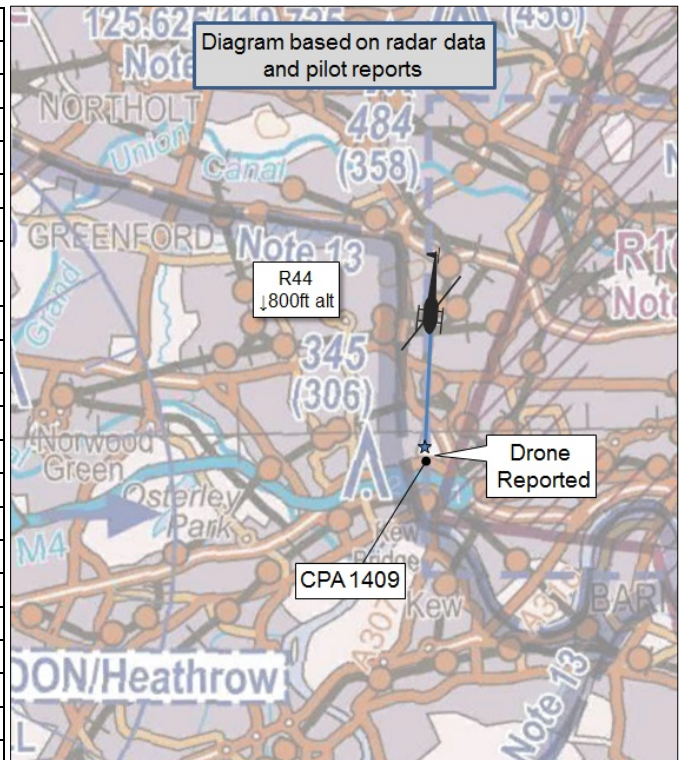


**AIRPROX REPORT No 2016258**

Date: 11 Dec 2016 Time: 1409Z Position: 5130N 00017W Location: Gunnersbury Park

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	R44	Drone
Operator	Civ Trg	
Airspace	LTMA	
Class	A	A
Rules	VFR	
Service	Radar Control	
Provider	Heathrow Special	
Altitude/FL		
Transponder	A, C, S	
Reported		
Colours	Black	Black
Lighting	Strobe, Nav	
Conditions	VMC	
Visibility	10km	
Altitude/FL	900ft	
Altimeter	QNH (1025hPa)	
Heading	180°	
Speed	90kt	
ACAS/TAS	Not fitted	
Separation		
Reported	0ft V/15-20ft H	
Recorded	NK	



**THE R44 PILOT** reports that he was approaching Gunnersbury Park, descending through 900ft for 800ft for the heli-lanes. Initially they saw what was believed to be a bird ahead, moving right to left and not seen to be a threat. Then it stopped and appeared to be moving directly towards them, at this point they could see it was a drone and so they took evasive action to the right and passed within 15-20ft of it. It was a medium sized, black drone with four rotors.

He assessed the risk of collision as 'High'.

**THE DRONE OPERATOR could not be traced.**

**THE SWANWICK GROUP SUPERVISOR AIRPORTS** reports that he was on duty as GS Airports when the Thames Radar controller called him to tell him that a helicopter had reported a drone in close proximity. He went over to the controller to provide support and to ascertain the details. The R44 was flying between Hanger Lane and Kew Bridge and descending from 1000 to 800ft, and had just encountered the RPAS near Gunnersbury Park. The Supervisor telephoned the police to report the incident. Later the R44 pilot telephoned to provide further details, he reported seeing the drone as they were approaching the 'second park' of three when both crew saw what they initially thought was a bird flying right to left and which they judged they would go behind. It stopped in their 12 o'clock and they realised it was a sizable black drone, with four rotors, hovering in their path. They took avoiding action to the right to miss the air-system by 15-20ft.

