UAS SO or AM on application for an operation in the open category may ask for further training depending on the complexity of a proposed operation.
- Operations in the Specific Category must comply with currency requirements in the OM.

- Before each flight, the remote pilot must check the UAS is not damaged and that all components are working in accordance with the manufacturer's user manual and the Operations plan check lists.
- No operators will be permitted within the Flight Restriction Zone of an airport without express permissions from the Health Safety and Compliance Manager and all applicable permissions from the CAA and ATC.
- All University UAS operations must carry as a minimum:
  - a first aid kit
  - high-vis jacket
  - fire extinguisher (arrange through Health Safety and Compliance)
  - anemometer
  - emergency response cards (available from UAS SO)
- A full list of suggested personal protective equipment (PPE) is available upon request from the UASSO via drone@port.ac.uk.
- UAS operators/pilots must maintain UAS maintenance, battery and flight records.

Operating in the UK

- All University UAS must be marked with the University operator ID, available from the UAS SO.
- Any University staff member flying a UAS on University business must have a valid flyer ID, obtained by passing **the CAA DMARES online test**.
- Any University staff member flying a UAS on University business must have completed the in-house training delivered by the UAS SO.
- All remote pilots must make themselves aware of the current legislation governing UAS operations and data protection regulations.
- All UAS operations must be classified according to the CAA legislation and not operated outside of the permitted uses of that classification (Open, Specific or Certified category).

- All remote pilots must ensure they have the applicable qualifications to operate the UAS in the operating classification (DMARES, A2 CofC, GVC).
- All University operations require the landowner's written permission for land access, take-off and landing. Email/messenger communication is acceptable, but records should be uploaded alongside other flight documents.
- No flights can take place until a risk assessment has been signed off by the risk owner. It is likely that the risk owner will be the line manager of the lead pilot for the operation. If the line manager is not confident in signing off such a risk assessment, this will then be referred to the UAS SO. Where the risk is classed as high, the accountable manager must sign off the risk assessment.
- No flights over assemblies of people, as defined in CAP722. Operations near assemblies of people are to be signed off by the accountable manager or their authorised deputy.
- No night flights can take place until the additional UoP insurance has been confirmed.

Insurance

- It is an insurance requirement that UAS are operated in daylight with a minimum visibility of three miles.
- The current insurance policy does not cover night flights but can be requested through the UASSO
- The University insurance excludes UAS used for military purposes.
- The University insurance does not cover hull or system components.

Open Category

All operations shall comply with the rules for the **open category**, specifically:

- UAS below 25kg MTOW.
- Unaided VLOS only.
- Below 400ft (120m) above ground level.
- All University registered UAS must be classified into the open category subcategories according to the CAA legislation, and not operated outside of the permitted uses of that classification (legacy aircraft, transitional aircraft, C0-4).
- Observer requirements:
    - A suitably qualified observer must accompany the pilot on all operational flying.

- Pilots may fly in a safe training environment in the Open Category without an observer for training flights, subject to a site and activity risk assessment.
- Equipment testing and routine inspections will be conducted with an observer unless in an enclosed space. In an enclosed space regular health and safety arrangements apply and a risk assessment needs to be produced.
- All operations within the scope of this document will be subject to an Operations Plan (staff only), including a mandatory remote survey (PART A of the Operations Planning Document) and, where reasonably practical, an in-person pre-site survey is strongly advised. A pre-operation survey (Part D Pre-flight – on site assessment) must be carried out on the day. Appropriate risks and considerations will be conducted using various sources including aeronautical information publications (AIP), aeronautical maps and ordnance survey material. If an in-person pre-site visit is not possible this must be reflected in the risk assessment. The risk assessment must then be updated after a pre-operation survey to reflect any on-site hazards and conditions which could result in missions not adhering to the Operations Manual;

- All pilots must follow the University **Operations Plan** for UAS operations and maintain a record of the plan, as detailed in the record keeping section.
- It is advised that pilots operating under the Open category attend the University TRUCE meetings where possible.
- All pilots must maintain their currency as set out in the training requirements.

