Drones: Safety Guidance and Risk Assessment Template

This guidance focuses on the safety aspects of using a ‘small’ drone under 20kg in weight (without fuel but including equipment attached to the drone). You should also be aware that you have legal obligations under the Air Navigation Order 2016. Further information can be found on the Civil Aviation Authority website, [here](https://www.caa.co.uk/Consumers/Unmanned-aircraft/Recreational-drones/Recreational-drone-flights/).

What is a drone?

A drone is a small unmanned aircraft.

Who is classed as the Drone Operator?

The drone operator is the person who manages the drone. They are responsible for each flight.

Maintaining and Operating the Drone

Ensure that you read the manufacturer’s instructions before using the drone. This should also detail how the drone should be maintained and if there any servicing or inspection requirements.

Distance Restrictions on Drone Flights

Drones should only be permitted to fly up to 400ft above the earth’s surface. This will reduce the likelihood of your drone coming into conflict with manned aircraft. In addition, the following rules should be complied with:

* Drones must not be flown within 50m of any person or property during flight
* Drones must not be flown within 150m of crowds or built-up areas
* Drones must not be flown within 30m of any person during take-off and landing.

Monitoring the Drone

During the flight, the operator must maintain direct visual contact with the aircraft to ensure that they can monitor the drones flight path and identify any hazards as quickly as possible, to avoid collision with other objects / persons. This cannot be achieved using cameras fitted to the drone, the operator must have unaided visual contact with the drone. If a camera is being used as a ‘pilot’s eye’, then a second operator should be used to maintain visual contact with the drone; [this document](http://publicapps.caa.co.uk/docs/33/ORS4No1273.pdf) provides further details on these requirements.

If you wish to operate outside of these requirements, you may need to [apply for an exemption](https://www.caa.co.uk/Consumers/Unmanned-aircraft/Recreational-drones/Permissions-and-exemptions-for-drone-flights/).

Airspace Restrictions

There are airspace restrictions associated with the use of drones, which differ depending on the weight of the drone. Further information can be found through the [Civil Aviation Authority website](https://www.caa.co.uk/Consumers/Unmanned-aircraft-and-drones/).

Indoor Use

If you fly your drone indoors, it will not be subject to air navigation legislation as long as they remain indoors throughout the flight. However, other Health & Safety legislation will still apply, and risks should still be assessed and adequately controlled.

Insurance

You should ensure that you have the correct insurance cover in place before operating your drone.

Speak to Hettle Andrews for further advice.

Flight Plans

Before commencing your drone flight, ensure that you have a flight plan in place. This should include designating a safe area for the drone to take off and land, ensuing that the drone will not be obstructed by persons / objects / other aircraft; and that the drone does not enter into any restricted areas.

Drone Attachments

Ensure that any attachments to the drone are secured pre-flight.

Emergencies & First Aid

Ensure that you have first aid provision available in the case of an incident occurring. The drone operator and spectators should be made aware of emergency procedures pre-flight.

If there are any accidents, incidents, and/or near misses during the flight, then this should be thoroughly investigated with a view to putting additional measures in place to reduce the risk of recurrence.

Risk Assessment

You should ensure that a risk assessment is carried out and recorded for the use of the drone (a risk assessment template is provided at appendix 1), and that this is reviewed prior to each use to ensure that all relevant hazards have been considered. You would also need to review the risk assessment following any changes (e.g. changes to legislation, change in model of drone etc.), and/or following any accidents, incidents or near misses.

Appendix 1

Template Risk Assessment – Use of Drones (20kg and under)

Please note that this is a template risk assessment. The list of hazards and control measures in this template are not exhaustive and are for guidance only. They should be used as a base for your own risk assessment, and not the completed article.

|  |  |  |  |
| --- | --- | --- | --- |
| Name of organisation |  | Date assessed |  |
| Risk assessor(s) |  | Activity |  |

