ESSENTIAL STANDARD no.28

Working with Drones

Thames Water

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1. Introduction

Drones, also known as remotely piloted aircraft systems or unmanned aerial vehicles, come in a variety of shapes and sizes, ranging from small handheld types up to large aircraft, a similar size to airliners. Their usage is rapidly increasing due to their myriad of applications, such as taking still images or video footage using conventional, zoom or even thermal imaging cameras.


Just like any other aircraft, an unmanned aircraft must be flown in a safe manner, both with respect to other aircraft in the air and also to people and properties on the ground.

2. Permissions to Fly a Drone

Before flying a drone, you must obtain the following:

- Operation Authorisation (previously known as PfCO) from the Civil Aviation Authority
- public liability insurance (minimum of £2 million)
- permission to take off and land from the landowner
- permission from the National Air Traffic Services when flying in any restricted airspace

It is also good practice to notify the National Air Traffic Services.
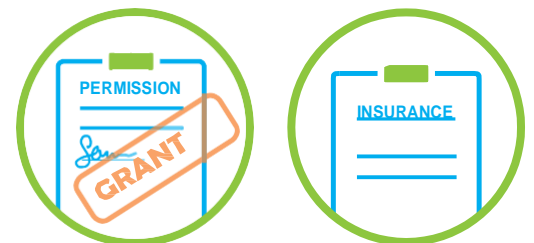
Drones used for Thames Water company business will require a Thames Water Operational Safety Authorisation (TWOSA or eTWOSA). Thames Water is also required to maintain a log of all flights undertaken on its behalf. See section 5 below for details

3. Training and Competence

Operators flying the drone must hold a certificate of competency from a recognised National Qualified Entity approved by the National Air Traffic Services and have passed a flight assessment. Without this, the operator will not be able to obtain the relevant permissions. This should include ensuring any medicals are in date.
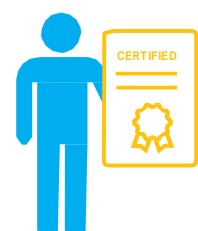
4. Planning the Flight

Carry out a **pre-site risk assessment**, taking into account:
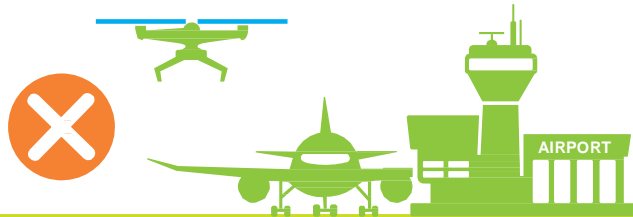
- weather
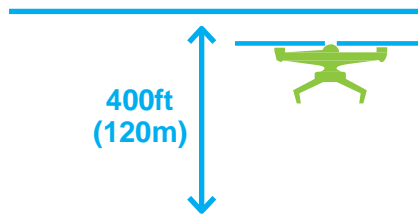- geographical locations
- airspace
- all necessary permissions

Carry out an **on-site risk assessment** and do not fly if it is unsafe to do so.
To keep safe, always follow the Civil Aviation Authority drone code:

D **D**on't fly near restricted airspace – remember this is not always an airport
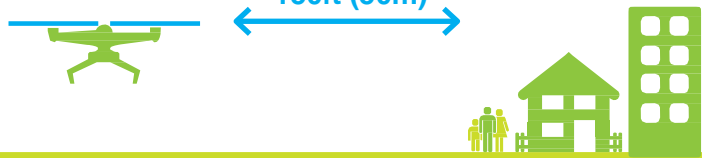
R **R**emember to stay below 400ft (120m)

400ft (120m)

O **O**bserve your drone at all times and stay 150ft (50m) away from people and property
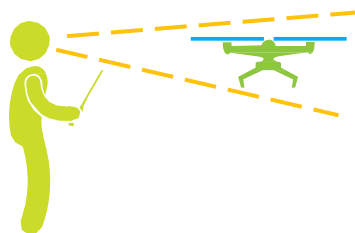
150ft (50m)

N **N**ever fly near aircraft

E **E**nsure that you fly safely and legally

5. TWOSA and Drone Flight Log

Drones used for Thames Water company business will require a Thames Water Operational Safety Authorisation (TWOSA or eTWOSA). In addition, Thames Water is also required to maintain a log of all flights undertaken on its behalf.

To obtain a TWOSA:

1. Submit TWOSA / eTWOSA to the Site Manager, Controller of Premises or Project Manager for the site or project that the drone activity is being requested for.
2. The Site Manager, Controller of Premises or Project Manager reviews the RAMS for the task itself and ensure these are adequate to undertake the work on the Thames Water site or project site.
3. The Site Manager, Controller of Premises or Project Manager forwards the following Pre Flight Check List data to *Pritesh.Hirani@thameswater.co.uk* who will check to confirm that suitably qualified pilot is being used for drone flights.
   • Flyer ID for each Pilot
   • Each Pilot proof of GVC (General Visual Line of Sight Certificate)
   • The Operator ID for the company
   • Name of the Accountable Manager or name of the person that the company used when they registered for the Operator ID
   • Site name for the flight
4. When this confirmation is received, the Site Manager, Controller of Premises or Project Manager will then approve and issue TWOSA / eTWOSA.

Logging drone flights:

Once flight(s) have been completed, the pilot must complete the *Thames Water Drone Flight Log*. (Click the link to access the form). The pilot will be required to enter the following fields:

1. Company name
2. Contact email address
3. Contact telephone number
4. Flight reference number
5. Date of the flight
6. Take off time (using 24-hour clock)
7. Landing time (using 24-hour clock)
8. Flight duration (in minutes)
9. Flight location
10. Airspace class (A, C, D, E, or G)
11. Remote pilot name
12. Remote pilot flyer ID
13. Type of flight (day / night)
14. Name of person requesting the flight
15. Details of any observations or incidents that occurred during the flight