Specific Category

All operations in the Specific Category have to be conducted according to the CAA Operational Authorisation and follow the **University Operations Manual**. See the University of Portsmouth OM for details.

Certified Category

The Certified category covers operations that present an equivalent risk to that of manned aviation. The University of Portsmouth will not operate in the Certified Category under this policy. A separate authorisation will need to be requested.

Operating Abroad

Persons planning to operate abroad must comply with local laws and regulations. If the laws are less strict than UK laws, the UK rules above should be followed as best practice. Details of planned operations abroad and a risk assessment need to be sent to the insurance officer in advance to obtain travel insurance.

Overflight of People (other than assemblies)

Overflight of assemblies of people is not allowed under any circumstances. Although overflight of uninvolved people not part of an assembly is permissible in the A1 category using a C0 or legacy UAS <250g, and in the specific category at a height of over 50m, it is the intention of the University to avoid overflight of uninvolved people unless strictly necessary for the completion of the operation. Alternatives or mitigations to overflight should be considered, such as different timings of operations. Overflight duration should be minimised, e.g. by amending the flight path. Considerations should be made for the direction of travel, and flight paths planned to run parallel to potential areas of overflight. Where overflight of people is expected or likely, the operational risk assessment needs to be signed off by the accountable manager. Where overflight of people occurs unexpectedly the remote pilot should achieve or maintain a safe horizontal separation if reasonably possible, as appropriate for the UAS and category of operation.

UAS choice for overflight of people should consider if the UAS relies solely on their own propulsion system for lift, the potential kinetic energy and published failure rates per flying hour.

Night Operations

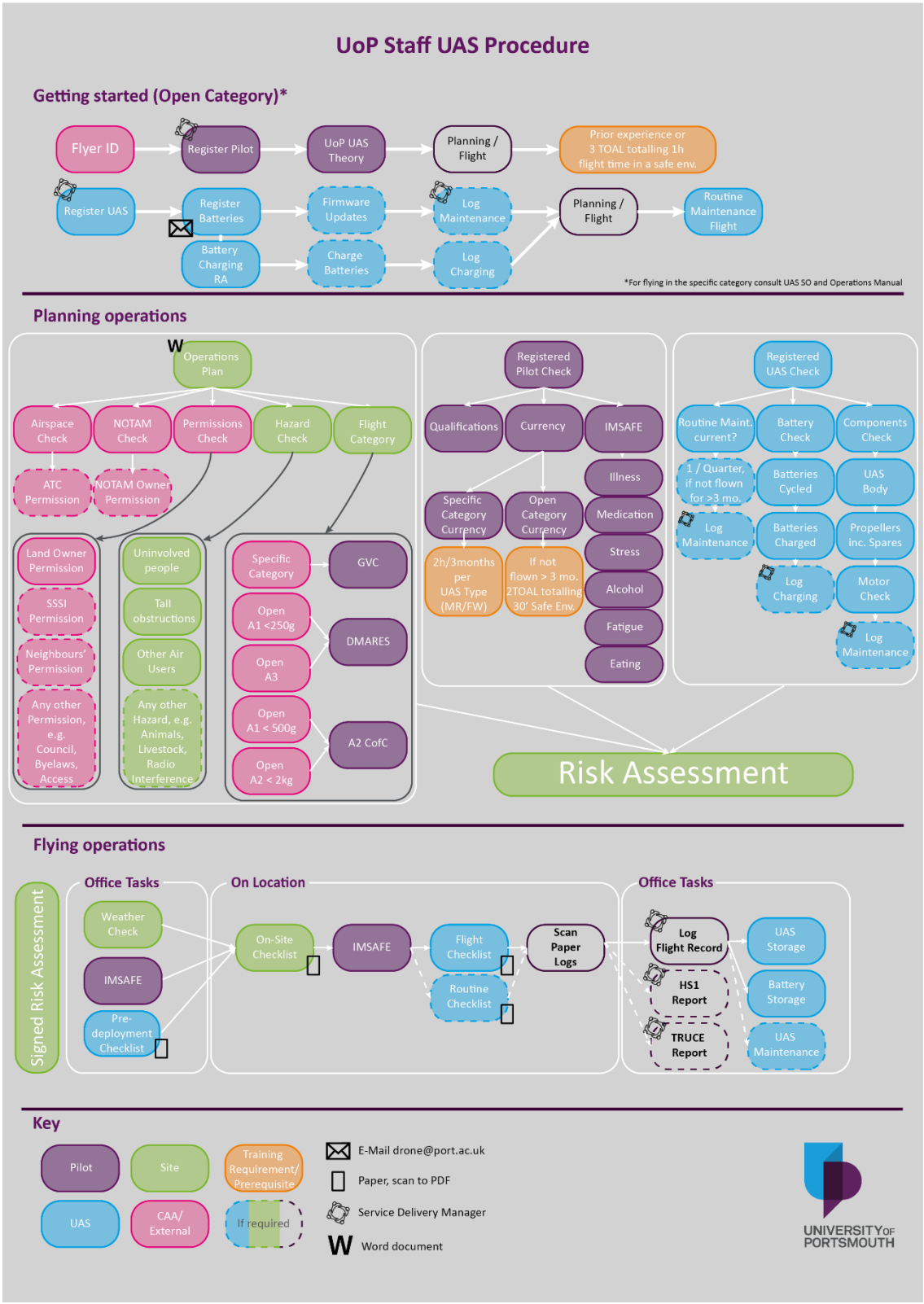
The University insurance does **not cover** night operations and bespoke insurance will have to be set up. Night time operations may be conducted following a detailed risk assessment and after confirming insurance cover. The risk assessment and planning process must include:

