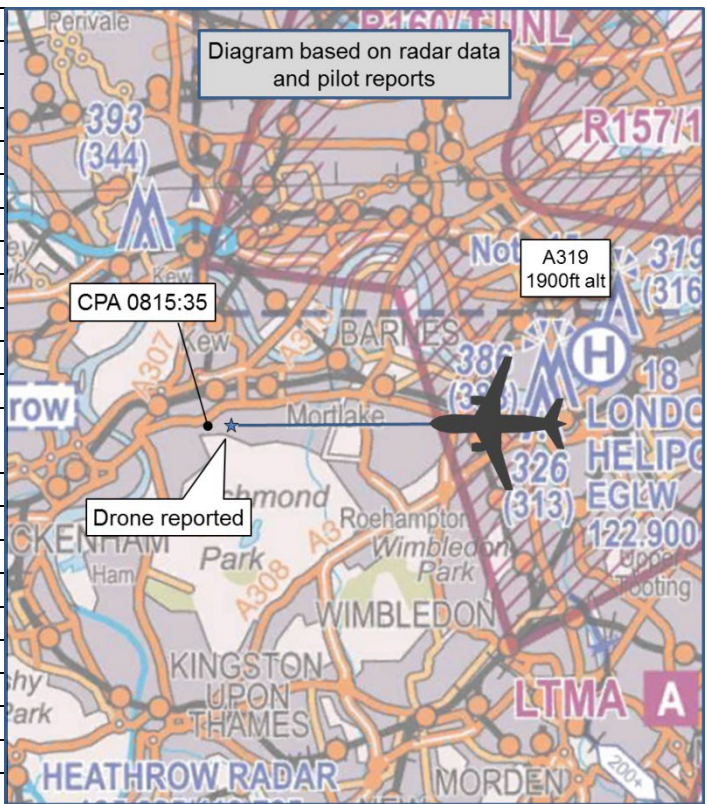


**AIRPROX REPORT No 2015207**

Date: 28 Nov 2015 Time: 0815Z Position: 5128N 00017W Location: 8nm E Heathrow

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	A319	Drone
Operator	CAT	Unknown
Airspace	LTMA	LTMA
Class	D	D
Rules	IFR	
Service	Radar Control	
Provider	Heathrow Tower	
Altitude/FL	1900ft	
Transponder	A,C,S	
<b>Reported</b>		Not Reported
Colours	White, red	
Lighting	Strobes, Nav, landing lights.	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	1900ft	
Altimeter	QNH (1015hPa)	
Heading	270°	
Speed	160kt	
ACAS/TAS	TCAS II	
Alert	None	
<b>Separation</b>		
Reported	400-900ft V 0.5nm H	
Recorded	NK	



**THE A319 PILOT** reports that at approx. 1900ft on final approach to Heathrow both crew members spotted an object moving rapidly from west to east roughly half a mile to the south of their position. Its height was hard to judge because its size was unknown, but it was thought to be between 400-900ft below them, and was noticeable due to the sunlight glinting off its upper surface. It was overhead Richmond and heading towards Richmond Park. They assessed its flight path as no risk to their own so continued with the approach, had it been further north they felt they would have needed to go-around. Given that they saw the drone at the same time as final configuration for landing, during a high cockpit workload, they considered that it was highly distracting.

He assessed the risk of collision as 'None'.

**THE Drone Operator could not be traced.**

**THE HEATHROW WATCH SUPERVISOR CONTROLLER** reports that this was the second report of a drone that morning, the first was also from an aircraft inbound to RW27 who reported the drone passing 5nm away down the left hand side and 1000ft below. This report was believed to be in approximately the same position as the first report. The police were informed and a message put on ATIS to warn other inbound aircraft. The arrival controller also passed information to subsequent inbound aircraft for the next 30min.

## Factual Background

The weather at Heathrow was recorded as follows:

EGLL 280750Z AUTO 23009KT 9999 NCD 03/00 Q1015 NOSIG=

## Analysis and Investigation

### UKAB Secretariat

The Air Navigation Order 2009 (as amended), Article 138<sup>1</sup> states:

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

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.<sup>1</sup>

(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 guidance 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 1000ft<sup>2</sup>.

## Summary

An Airprox was reported when an A319 and a drone flew into proximity at 0815 on Saturday 28<sup>th</sup> November 2015. The A319 pilots were operating under IFR in VMC, and receiving a Radar Control Service from Heathrow Tower. 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, radar photographs/video recordings, and reports from the air traffic controllers involved.

Members considered the circumstances of the incident and noted that, for flights within Line-of-Sight, CAA guidance<sup>3</sup> is that the drone operator is required to employ the See-and-Avoid principle through continued observation of the drone, and the airspace around it, with respect to other aircraft and objects. Within the UK, Visual Line-of-Sight operations are normally accepted as being out to a maximum distance of 500m horizontally, and 400ft vertically from the drone operator.

<sup>1</sup> 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>.

<sup>2</sup> ORSA No. 1108 Small Unmanned Aircraft – First Person View (FPV) Flying available at: [ORSA No 1108](http://www.orsanumber.com/1108).

<sup>3</sup> <http://www.caa.co.uk/Commercial-Industry/Aircraft/Unmanned-aircraft/Unmanned-Aircraft>

In this incident, with the drone reportedly being flown at 1000-1500ft, members opined that the drone operator was probably flying on First Person View (FPV), for which regulation mandates that 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. Irrespective, the drone was within the London TMA Class D airspace above 400ft and without permission.

As is often the case with drone Airprox, the incident did not show on the NATS radars. The Board noted that the A319 pilot estimated that the drone was between 400-900ft below and within 0.5nm of the A319. Although this indicated that the drone was being operated contrary to regulations and could therefore be construed as having been flown into conflict with the A319, in this instance the Board concluded that the reported separation meant that this incident was more appropriately described as a sighting report with a Category C risk - no risk of collision.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: A sighting report.

Degree of Risk: C.