

Drones

Drones, Unmanned Aerial Systems (UAS') and Unmanned Aerial Vehicles (UAV's) are effective modern tools which can be utilised for eliminating working at height, photography, building surveys, etc. Whilst effective, the use of drones must be planned appropriately and their use executed in accordance with aviation regulations and safety requirements.

1. Authorisation

Use of Drones within the UK is controlled and regulated by the Civil Aviation Authority (CAA). There are two levels of authorisation associated with Drone use.

OperatorID: Those with responsibility for managing the use of the drone. This includes drone maintenance and providing authorisation to pilots to use the drone. This can be an individual or an organisation. OperatorID must be renewed annually for a fee.



FlyerID: Those responsible for piloting the drone in a safe and legal manner. Flyer ID must be renewed every five years. To obtain your FlyerID you must pass the CAA's official theory test before flying a drone specified in the regulations.

If your drone weighs more than 250g **or** has a camera it must be registered with the CAA.

2. Drone Classification

From January 1st 2023, all drones will be classified into one of 7 categories. These categories will determine the competency and authorisation required by the user to pilot the drone in a legal manner. Drone categorisation is based on foreseeable risks associated with its flight. Further guidance on drone classification is provided on page 3.

Drone Classification	FlyerID Required?	OperatorID Required?
C0 – Toy Drone	No	No
C0 - Not a Toy – No Camera	No	No
C0 – Not a Toy – Has a Camera	No	Yes
C1	Yes	Yes
C2	Yes	Yes
C3	Yes	Yes
C4	Yes	Yes
If your drone does not have a classification mark present, the following rules will apply		
Drone Weight	Flyer ID Required?	Operator ID Required?
Less than 250g – Toy Drone	No	No
Less than 250g – Not a Toy – No Camera	No	No
Less than 250g – Not a Toy – Has a Camera	No	Yes
Greater than 250g	Yes	Yes

Any drone which requires an OperatorID should have the unique OperatorID code labelled on its body.

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3. Flying

Drones can be flown to a maximum height of 120m (400ft) within the UK. This maximum height is to reduce the likelihood of a drone coming into contact with aircraft, which normally fly higher. This rule applies to the closest point of the earth's surface. Pilots must maintain a minimum **horizontal** distance of 50 metres from all persons (excluding those involved with the drone flight) during flight. This rule applies to people in buildings and vehicles (including public transport).

If your drone is less than 250g (or classified in category C0 or C1), you do not need to maintain a minimum distance but must remain vigilant as not to endanger the safety of others.

It's recommended that the vertical and horizontal flying distance of the drone match to protect the safety of those on the ground e.g. Vertical distance of 80m = Horizontal distance of 80m.

Adverse weather and high speed flight increase the likelihood of an incident occurring, the distance from people during flights with these additional factors should be increased further.

Drones must be kept at least 150m from away from commercial, recreational, residential and industrial areas. This rule does not apply to drones weighing less than 250g or classified in category C0 or C1.

Notification of Flight - Scottish Operations

Internal Notification (Forth Ports Employees)

Internal Operators and Pilots should seek approval from Forth & Tay Navigation Service (FTNS) to confirm that their intended drone flight is suitable based on predicted weather and planned vessel movements. Internal employees should notify FTNS in good time to allow sufficient preparation and adjustment to any relevant planning activities.

Internal employees are recommend to use traceable notification to FTNS.

External Notification (Non Forth Ports Employees)

Non Forth Ports operators and pilots are required to submit the Drone notification form if they intend to fly over areas of the Forth & Tay estuaries or Port estate which are under our direct control. This form must be submitted at least 2 days in advance of the requested flight.

External requests must provide information on:

- o The duration of flight
- o Flight charter
- o Relevant risk assessments
- o Proof of insurance
- o CAA registration (If applicable) as well as details of their drone.

A responsible person will review the request to fly, based on the information provided and planned vessel movements. Documentation is requested for all drone flights but there is no obligation to provide information for drones weighing less than 250g.