| What are the hazards? | Who might be harmed and how? | What are you already doing to reduce the risk (i.e. existing control measures)? | What further action is necessary (i.e. are any further control measures required)? | Additional action required (Y or N)? |
| --- | --- | --- | --- | --- |
| Lack of maintenance of drone | All Drone failing mid-flight / injury | * *Maintenance to be completed as per drone manual guidance. [You should detail specific instructions on advised maintenance detailed in the drone manual].*
* *You should ensure that pre-use checks are carried out in line with the manufacturers’ recommendations.*
 |  |  |
| Lack of servicing / inspection of the drone | AllDrone failing mid-flight / injury | * *Servicing and inspection completed as per drone manual. [You should detail specific instructions on advised servicing and inspection detailed in the drone manual].*
 |  |  |
| Unsuitable take off / landing area | AllInjury to spectators | * *Take-off and landing areas to be agreed before the flight and included in the flight plan.*
* *Ensure that spectators are not placed in close proximity to the take-off / landing areas. Barriers/stewards/signage may be necessary.*
 |  |  |
| Drone being flown into an unsuitable location | AllDrone out of control / crashing / flying into restricted areas / injuring persons | * *Flight plan to be established beforehand to ensure that drone will be flown in a suitable area (e.g. within 400ft of earth’s surface, not close to and/or within congested areas, and will not enter restricted areas etc.)*
 |  |  |
| Lack of competence of drone operator | AllDrone out of control / crashing / injuring persons | * *Operator must be fully conversant with and trained on the use of the drone (N.B. specialist training may be required in some circumstances, e.g. if the drone is being operated on a commercial basis).*
 |  |  |
| Loss of sight of drone during flight | AllDrone out of control / crashing / injuring persons | * *Flight plan to be established beforehand to ensure that the drone will not go out of the operator’s line of sight at any time during the flight.*
 |  |  |
| Poor weather conditions | AllDrone out of control / crashing / injuring persons | * *Weather forecast to be checked before flight to ensure good conditions are forecasted.*
* *Drones should not be operated during high winds (you should check the drone manual for details of any safe operating limits).*
 |  |  |
| Collision with external obstacles (e.g. overhead lines, birds, trees, other aircraft etc.) | AllDrone crashing and inuring persons | * *Operator to produce a flight plan before take-off, ensuring that obstacles are not in the line of sight.*
* *Operator to have full vision of the drone at all times during flight.*
* *Drone must not be flown any higher than 400 ft above the earth’s surface.*
* *Drone not to be flown within 50m of persons.*
* *Drone not to be within 30m of any persons during take-off and landing.*
* *The drone will not be flown within the Flight Restriction Zone of a protected aerodrome.*
 |  |  |
| Operator being distracted | Spectators / members of the publicDrone out of control / crashing / injuring persons | * *Spectators and others to be advised when the flight will take place and to not speak to the drone operator unless there is an emergency.*
 |  |  |
| Injury to spectators / members of the public | Spectators / members of the publicSerious injury / death | * *Drone not to be flown within 50m of persons.*
* *Flight plan to be made before take-off.*
* *Spectators to be informed of flight beforehand, and when possible, advised of flight plan.*
* *First aid provision available.*
 |  |  |
| Drone overheating | AllDrone catching on fire / burns / injury | * *Drone to be serviced and maintained in accordance with the manufacturer’s specification – see ‘Lack of maintenance of drone’ and ‘Lack of servicing / inspection of the drone’.*
* *You should consult the drone manual for any safe operating limits.*
 |  |  |
| Articles dropping from the drone | AllPersons being hit by falling article / injury | * *Any installations / articles attached to the drone to be secured and checked pre-flight by operator.*
 |  |  |
| Unauthorised use of the drone | AllDrone not used properly / crashing / flying into restricted areas | * *Only trained drone operator to be permitted to fly the drone.*
* *Drone to be stored securely when not in use with access limited to authorised personnel.*
 |  |  |
| Loss of power | AllDrone failing mid-flight / injury | * *Completion of pre-use checks to ensure that the drone has adequate power for the intended flight.*
 |  |  |
| Lack of suitable insurance | All | * *Describe here the insurance that is in place for the use of your drone(s).*
 |  |  |
| Lack of suitable licensing / permits | All | * *You should consult the CAA website at*: [*https://www.caa.co.uk/consumers/unmanned-aircraft-and-drones/*](https://www.caa.co.uk/consumers/unmanned-aircraft-and-drones/) *to determine whether you will require a license and/or permit to operate the drone, and ensure that this is in place prior to operation.*
 |  |  |
| *Other hazards identified…* |  |  |  |  |

Document Control

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| Revision No. |  |  |  |  |  |  |  |  |  |  |
| Frequency of review |  |  |  |  |  |  |  |  |  |  |
| Next review date |  |  |  |  |  |  |  |  |  |  |
| Reviewed by |  |  |  |  |  |  |  |  |  |  |

Action Plan

| Action required | Person(s) Responsible | Target Date | Completion Date |
| --- | --- | --- | --- |
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| --- | --- | --- | --- | --- | --- |
| Risk Assessor Name |  | Signature |  | Date |  |
| Approver Name |  | Signature |  | Date |  |