

1. We have considered the use of drones, for checking coastal paths and out of the way areas. we just were not sure of the Licencing, insurance, and training requirements.

*There are 2 ways to manage this – you can buy a drone, have one or more of your staff trained to use it (a good few reputable companies out there), prepare your operations manual and submit it to the Civil Aviation Authority for the new GVC general flight permissions. Someone must than also manage your insurances, maintain flight logs, and manage maintenance of the drone and keep a record of that too. The things you can and cannot do vary slightly depending on how big the drone you are flying is, however, for this purpose, here's what they say:-*

- *You must pass the online test and hold a Flyer-ID, and must register as a UAS operator, and display your Operator ID on your UAS.*
- *You are responsible for flying your UAS in a safe manner.*
- *You must keep the UAS in your direct sight at all times while it is flying, so that you can ensure that it does not collide with anything, especially other aircraft.*
- *You must not endanger anyone, or anything with your UAS.*
- *You must not fly more than 400ft/120m above the surface.*
- *You must not fly within the Flight Restriction Zone of a protected aerodrome, or within any other airspace restriction without permission. More information on airspace restrictions.*
- *You UAS must weigh less than 25Kg.*

*The second way, of course, is to bring in a sub-contractor like us who can manage all of this on your behalf!*

2. As a previous sceptic, particularly of the government stance and impending regulation, I am of the opinion that the "newsworthy" drone event a couple of years ago at Gatwick? (Heathrow?) may have been hyped up to enable more stringent regulation to be put in place. I am not aware of there being anyone being brought to book over this incident. What is your learned opinion please?

*Yes, no one was ever arrested for this. In my personal opinion, there probably was one drone for a short time and the rest of the sightings were mistaken or people spotting the police drones that were looking for the original one. I do not think it was hyped up for any reason other than it made for a story for the media. If anything, the regulations have been slightly relaxed and, in our experience, airports are very accommodating if you need to fly near them (see also Network Rail).*

3. We have used them to check paint on a Wind Turbine Jacket but workers would not allow drones flying above so could only use them during workers break time. Thoughts?

*It would be difficult for me to understand what their concern about having drones flying over them are. If it's safety, mitigations that are commonly carried out onsite (proper PPE/Goggles/footwear) should be enough to deal with any risk, briefings need to take place as well as highlighted in RAMS. If it's privacy concerns, they're at work so I'm not sure what privacy they would need, but a good data handling system should deal with that. I can't think of anything else!*

4. Is there an assessment of using Drones in hazardous classified areas?

*Without knowing which kind of areas you mean, it's hard to say – however there are drones which are certified for underground flying in confined areas, oil and gas stations and nuclear sites. One drone in particular is used to inspect 30% of the nuclear reactors in the US.*

5. Would you need permissions from residents for flying over private properties?

*This is a tricky one – permission is sought only for take-off and landing areas (and that is only to avoid trespass). Flying a drone in a “built-up area” (not defined by the CAA...) is permitted with smaller drones under the new regulations. However, if we need to inspect a roof (so a flight at relatively low levels), we tend to speak to nearby residents beforehand.*

6. Have there been an incident when using a drone on site?

*We haven't had one in over 1000 flights, however, there has been one recent incident with a different company involving their drone losing GPS and flying away and landing on a roof. This particular incident was avoidable if the pilot had been more experienced in flying in case of such an event, the inquiry found. All such incidents are reported to and investigated by the CAA in the same way as any other aircraft incident.*

7. Where do you stand with data protection with filming i.e. people moving into shot?

*The rules regarding data protection are the same as any other kind of filming. If you're filming for a TV show, you need to put signs up asking people to contact an email address if they object, but only if they can be clearly identified. From the air, this is extremely unlikely in the vast majority of cases. For our purposes, the footage is very rarely for public use and so is of no real concern – however, all footage/photos should be stored to Cyber Essentials Plus standards to mitigate any cyber theft.*

8. Of the documentation required under the PfCO (or equivalent); what would be reasonable to request from drone providers prior to a flight?