Notification of Flight – Port of Tilbury

Internal Notification (Forth Ports Employees)

If an employee of Forth Ports intends to operate a drone within the Port boundary, notification to the Port of Tilbury police department is necessary via phone call. This also applies to Border Force.

External Notification (Non Forth Ports Employees)

If non Forth Ports employees wish to fly a drone within the Port boundary, they must submit the "Port of Tilbury Drone Notification" form in advance to the Port of Tilbury Police as stated on the form. You must contact the Port of Tilbury police to obtain the form. As stated on the form, the applicant must submit their:

- o CAA accreditation
- o Flight charter
- o Proof of liability insurance
- o Drone details with the form.

The application will be reviewed by the Port of Tilbury Police and Tilbury Marine department to determine if there is risk to port security or navigational safety. Flights which will fly over the River Thames are notifiable to the Port of London Authority (PLA) and Port of Tilbury Police. Either party can accept/deny permission to fly.

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Flight Restriction Zones (FRZ'S)

Certain areas within the UK have restricted and controlled airspace for safety and security. Most airports, airfields, military bases, military development sites and prisons will be restricted to non-authorised aircraft and drones. You should never fly within a restricted airspace zone unless you have been given permission from an authorising organisation and the flight has been planned appropriately (with all necessary permits).

Restricted and controlled Airspace zones near Forth Ports areas include:

- o Dundee Airport o MOD Caledonia (Rosyth)
- o Edinburgh Airport: City of Edinburgh remains as a controlled zone. This extends to Rosyth and Burntisland.
- o Barry Buddon Training Camp

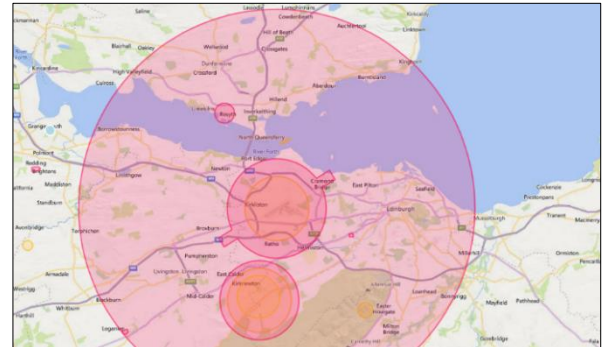
Utilise systems such as [Drone Safety Map](#) to review if the airspace you're intending to use is restricted.

High Alert Areas

Flying close to certain public and private infrastructure may cause the CAA or Police to be alerted due to safety, security or privacy concerns.

You should be vigilant if flying near to:

- o Gas Storage Tanks (Gasometers)
- o Railways
- o Government Buildings
- o Electricity Pylons and Substations
- o Schools, Colleges and Universities
- o Areas where the public will congregate (e.g. Public Parks)



Restricted and Controlled Airspace Map of Edinburgh and Fife

Risk Assessment

You should identify any significant hazards and record these during a suitable and sufficient risk assessment of the task. You should pay particular attention to elevated hazards such as overhead power lines, telephone cables, pylons, cranes and workers at height.

You should document all significant hazards. Consult and inform interested parties during your risk assessment to implement adequate hazard control measures.

You should also consider the hazards posed by the drone itself such as a breakdown during use, loss of connection with the controller, flying over water, flying beyond the visual line of sight (BVLOS), etc.

Flight Categories

Drone flight is categorised on risk; these categories are: **Open**, **Specific** and **Certified**.

Open: Low risk flight, normally undertaken by hobbyists or in rural areas. These flights do not require CAA authorisation.

Specific: Operations of greater risk or when one or more elements of the operation are out with the boundary of the "Open" category. These operations will require CAA authorisation.

Certified: Complex operations presenting risk equivalent to manned aviation.

Open

- Flight must be undertaken within the pilot's visual line of sight only.
- Can be flown to a maximum height of 120m (400ft)
- Drone must weigh less than 25Kg

Open drone flights can be sub-categorised into: A1, A2 and A3.

