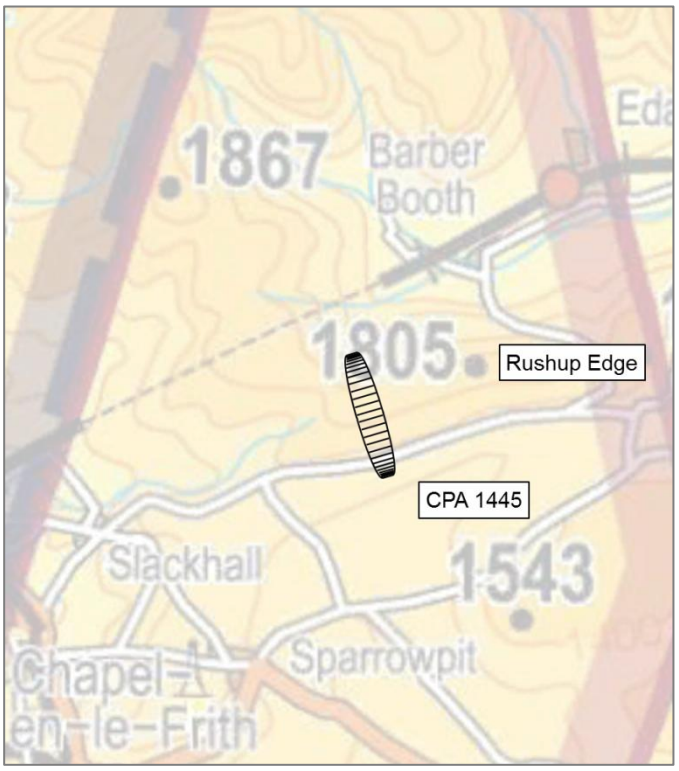
AIRPROX REPORT No 2014198

Date/Time: 2 Oct 2014 1445Z

Position: 5321N 00150W (Rushup Edge)

Airspace: London FIR (*Class*: G)

	Aircraft 1	*Aircraft 2*
Type:	Paraglider	Untraced quadcopter
Operator:	Civ Pte	
Alt/FL:	150ft agl	
Conditions:	VMC	
Visibility:	5km	
Reported Separation:	20ft V/0m H	
Recorded Separation:	Not Recorded	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PARAGLIDER PILOT reports ridge-soaring in a purple and white paraglider. The pilot was operating under VFR in VMC in 'strong winds' and therefore relatively high, at about 150ft. He saw a 'DJI Phantom FC40 type' quadcopter drone descend to about 20ft above his canopy. He noted it was quite hard to see against the grey sky, even with a row of green and orange LEDs on the underside. The pilot reported that he couldn't see anyone on the ridge or in the fields below 'with a radio unit' and assumed the quadcopter had a camera and was being flown out of line of vision using a remote screen to monitor the 'view' from the drone. He stated that each time he changed direction the quadcopter tracked the change and followed him, with about 25ft vertical separation and between zero and 25ft horizontal separation. Whilst quite interesting to watch, and remarkably stable in strong winds, the hazard of a collision with his thin canopy-to-harness lines caused serious concern. The quadcopter flew close on a number of occasions and, he suspected, was taking video footage of his paraglider with an onboard camera. It flew at estimated heights of between 150ft and much higher, to the point of barely being visible. The paraglider pilot flew the length of the ridge a couple of times, looking for someone with a remote control transmitter, but couldn't see anyone. He stated that some time after landing, another pilot told him they had seen the quadcopter fly down to the road where it was landed and loaded into a car. He opined that the quadcopter operator may have piloted the craft from inside the car.

He assessed the risk of collision as 'High'.

THE QUADCOPTER OPERATOR could not be traced.

Factual Background

The weather at Manchester was recorded as follows:

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METAR EGCC 021450Z 19010KT 130V210 9999 FEW030 SCT045 17/10 Q1026 NOSIG
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Analysis and Investigation

UKAB Secretariat

The quadcopter operator was required to maintain direct, unaided visual contact with the quadcopter, sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions[1]. If the quadcopter is regarded as a small unmanned surveillance aircraft[2] then the operator was required not to fly it within 50m of any person, or 30m when taking off or landing[3]. If using 'first-person-view' (FPV) to operate the quadcopter, then the person in charge was required to be accompanied by a competent observer who maintains direct unaided visual contact with the quadcopter; in such circumstances, the quadcopter is required to have a maximum take-off mass not exceeding 3.5kg, and is required to be flown at a height of not more than 1000ft above the surface[4].

Summary

An Airprox was reported when a paraglider and a quadcopter flew into proximity at about 1445 on Thursday 2nd October 2014. The paraglider pilot was operating under VFR in VMC, not in receipt of an Air Traffic Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the paraglider pilot.

The Board noted that this incident was one of an increasing number of Airprox involving small unmanned aircraft (SUA). It appeared from the paraglider pilot's report that the quadcopter had been flown around him and his canopy at extremely close range as a deliberate act in order to obtain video footage. If the ranges reported were accurate, the Board noted that the quadcopter's flight was in contravention of the Air Navigation Order, and therefore a criminal offence. Members felt that the easy availability of SUA, along with the lack of a requirement to demonstrate understanding of the relevant regulations, was highly likely to result in future situations where airspace users would be put in danger by the unthinking or unknowing actions of those who were either not concerned with, or were ignorant of, the proper operation of airborne vehicles. The Board agreed that in this instance the paraglider pilot had been placed in great peril by the reckless actions of the SUA operator. That the SUA operator may not have appreciated the possible ramifications of his actions was of little consolation, and simply emphasised the need for all those partaking in such airborne activity, whether vicariously or not, to understand the relevant regulations and to operate to them in such a manner as to achieve an acceptable level of safety.