*A copy of the permission from the CAA  
A RAMS  
A copy of their insurance certificates*

*Most of our clients only require this when they procure us, however.*

9. Have you ever experienced fly away incidents due to interference from communication power sources in the work area?

*Never – sometimes we have had loss of camera signal but that is about it. We regularly inspect telecoms masts at the rate of 30-70 per month too.*

10. Hi Toby, do you have software that you can use to calculate crowd capacity (PAX) at events? this is a perennial issue in live events.

*As I mentioned, we have developed a tethered drone product we call SkyWire (<https://www.dronevolution.co.uk/skywire/>) which keeps a drone in the air for hours which is perfect for such a purpose. We don't have the software, but we work with people who do and would be happy to discuss.*

11. Our insurance provider requires additional PL insurance from our Drone Contractor - is this something you commonly encounter?

Yes – we had to double ours to £10 million.

12. Most of the drones are fixed with exposed fans "without protection" that may be affected by hitting something or cause injury to people if accidentally hit somebody, is it better for manufacturers to consider that? any assessment made in this regard?

*Covering the blades does cause an issue with flight and so it is best avoided. I do not think this is a significant risk if good practice is followed as previously discussed. I am yet to hear of a drone injuring a person when used commercially – falling from height kills 40 people per year.*

13. HI, I'm running a block management company and willing to use drone surveys. Is there a regulatory body where the companies such as yourself need to be registered?

*Yes, the Civil Aviation Authority. As previously discussed, a reputable company should be open to show you their standard RAMS, typical flight planning methodology (for us that is included in the RAMS) and a copy of the CAA permission certificate.*

14. Drone features -to be compliant would the drone need to meet minimum specification requirements ,for example return to operator when battery power is low etc?

*Yes, you have to specify which drones you are flying when you submit your manual to the CAA.*

15. It would be great if we can use it in remote oil & gas industry. i.e. pipeline monitoring, oil spills monitoring & evaluation, security patrol. this is quite depending on the travel distance & flight time. any idea would be appreciated.

*Happy to discuss this with you as there is a lot to unpack here – but yes, this is possible as previously mentioned.*

16. Being used on highways maintenance in the UK to cut down on hazards associated with driving and traffic. I guess there will still need to be a "person" within the vicinity. I suppose the person will stand on a bridge and operate the drone in both directions.

*Yes, although we would (of course) also mention that tethered drones are useful for this purpose for more longer-term monitoring. Yes, someone could do that which would give you 500m in each direction.*

17. Re VLOS, the Australians are fitting aviation strobes to extend distance. have you seen that in UK?

*Not personally, but exemptions to the standard VLOS permissions are being granted to innovators all over the world. Cranfield University are pioneering this in the UK but there are pockets of this happening in other parts of the country. Usually for the purposes of developing drone delivery services.*

18. Is a "Certificate of Recommendation for issue of a CAA Standard Permission" deemed suitable evidence of competence for Drone pilots?

*Yes, in theory, because the training certificate granted by an NQE (National Qualified Entity) has to be submitted as part of the operations manual.*



19. I presume that bird strikes are still an issue but perhaps less so than to the usual type of aircraft?

*Yes, much less so. Seagulls are the worst in nesting season, they have a habit of taking an interest. In such a scenario, all our pilots are trained to return to home immediately to avoid the issue.*

20. Where does drone stand in relation to Regulation of investigatory act 2000?

*I will preface this answer by stating that I am not an expert in RIPA and the following paragraph is my opinion based on my limited knowledge of it. The systems that are covered in the act are generally covert surveillance systems (e.g. working undercover, bugging, following people etc as opposed to say, CCTV). Drones being so visible and audible and so more likely to be a deterrent. However it would seem that if footage had been taken in a public area, the police could request to have that footage.*

21. Do you think that drones will lift people and that there will be airports as the news suggests? What will be the issues to you foresee ?

*Yes, and in the Far East, drone taxis are being trialled. I would imagine that they are as safe as any other form of aircraft (so statistically the safest way to travel) and regulated as such. The aircraft industry is the gold standard for investigations. My only concern would be an over reliance on GPS – easily jammed.*

For any further information regarding the use of Drones to Improve Safety please contact:

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