**Factual Background**

The weather at Heathrow was recorded as follows:

METAR COR EGLL 111350Z AUTO 27010KT 9999 NCD 10/07 Q1025 NOSIG=

## Analysis and Investigation

### UKAB Secretariat

There are no specific ANO regulations limiting the maximum height for the operation of drones that weigh 7kg or less other than if flown using FPV (with a maximum weight of 3.5kg) when 1000ft is the maximum height. Drones weighing between 7kg and 20kg are limited to 400ft unless in accordance with airspace requirements. Notwithstanding, there remains a requirement to 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. CAP 722 gives guidance that, within the UK, visual line of sight (VLOS) operations are normally accepted to mean a maximum distance of 500m [1640ft] horizontally and 400ft [122m] vertically from the Remote Pilot.

Neither are there any specific ANO regulations limiting the operation of drones in controlled airspace if they weigh 7kg or less other than if flown using FPV (with a maximum weight of 3.5kg) when they must not be flown in Class A, C, D or E, or in an ATZ during notified hours, without ATC permission. Drones weighing between 7kg and 20kg must not be flown in Class A, C, D or E, or in an ATZ during notified hours, without ATC permission. CAP722 gives guidance that operators of drones of any weight must avoid and give way to manned aircraft at all times in controlled Airspace or ATZ. CAP722 gives further guidance that, in practical terms, drones of any mass could present a particular hazard when operating near an aerodrome or other landing site due to the presence of manned aircraft taking off and landing. Therefore, it strongly recommends that contact with the relevant ATS unit is made prior to conducting such a flight.

Notwithstanding the above, all drone operators are also required to observe ANO 2016 Article 94(2) which requires that the person in charge of a small unmanned aircraft may only fly the aircraft if reasonably satisfied that the flight can safely be made, and the ANO 2016 Article 241 requirement not to recklessly or negligently cause or permit an aircraft to endanger any person or property. Allowing that the term 'endanger' might be open to interpretation, drones of any size that are operated in close proximity to airfield approach, pattern of traffic or departure lanes, or above 1000ft agl (i.e. beyond VLOS (visual line of sight) and FPV (first-person-view) heights), can be considered to have endangered any aircraft that come into proximity. In such circumstances, or if other specific regulations have not been complied with as appropriate above, the drone operator will be judged to have caused the Airprox by having flown their drone into conflict with the aircraft.

A CAA web site<sup>1</sup> provides information and guidance associated with the operation of Unmanned Aircraft Systems (UASs) and Unmanned Aerial Vehicles (UAVs).

Additionally, the CAA has published a UAV Safety Notice<sup>2</sup> which states the responsibilities for flying unmanned aircraft. This includes:

'You are responsible for avoiding collisions with other people or objects - including aircraft.  
Do not fly your unmanned aircraft in any way that could endanger people or property.  
It is illegal to fly your unmanned aircraft over a congested area (streets, towns and cities).  
..., stay well clear of airports and airfields'.

### Summary

An Airprox was reported when an R44 and a drone flew into proximity at 1409 on Sunday 11<sup>th</sup> December 2016. The R44 pilot was operating under VFR in VMC, and in receipt of a Radar Control Service from Heathrow Special. The drone operator could not be traced.

<sup>1</sup> [www.caa.co.uk/uas](http://www.caa.co.uk/uas)

<sup>2</sup> CAP 1202

**PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of a report from the R44 pilot, radar photographs/video recordings, and a report from the air traffic controller involved.

Members noted that the drone was operating at about 900ft and therefore close to the limits of practical VLOS conditions. Based on the pilot's report that the drone stopped and flew towards the R44, the Board considered that the drone operator had endangered the R44 and its occupants. Therefore, in assessing the cause, the Board agreed that the drone had been flown into conflict with the R44. Turning to the risk, the incident did not show on the NATS radars but the Board noted that the pilot estimated the drone to be within 15-20ft of the aircraft. Acknowledging the difficulties in judging separation visually without external references, the Board considered that the pilot's overall account of the situation 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.

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

Cause: The drone was flown into conflict with the R44.

Degree of Risk: A.