- Pre-site assessment during daylight hours.
- Arrival on-site and setup during daylight hours.
- Identification and recording of hazards, restrictions and obstacles.

- Illumination of the launch site.
- In order to improve the visibility of the unmanned aircraft flown at night, and in particular, to allow a person on the ground to easily distinguish the unmanned aircraft from a manned aircraft, a green flashing light should be activated on the unmanned aircraft.
- Detailed assessment of increased crew requirements, where applicable.

Contact insurancesupport@port.ac.uk for further information.

Operating Workflow



Personal Drones

- Personal or third-party owned drones must not be used for any University business. Examples of university business include research, teaching, innovation, outreach or professional services, or any other operations in connection with staff employment or research contracts. This also includes visiting or honorary lecturers or researchers, if the operation is in connection with the work at the University.
- Students on PhD programmes may opt to operate personal drones under the student policy if it is only in direct connection with their studies, and not part of University business or a research contract. University owned UAS can only be operated under the **UAS Arrangement** for staff and this guidance.
- Students on undergraduate, taught masters or masters by research level courses are covered by the **student UAS policy**.
- If a pilot undertakes a personal flight not connected to the University this can be counted toward the University of Portsmouth flying time/currency. To be counted pilots must keep a log of personal flying time.
- Personal drones/flights are not covered by the UoP institutional insurance policy.
- Personal drones/flights are in no way connected to the University. Staff using/conducting personal drones/flights will need their own insurance, flyer ID and operator ID and adhere to relevant CAA regulations.

Record Keeping

It is the responsibility of the remote pilot to supply the following records via the **self-service form:**

- UAS maintenance, e.g. firmware updates, maintenance, hardware changes;
- Battery charging, i.e. voltage/per cent before and after charging;
- Battery usage, i.e. voltage/per cent before and after flights;
- Copies of the University of Portsmouth UAS documents:
    - **Operations Plan**
    - Risk assessment
    - Relevant permissions
- Flight records;

Contractors, Partners and Third-Party Operations

Third-party UAV operations organised by or in partnership with or on behalf of the university must be reported to the Accountable Manager or the UAS SO in advance. Third-parties, project partners or contractors operating drones must demonstrate to the Accountable Manager or the UAS SO that they are operating within CAA regulations or regulations applicable in other jurisdictions. Third-parties, project partners or contractors must, on request, provide the Accountable Manager or the UAS SO with proof of relevant qualifications, permissions, risk assessments and method statements. In case of serious concerns the Accountable Manager or the UAS SO must report these concerns to the Health Safety and Compliance Manager or other relevant senior management staff for approval.