Guidance continued overleaf

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**A1 Subcategory: Flying over people**

Operating Area	Class	Flying Weight	CAA registration?	Competency Required
Flying over uninvolved people but not crowds	Privately Built Drone	<250g and 19m/s	If equipped with a camera and not classified as a toy	Read the drone user manual
	Legacy (Placed on market before Jan 1 st 2023)	<250g		
	C0 (Toy)	<250g and 19m/s		Read the drone user manual, complete online training and test
	C0 (Not a Toy)			
No intentional flight over uninvolved persons	C1	<900g or 80J	Yes	A2 Certificate of Competency
	A1 Transitional	<500g		

A2 Subcategory: Flying near people

Operating Area	Class	Flying Weight	CAA registration?	Competency Required
No closer than 30m horizontally from uninvolved persons or 5m in "low-speed mode"	C2	<4Kg	Yes	Read the drone user manual, complete online training and test
No closer than 50m horizontally from uninvolved persons	A2 Transitional	<2kG		You must then complete A2 Certificate of Competency

A3 Subcategory: Flying far from People

Operating Area	Class	Flying Weight	CAA registration?	Competency Required
No uninvolved people present within the area of flight. No flight within 150m horizontally of residential, commercial, industrial or recreational areas	C3	<25Kg	Yes	Read the drone user manual, complete online training and test
	C4			
	Privately Built Drone			
	Legacy (Placed on market before Jan 1 st 2023)			
	A3 Transitional	>2Kg to <35Kg		

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Specific

To fly a drone or another unmanned aerial system in the “Specific” category you must obtain “Operational Authorisation” from the CAA. Approval will be subject to a safety risk assessment created by the drone operator. If approved, the “Operational Authorisation” will define the privileges and limits of the drone operation.

Each authorisation is specific to the named drone operator.

The aim of the safety risk assessment is to:

- o Outline the proposed operation
- o Describe the operational process and how this will be undertaken
- o Describe the technical aspects of the drone system
- o Provide information on hazards and control measures you will use

Pre-defined risk assessments may be suitable for simple, repeated drone operations where one of the main control measures is pilot competence. Pre-defined risk assessments can be obtained from and submitted to the CAA to help reduce the administrative duties of the operator and CAA.

To use Pre-defined risk assessments, a submission must be sent to the CAA. Use of pre-defined risk assessments are chargeable by the CAA.

Operating Safety Case

Some commercial flights may require an Operating Safety Case (OSC). An OSC gives the pilot the authorisation to fly outside standard permissions. OSC’s are required for the following:

- o Flying less than 50m from uninvolved people
- o Flying less than 50m from uninvolved buildings & property
- o Flying less than 50m horizontally from crowds
- o Flying greater than 120m (400ft) vertically
- o Conducting Extended Visual Line of Sight operations (EVLOS) with multiple pilots
- o Flying Beyond the Visual Line of Sight (BVLOS)

Your OSC must be submitted to the CAA. OSC’s are very rare and currently only held by around 100 people within the UK.

First Person View (FPV) Drone Flight

Drone flights using Virtual Reality Headsets can be flown legally in the UK.

FPV allows the pilot to view the drone’s camera without maintaining a visual line of sight. If intending to use this methodology, you must:

- o Be accompanied by an unmanned aircraft observer who maintains visual contact with the drone
- o Satisfy the requirements of “Open” and “Specific” drone flights



Drone: Follow Mode

Certain drones have the ability to follow their pilot without the pilot maintaining constant control. This practice is legal in the UK provided the drone remains within 50m of the pilot and flown in the “Open” category.





Flying near Vehicles, Vessel and Structures

Your drone should remain at least 50m from any vehicle, vessel and structure unless they are unoccupied or you are certain that the structure’s manufacture will protect those inside.

You should always seek to obtain permission from the building owner, vessel master or responsible person before flying near any structure.

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For further guidance see below:

	Click icon for access to the Civil Aviation Authority Website
	Click icon for Civil Aviation Authority information on Drone usage
	Click icon for UK Government information on Drone usage
	Click icon to access Altitude Angel's Drone Safety Map

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Amendments

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