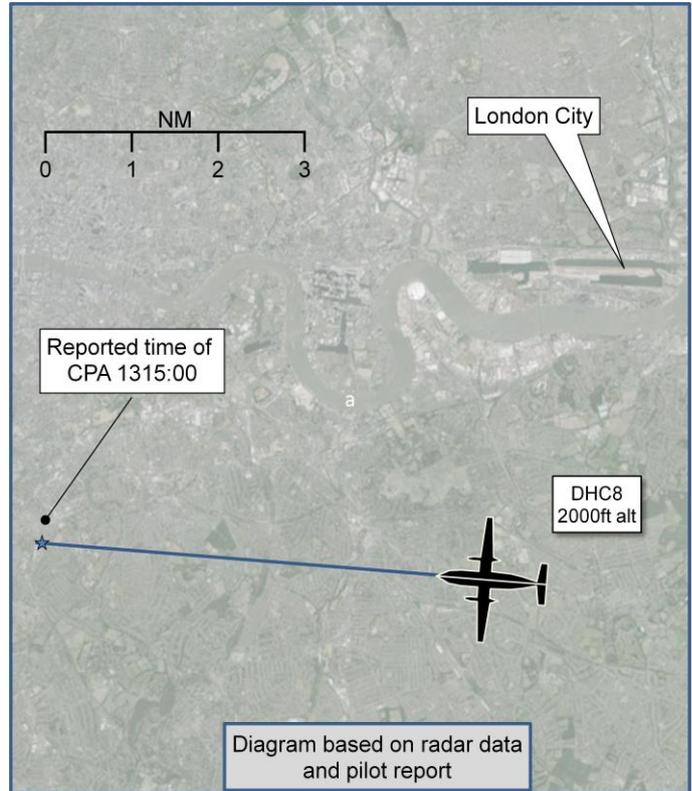


**AIRPROX REPORT No 2015049**

Date: 19 Apr 2015 Time: 1315Z Position: 5130N 0003W Location: SW London City (Sunday)

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	DHC8	Drone
Operator	CAT	Unknown
Airspace	City CTR	City CTR
Class	D	D
Rules	IFR	NK
Service	Radar Control	NK
Provider	Thames	NK
Altitude/FL	2000ft	NK
Transponder	On, A, C, S	NK
<b>Reported</b>		
Colours	NK	Black/white
Lighting	NK	None
Conditions	NK	NK
Visibility	NK	NK
Altitude/FL	2000ft	2000ft
Altimeter	NK	NK
Heading	090°	NK
Speed	NK	NK
ACAS/TAS	TCAS II	NK
Alert	Nil	NK
<b>Separation</b>		
Reported	0 V/50-150m H	NK
Recorded	NK	



**THE DHC8 PILOT** reports flying downwind to RW09 at London City, level at 2000ft when a black and white object passed down the right-hand side of the aircraft at the same level. The object may have been stationary. He described the object as a drone with lettering on it, both pilots agreed that one of which was an 'X'. On disembarkation, a passenger also reported sighting the object.

He perceived the severity of the incident as 'possibly catastrophic'.

**Factual Background**

The weather at London City at the time of the incident was:

METAR EGLC 191320Z 01008KT 340V040 9999 SCT033 BKN042 10/02 Q1023

**Analysis and Investigation**

**CAA ATSI**

The DHC8 was being vectored for an ILS approach to Runway 09 at London City. When the aircraft was approximately 3 miles south of London City Airport, and downwind right-hand for runway 09, the pilot reported seeing a drone at approximately 200m range and at the same height of 2000ft. The pilot reported the incident to ATC at the time. After landing the pilot and co-pilot, who had also seen the object, agreed that the miss distance was likely to be 50-150m and that the object was at least 1 metre in size, was black and white in colour and had some letters on it (the second of which may have been an X). A query to London City Tower after landing confirmed

that they had had a similar report but not on that day. A passenger on the aircraft also reported seeing a black and white object. A review of the radar did not show any contact in the vicinity.

## 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.’

(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.’

A CAA web site<sup>2</sup> provides information and guidance associated with the operation of Unmanned Aircraft Systems (UASs) and Unmanned Aerial Vehicles (UAVs).

The CAA has published a UAV Safety Notice<sup>3</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).

Also, stay well clear of airports and airfields.’

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>4</sup>.

## Summary

An Airprox was reported on Sunday 19<sup>th</sup> April 2015 at 1315 between a DHC8 and an unknown object, described as a drone. The DHC8 was downwind right-hand to land at London City. No other radar returns were seen in the vicinity of the aircraft. There are numerous parks and open spaces where drones could be operated from that were close to the flight path at the time the incident was reported.

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

<sup>3</sup> CAP 1202

<sup>4</sup> ORSA No. 1108 Small Unmanned Aircraft – First Person View (FPV) Flying available at: <http://www.caa.co.uk/docs/33/1108.pdf>.

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

Information available consisted of reports from the pilots, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board noted, as it had done for many other recent Airprox involving drones, that the drone should not have been at 2000ft altitude anyway, let alone in the vicinity of London City Airport. Noting that on 8 May 2015 the CAA had issued CAP 493 SI 2015/02 (Issue 1), *AIRPROX Involving Small Unmanned Aircraft*,<sup>5</sup> which refers to the reporting of drone Airprox incidents to the civil police as soon as practical to initiate tracing action, the Board questioned if there were any particular Police procedures when receiving reports of drone activity near aerodromes, as is the case with laser attacks. Anecdotal evidence indicated that when some incidents had been recently reported the receiving police force had either not responded or had not known what to do with the information. The Board felt that it would be useful for the CAA to enter into a dialogue with the National Police Chiefs' Council (NPCC) regarding the continuing problem of drones and, in particular: how to enforce the regulations; what specific actions the police would take on receiving a drone report and the setting up of a database of drone incidents that could be used to assist in future investigations. Whilst the Board was aware that the CAA were in the process of highlighting the issue and associated regulations for operating drones, it remained clear that there was a general inability to enforce them.

The Board's discussion on the issue of drone Airprox ranged far-and-wide. Options such as Geo-Fencing (which could restrict drones and other UAVs from operating in sensitive airspace such as aerodromes); drone registration (whereby every drone could be registered to a specific user); drone activation codes (whereby drone purchasers would have to access the CAA drone website for an activation code prior to first use of the drone and thereby have the opportunity to read associated advisory material) were all discussed as potential ways to help address the problem of illegal drone use. Members pointed out that many of these solutions would probably not be a difficult barrier to those with the technical ability to overcome, but at least they might help educate and stop those who were consumer-operators who might know no better.

In conclusion, the Board agreed that the cause of the Airprox had been that the drone had been flown into conflict with the DHC8. Although there was no radar information to measure the separation, it was clear that the pilots of the DHC8 had seen the drone at close-quarters (at 50-100m, and able to read the writing on the drone), and so the Board assessed that safety margins had been much reduced below the norm; they categorised the incident as risk Category B.

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

<u>Cause:</u>	The drone was flown into conflict with the DHC8.
<u>Degree of Risk:</u>	B.
<u>Recommendation:</u>	The CAA liaises with NPCC to clarify Police response to ATC reports of Airprox involving drones.

<sup>5</sup> Which is an amendment to the Airprox reporting procedure at Section 6, Chapter 3 of CAP 493 (Manual of Air Traffic Services Part 1) and states that reporting action at aerodromes and ACCs is to include notification to civil police of the location of the Airprox as soon as practicable to initiate tracing action. Available at <http://www.caa.co.uk/docs/33/CAP493SupplementaryInstruction201502Issue01.pdf>.