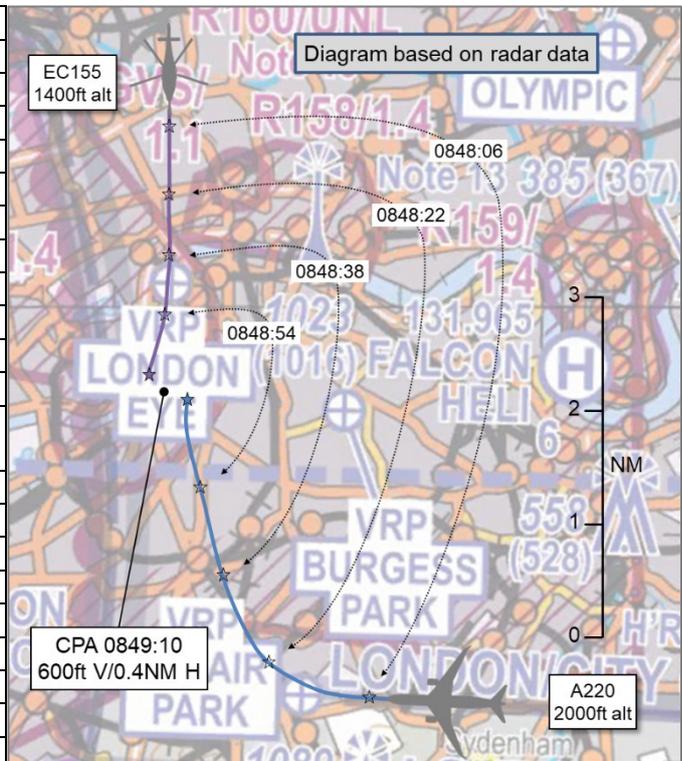


**AIRPROX REPORT No 2022278**

Date: 13 Dec 2022 Time: 0849Z Position: 5129N 00007W Location: 1NM S London Eye VRP

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	A220	EC155
Operator	CAT	Civ Comm
Airspace	London City CTR	London City CTR
Class	D	D
Rules	IFR	VFR
Service	Radar Control	Radar Control
Provider	Thames Radar	Thames Radar
Altitude/FL	2000ft	1400ft
Transponder	A, C, S+	A, C, S
<b>Reported</b>		
Colours	White	Grey
Lighting	Landing, Strobe	Nav, Anti-col, Search
Conditions	VMC	VMC
Visibility	5-10km	>10km
Altitude/FL	2000ft	1300ft
Altimeter	QNH (NK hPa)	QNH (1009hPa)
Heading	NK	180°
Speed	160kt	145kt
ACAS/TAS	TCAS II	ACAS
Alert	RA	Information
<b>Separation at CPA</b>		
Reported	500ft V/200m H	1000ft V/3NM H
Recorded	600ft V/0.4NM H	



**THE A220 PILOT** reports that they received Traffic Information from ATC about a helicopter 500ft below and descending. They had the traffic on their TCAS display. After receiving a TCAS TA they also had a TCAS RA (Monitor vertical speed) to not descend. The TCAS RA was during the intercept of LOC for [their final approach to destination].

The pilot assessed the risk of collision as ‘Low’.

**THE EC155 PILOT** reports that they were conducting a positioning flight from [departure airfield] to [destination] Heliport. ATC approval and permission was obtained from Heathrow Radar to route via Ally Pally (VRP) to Vauxhall Bridge, to join H4 routing to [destination] under a Radar Control Service. This is a standard route from the north to enter the Zone to [destination]. The cleared altitude was not above 1300ft VFR inside the Zone which was read-back and conducted using the aircraft autopilot system from Ally Pally (VRP) to the top-of-descent point. During the transit in the Zone, it was reported by Heathrow Radar that [A220 destination airport] had inbound traffic (A220) which was acknowledged and visually identified approximately 6NM SE of the helicopter’s position. It was subsequently noted that the actual track of the A220 was a descending right-hand (base leg) turn [they thought] flying directly overhead the helicopter at the approximate reported Airprox position. The cleared altitude (1300ft) was maintained throughout the cleared transit and no audible warnings were initiated from the helicopter’s ACAS. The EC155 helicopter has no ability to record GPS track. [A220 destination airfield] base-leg traffic is not an uncommon sighting close to the Heli route (and above) where helicopters join the Thames river for H4 between the London Eye and Vauxhall Bridge. As such, good continuous visual identification and separation from the A220 were maintained throughout its approach.

The pilot assessed the risk of collision as ‘None’.