Members unanimously agreed that it was clear that the quadcopter had been flown into conflict with the paraglider. They considered that the lack of available control of the quadcopter, and the inability of its operator to properly perceive closing distances and rates, meant that chance had played a major part in events and safety had been very much reduced below acceptable levels; short of the paraglider pilot landing immediately, nothing more could have been done by him to improve matters given that the quadcopter operator seemed to have been deliberately following him in flight.

[1] Air Navigation Order 2009, Article 166.
[2] A small unmanned aircraft which is equipped to undertake any form of surveillance or data acquisition.
[3] ibid., Article 167.
[4] CAA Official Record Series 4, No 1011, General Exemption E 3780 dated 23 April 2014. Reproduced at Annex A.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The quadcopter was flown into conflict with the paraglider.

Degree of Risk: A

ERC Score[5]: 20

[5] Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.

Official Record Series 4

United Kingdom
Civil Aviation Authority

Miscellaneous **No:** 1011

Air Navigation Order 2009 **Publication date:** 23 April 2014

General Exemption E 3780

Small Unmanned Aircraft – First Person View (FPV) Flying

(See Note 1)

1) The Civil Aviation Authority, in exercise of its powers under article 242 of the Air Navigation Order 2009 ('the Order'), exempts any person in charge of a Small Unmanned Aircraft (SUA) from the requirement at article 166(3) of the Order to ensure that direct unaided visual contact is maintained with the aircraft sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions.

2) This exemption only applies if the conditions at paragraphs 3 to 7 are met.

3) a) The person in charge is the person piloting the SUA (see Note 2).

b) The person in charge is accompanied by a competent observer who maintains direct unaided visual contact with the SUA sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions and advises the person in charge accordingly.

c) The maximum take-off mass of the SUA does not exceed 3.5 kg, including any batteries or fuel.

4) The person in charge must not fly the SUA:

a) in Class A, C, D or E airspace unless permission of the appropriate air traffic control unit has been obtained;

b) within an aerodrome traffic zone during the notified hours of watch of the air traffic control unit (if any) at that aerodrome unless permission of any such air traffic control unit has been obtained;

c) at a height of more than 1,000 feet above the surface (see Note 3);

d) over or within 150 metres of any congested area;

e) over or within 150 metres of an organised open-air assembly of more than 1,000 persons;

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f) within 50 metres of any vessel, vehicle or structure which is not under the control of the person in charge of the aircraft;

g) within 50 metres of any other person, apart from the competent observer, except when taking off or landing in accordance with paragraph (h);

h) within 30 metres of any other person, apart from the competent observer, other adjacent model operators, or any model flying club members, during take-off or landing; or

i) for the purposes of aerial work.

5) For the purposes of this exemption, a 'competent observer' means someone whom the person in charge of the SUA has designated as the competent observer.

6) Before designating someone as the competent observer, the person in charge of the SUA must be satisfied that he or she:

a) has been briefed in accordance with paragraph 7;

b) is competent to perform the tasks which he or she may be called upon to perform in accordance with paragraph 7; and

c) is competent, by direct unaided visual observation of the SUA, to assist and advise the person in charge with the safe conduct of the flight.

7) The person in charge must ensure that:

a) the competent observer is fully briefed on the planned flight and what is expected of him/her taking into account the prevailing conditions;

b) the competent observer understands that he/she must stay directly adjacent to the person in charge and maintain direct unaided visual contact with the SUA at all times, to visually and aurally monitor the airspace for other aircraft and the take-off and landing area for any persons;

c) the competent observer has been instructed on the actions to take in the event of another aircraft being spotted and a risk of collision is assessed; and

d) the competent observer understands that he/she must advise if the SUA is proceeding beyond the point at which he/she is able to monitor its flight path sufficiently to identify a risk of collision.

8) This exemption supersedes Official Record Series 4 No. 1009, which is hereby revoked.

9) This exemption has effect from the date hereof until 30 April 2015, unless previously revoked.

J E Benyon
for the Civil Aviation Authority

22 April 2014

Notes:

1) First Person View flying is the ability to control a radio controlled aircraft from a "pilot's eye" perspective through the use of an on-board camera and ground-based receiving and viewing equipment. The viewing equipment is normally a set of video goggles.

2) The person in charge remains responsible for the safety of the operation and may only fly the SUA if reasonably satisfied that the flight can safely be made.

3) This does not remove the requirement (in paragraph 3(b)) for the competent observer to maintain direct unaided visual contact with the SUA throughout the flight. Therefore, the SUA can only be flown up to 1,000 ft if it can still be seen sufficiently for collision avoidance purposes.

4) This exempts only from article 166(3). The other provisions of article 166 and the whole of article 167 continue to apply, so far as may be applicable. In particular, article 166(5) prohibits flight for the purposes of aerial work except in accordance with a permission granted by the CAA.