University UAS Aviation Discipline Environment

All remote pilots should have a positive attitude toward operational safety, follow aviation rules and engage in the University's UAS community. Human error accounts for over 80 per cent of the causes of aviation accidents. Many reports cite flight crew failure to follow standard operating procedures as contributing to an aircraft accident or incident. Lack of discipline is at the root of these deviations and therefore is a **major component of flight safety**.

Because of the key role human factors have in the vast majority of aviation incidents, Health Safety and Compliance organise UAV Hazard Response Training meetings three times a year. These involve reflection on any incidents throughout the year, as well as any identified near-miss situations. There will also be a reflection on industry-reported instances that pose a risk to the operations of the University, with regard to equipment/processes. These meetings are open to all staff and PhD students.

The aviation industry and the University have identified six toxic attitudes in aviation that all remote pilots should be aware of:

1. **Anti-authority:** An attitude that eschews top-down control and is susceptible to breaking the rules; "don't tell me what to do". The defences against this attitude are to engage with the rule-setting process, follow SOP, and raise issues with the rules through the appropriate channels. Additionally, education can help against this attitude.
2. **Impulsiveness**: An attitude that favours acting before thinking. In aviation planning and situational awareness are paramount, and together with training, allow for rapid decision-making, which is not the

same as impulsiveness. It is important not to rush during unexpected occurrences, but to think. Defences against this attitude are preparedness, situational awareness and training. Look, think, act.

3. **Invulnerability**: This attitude is expressed by a sense of exceptionalism, that a negative occurrence will not happen to the remote pilot. It is a mixture of overconfidence and lack of hazard perception, as well as an ignorance of small errors, dismissing them as not important. Defences against this attitude are acceptance of fallibility, a just culture where pilots trust that they can report their own errors, planning and always choosing the safest plan of action.
4. **Machismo**: This attitude shows in a domineering manner and a need to prove oneself through risky operations. It is important that line managers and remote pilots lead a team without domineering it, are willing to listen to all team members, and take safety concerns seriously. Defences against this behaviour are a just culture, with no ridicule for safe behaviour or refusing to fly on an operation, a culture of collaboration and support, where there is no need to impress others, and an openness to learn and take advice.
5. **Resignation**: An attitude where there is no sense of positivity, where a situation is seen as not improvable. Defences against this attitude are a culture of empowering all crew members, team collaboration, and a positive attitude toward seeking help and guidance.
6. **Complacency**: An attitude of satisfaction or contentment with a status quo or one's own experience; also a sense of boredom leading to a lack of situational awareness. The best defences against this attitude are vigilance and alertness along with an understanding that even the most routine tasks must be conducted with care and concentration.

In addition to TRUCE meetings, the University also hosts drone operator meetings, which cover other aspects of flying such as policy changes, manual changes, local flying updates and other information for UAS pilots. It is required for UAS pilots to attend 2 out of 3 meetings per year.

UAS Meetings

As mentioned previously, the UAS pilots are required to attend two different types of meetings.

UAS Operator Meetings

Operator meetings are held three times a year. It is expected for UAS pilots to attend two out of three of these meetings per academic year.

Drone operator meetings focus on the operational side of UAS flights, and look at issues including:

- University policy updates
- UK regulation news
- UAS operations
- Operational and system feedback

Hazard Response Training Meetings

HRT meetings are held three times a year. It is expected for UAS pilots to attend two out of three of these meetings per academic year.

TRUCE meetings focus on unusual circumstances involved in UAS flights and look at issues including:

- University UAS News
- Operational occurrences
- HRT Scenarios – **CHIRP**, **CAA**, **Airprox**, news etc.