**THE THAMES RADAR CONTROLLER** reports that [the A220] was positioned for final approach into [destination airfield] as per standard published procedures. [The EC155 pilot] was given a VFR clearance inbound to [their destination] as per standard procedures. Traffic Information was passed to both aircraft pilots in a timely manner. Both pilots acknowledged and neither queried. [The A220] was level at 2000ft IFR. [The EC155] was not above 1400ft VFR. This is the lowest level the controller is able to give due to restricted areas over the centre of London. The clearance given to [the EC155 pilot] was in keeping with long standing procedures and this scenario is a regular event when [the A220 destination airport is landing in this direction]. To their knowledge, no Airprox had been filed on frequency.

There was no loss of separation as [one pilot was] VFR [and the other] IFR with timely Traffic Information passed.

## Factual Background

The weather at London City was recorded as follows:

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METAR EGLC 130850Z AUTO 06003KT 020V080 9999 NCD M00/M03 Q1010
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## Analysis and Investigation

### NATS Safety Investigations report summary

An Airprox was reported by the pilot of [the A220], operating IFR, at 2000ft on base leg for their approach [and] an EC155 helicopter operating VFR, at 1400ft. Both aircraft were initially under the control of the same Thames/SVFR controller within Class D airspace. The controller passed Traffic Information to both pilots in accordance with MATS Part 1 procedure.

Information available to the investigation included:

- A report from the Thames/SVFR Radar Controller.
- [A220 pilot] redacted Airprox report provided by UKAB.
- Radar and R/T recordings.
- ExCDS Data.<sup>1</sup>
- NATS TCAS Analysis.

[The A220 pilot was] under IFR at 2000ft, and the EC155 helicopter [pilot was] under VFR at 1400ft, both were operating within the London City CTR (Class D airspace) in accordance with their ATC clearances. Both aircraft were under the control of the same Thames/SVFR (TMS) controller.

The pilot of [the EC155] had been instructed by the TMS controller at 0846:17 to fly not above 1400ft.

At 0848:03 the pilot of [the A220] reported to the controller “*turning TODBI*” and then the aircraft was cleared by the TMS controller for the ILS approach. [The A220] was maintaining 2000ft at the time of the clearance and [the EC155] was maintaining 1400ft.

At 0848:13 the pilot of [the A220] was passed Traffic Information on [the EC155], which was acknowledged.

At 0848:26 (Figure 1) the pilot of [the EC155] was passed Traffic Information on [the A220], the EC155 pilot replied, “*visual with that aircraft and visual with the landing site*”.

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<sup>1</sup> ExCDS is an electronic flight progress strip system.



Figure 1.

At 0848:44 the TMS controller transferred [the EC155 pilot to their next frequency].

NATS TCAS Analysis indicated from downlinked TCAS data that [the A220 pilot] received a preventative TCAS RA between 0849:08 and 0849:16 to monitor vertical speed. During this time [the A220] was maintaining 2000ft with no indication of any climb/descent initiated by the pilot. This TCAS RA was not reported to the TMS controller.

The closest point of approach between [A220] and [EC155] occurred at 0849:10 with 0.4NM and 600ft between the aircraft (Figure 2). High level STCA activated after the aircraft had passed each other at 0849:18 and de-activated 9 seconds later.



Figure 2

MATS Part 1 (CAP493) detailed there was no requirement to separate IFR and VFR aircraft within Class D airspace, stating the minimum services by ATC units in Class D airspace between IFR and VFR aircraft were '...(b) Pass Traffic Information to IFR flights and SVFR flights on VFR flights and give traffic avoidance advice when requested; (c) Pass traffic information to VFR flights on all other flights and provide traffic avoidance advice when requested.'

The Airprox occurred when [the A220], operating IFR at 2000ft passed above [the EC155], operating VFR at 1400ft. Traffic Information was passed to both pilots by the TMS controller and no separation minima were applicable to the aircraft.

Closest Point of Approach occurred at 0849:10 and was recorded on Multi-Track Radar as 0.4NM and 600ft.

The incident was resolved by the aircraft passing each other on their relative trajectories.

### UKAB Secretariat

The A220 and EC155 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.<sup>2</sup> If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.<sup>3</sup>

### Summary

An Airprox was reported when an A220 and an EC155 flew into proximity 1NM south of the London Eye VRP at 0849Z on Tuesday 13<sup>th</sup> December 2022. The A220 pilot was operating under IFR in VMC, the EC155 pilot operating under VFR in VMC, both pilots were in receipt of a Radar Control Service from Thames Radar.

