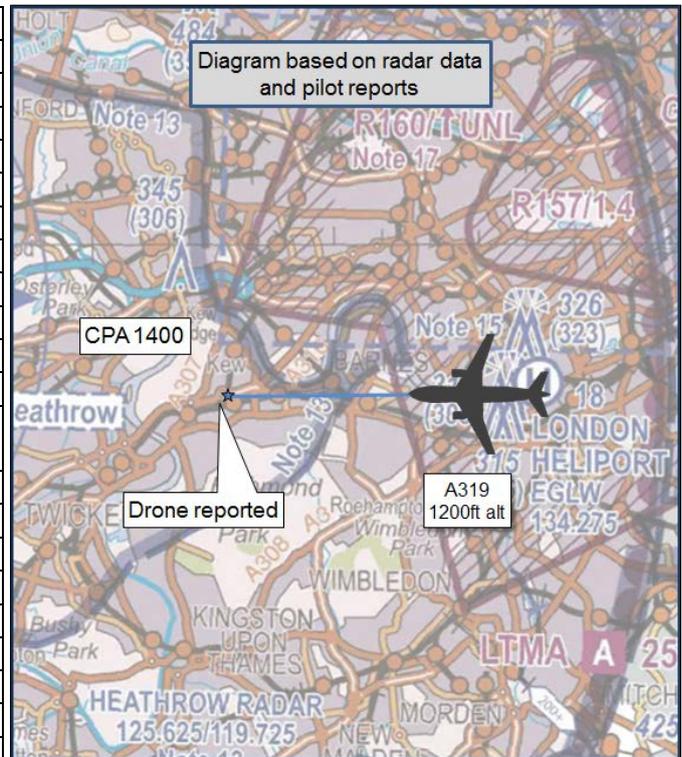


AIRPROX REPORT No 2016095

Date: 21 May 2016 Time: 1400Z Position: 5128N 00016W Location: Heathrow

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	A319	Drone
Operator	CAT	Unknown
Airspace	Heathrow CTR	Heathrow CTR
Class	D	D
Rules	IFR	
Service	NK	
Provider	Heathrow	
Altitude/FL	1200ft	
Transponder	A, C, S	
Reported		Not reported
Colours	Company	
Lighting	Strobes, beacon, nav, nose, wing	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	1200ft	
Altimeter	NK	
Heading	NK	
Speed	NK	
ACAS/TAS	TCAS II	
Alert	NK	
Separation		
Reported	'slightly above' V 30ft H	
Recorded		NK



THE A319 PILOT reports descending at 4nm to land on RW27L when a drone was sighted in the 11 o'clock position, extremely close to the aircraft and too late to take any evasive action. The drone appeared to be approximately 1 metre in length and green with possible purple markings.

The pilot did not make an assessment of the risk of collision.

THE DRONE OPERATOR: The drone operator could not be traced.

Factual Background

The weather at Heathrow was recorded as follows:

METAR COR EGLL 211350Z AUTO 20015KT 9999 BKN023 17/11 Q1008 TEMPO RA BKN014=

Analysis and Investigation

UKAB Secretariat

The Air Navigation Order 2009 (as amended), Article 138¹ states:

'A person must not recklessly or negligently cause or permit an aircraft to endanger any person or property.'

¹ Article 253 of the ANO details which Articles apply to small unmanned aircraft. Article 255 defines 'small unmanned aircraft'. The ANO is available to view at <http://www.legislation.gov.uk>.

Article 166, paragraphs 2, 3 and 4 state:

'(2) The person in charge of a small unmanned aircraft may only fly the aircraft if reasonably satisfied that the flight can safely be made.

(3) The person in charge of a small unmanned aircraft must maintain direct, unaided visual contact 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.'

(4) The person in charge of a small unmanned aircraft which has a mass of more than 7kg excluding its fuel but including any articles or equipment installed in or attached to the aircraft at the commencement of its flight, must not fly the aircraft

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

(b) within an aerodrome traffic zone ...; or

(c) at a height of more than 400 feet above the surface unless it is flying in airspace described in sub-paragraph (a) or (b) and in accordance with the requirements for that airspace.'

In addition, the CAA has published regulation regarding First Person View (FPV) drone operations which limit this activity to drones of less than 3.5kg take-off mass, and to not more than 1000ft².

Summary

An Airprox was reported when an A319 and a drone flew into proximity at about 1400 on Saturday 21st May 2016. The A319 pilot was operating under IFR in VMC in receipt of an Air Traffic Service from Heathrow. The drone operator could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the A319 pilot.

The crew of the A319 reported seeing the drone at about 1200ft, whilst descending at 4nm DME to land on RW27L at Heathrow Airport. The Board first noted that, as for other aviators, drone operators are fundamentally required to avoid collisions with all other aircraft. More specifically, drone flight above 400ft is prohibited in Class A airspace without the permission of the appropriate air traffic control unit and therefore the drone operator was not entitled to operate in this location.

Members agreed that the drone operator was probably flying on first-person-view (FPV) and should not have conducted his flight within the Heathrow CTR without the permission of Heathrow ATC, who confirmed that no such permission had been given. If flying under FPV regulations, an additional person must be used as a competent observer who must maintain direct unaided visual contact with the drone in order to monitor its flight path in relation to other aircraft; notwithstanding, even if an observer was being used, the Board thought that they would not have been able to see the drone clearly at that level. Furthermore, under FPV operations, for drones of less than 3.5kg, the drone is not permitted to operate above 1000ft agl without CAA approval being gained and a NOTAM being issued.

Operating as he was in airspace within which he was not permitted meant that the Board considered that the cause of the Airprox was that the drone had been flown into conflict with the A319. Although the incident did not show on the NATS radars, the Board noted that the pilot had estimated the separation to be 30ft from the cockpit, almost co-altitude, and that there had not been time to take any avoiding action. Acknowledging the difficulties in judging separation visually without external references, the Board considered that the pilot's estimate of separation, allied to his overall account of the incident, portrayed a situation where a collision had only been narrowly avoided and chance had played a major part; they therefore determined the risk to be Category A.

² ORS4 No. 1168 Small Unmanned Aircraft – First Person View (FPV) Flying available at: [ORS4 No 1168](#).

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The drone was flown into conflict with the A319.

Degree of Risk: A.