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

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controller involved and reports from the appropriate operating authorities. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board discussed the actions of both pilots and that of the controller. They agreed that the route approved by ATC and flown by the EC155 pilot had been as per normal procedures. However, the receipt of the TCAS RA to monitor vertical speed at a point that they had been intercepting the LOC had concerned the A220 pilot. That being said, members were satisfied that there had been sufficient separation between the aircraft and that there had been no risk of collision. It was therefore agreed that normal safety parameters had pertained and, as such, the Board assigned Risk Category E to this event. Members agreed that the following factors (detailed in Part C) had contributed to, or were outcomes from, this Airprox:

**CF1:** The STCA had been triggered on the radar, although this had happened after the two aircraft had passed.

**CF2:** The A220 pilot had been concerned by the proximity of the EC155.

**CF3:** A TCAS RA to monitor vertical speed had been received by the A220 pilot.

### **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

#### Contributory Factors:

	2022278			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	<b>Ground Elements</b>			
	<b>• Electronic Warning System Operation and Compliance</b>			
1	Technical	• STCA Warning	An event involving the triggering of a Short Term Conflict Alert (STCA) Warning	

<sup>2</sup> (UK) SERA.3205 Proximity.

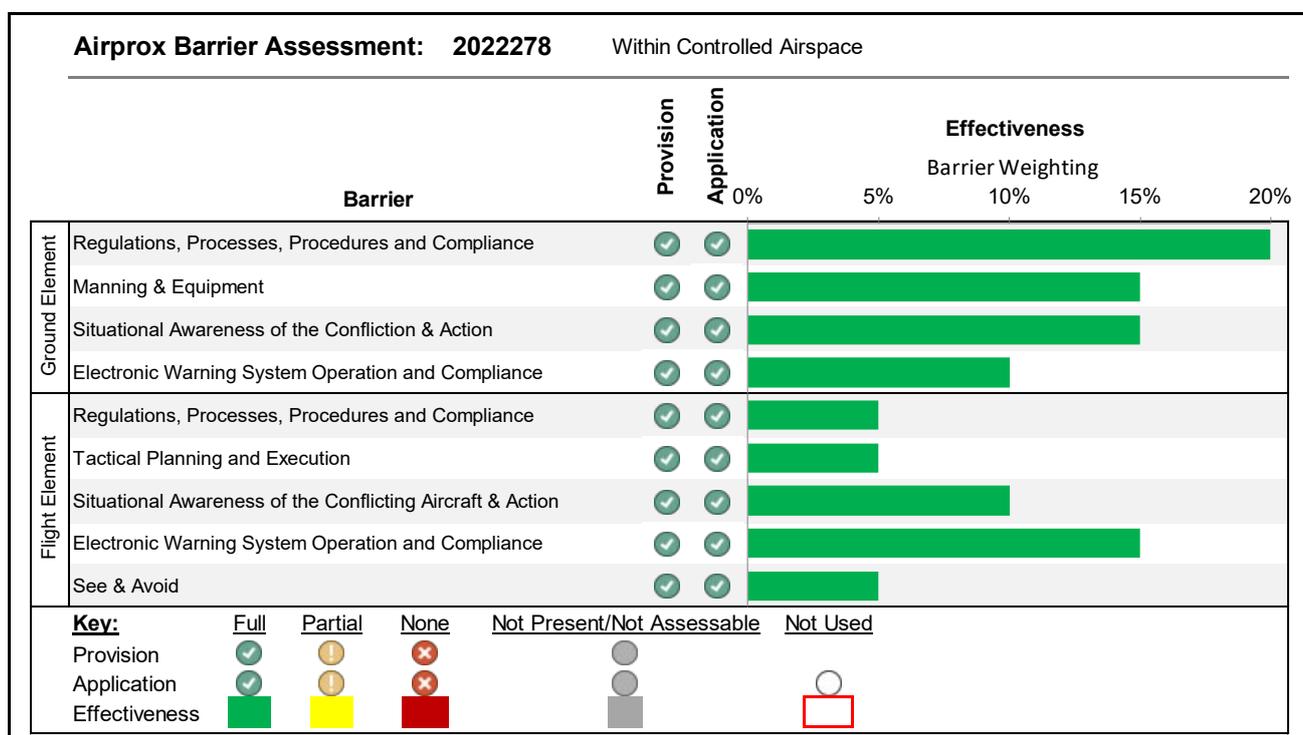
<sup>3</sup> (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
2	Human Factors	• Unnecessary Action	Events involving flight crew performing an action that was not required	Pilot was concerned by the proximity of the other aircraft
• Electronic Warning System Operation and Compliance				
3	Contextual	• ACAS/TCAS RA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system resolution advisory warning triggered	

Degree of Risk: E.

Safety Barrier Assessment<sup>4</sup>

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that all barriers had been effective.



<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).