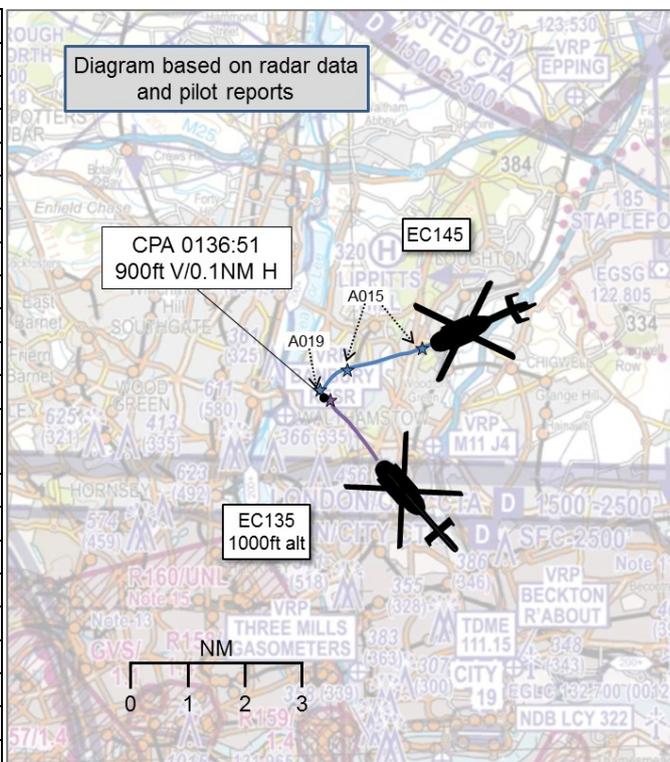


## **AIRPROX REPORT No 2020081**

Date: 29 Jul 2020 Time: 0136Z Position: 5136N 0000E Location: Walthamstow

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	EC145	EC135
Operator	NPAS	NPAS
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Heathrow Radar	Heathrow Radar
Altitude/FL	1900ft	1000ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Blue, Yellow	Black, Yellow
Lighting	Strobe, Nav, Anti-Col	HISL, Nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1400ft	Not reported
Altimeter	QNH	NK
Heading	SW	Not reported
Speed	120kt	Not reported
ACAS/TAS	TCAS I	TCAS I
Alert	TA	TA
Separation		
Reported	300ft V/0.5NM H	Not reported
Recorded	900ft V/0.1NM H	



**THE EC145 PILOT** reports that, although both aircraft were under a Basic Service, Heathrow Radar very kindly gave them Traffic Information on each other. They reported not visual and that they were looking out for the other aircraft. Further Traffic Information updates were given to both aircraft. When the other aircraft was 1.5NM away and in their 11 o'clock they were given further Traffic Information, to which they reported that they were still not visual, the pilot on the other aircraft also reported not visual. They received another update when the aircraft was 1NM away and in their 10 o'clock (still not visual) and then 0.5NM in the 9 o'clock. The pilot from the other aircraft reported visual. The EC145 then reported visual and noticed the other aircraft had not altered course or speed, therefore they initiated an expeditious climb to increase the separation. The front left observer said that the other aircraft did not have its HISL or Strobe turned on, only the red anti-col and green nav lights. The other aircraft passed beneath them not seeming to alter heading or speed. Heathrow Radar were extremely helpful with the Traffic Information which was instrumental in helping both pilots to acquire visual contact.

The pilot assessed the risk of collision as 'Medium'.

**THE EC135 PILOT** reports that they acquired visual contact with the EC145 at 0.5NM and informed ATC that they were visual. They did not feel any avoiding action was necessary as they were visual with the EC145 and comfortable that there would be no conflict. They wondered if the EC145 pilot temporarily lost sight of them as the EC145 appeared to turn left across them then climbed. They did not submit an Airprox report as they did not feel an Airprox occurred because they were visual with the EC145 and knew they would pass below towards the rear. When asked by the NPAS investigation team if the aircraft nav lights and red HISL were on the EC135 pilot couldn't confirm for definite as it was some time ago but assured them they must have been as they were always on. White strobes were not on.

The pilot assessed the risk of collision as 'None'.

**THE HEATHROW RADAR CONTROLLER** reports that they were working the 2 helicopters outside Controlled Airspace on a Basic Service. The controller believed the aircraft were getting rather close to each other, so they elected to provide Traffic Information to both pilots on the location of the other aircraft. As they became very close both pilots reported visual with the other aircraft. No mention was made on frequency of an Airprox and both crews seemed quite happy.

## Factual Background

The weather at London City Airport was recorded as follows:

METAR EGLC 290120Z AUTO 28007KT 9999 NCD 15/07 Q1019

## Analysis and Investigation

### NATS ATSI

An EC145 helicopter, was operating outside Controlled Airspace in receipt of a Basic Service from the Heathrow Intermediate Approach (LL INT) controller.

An EC135 helicopter, was operating within the same area, also under a Basic Service from the LL INT controller.

At 01:35:38 (all times UTC) the pilot of the EC145 requested to route to a reference point known to both the EC145 pilot and the LL INT controller. This was approved by the LL INT controller, and Traffic Information was passed relating to the EC135. Reciprocal Traffic Information was then passed to the pilot of the EC135. The LL INT controller asked the pilot of the EC145 at 01:36:06 if they were visual with the EC135. The pilot was not visual and further Traffic Information was then provided at a range of 1nm, three hundred feet below. The pilot of the EC145 reported they were still not visual.



Figure 1:

The trajectory of the helicopters is shown in Figure 1. At 01:36:22 the LL INT controller asked the pilot of the EC135 if they were visual with the EC145, and the pilot of the EC135 responded that they were visual. The pilot of the EC145 reported visual with the EC135 at 01:36:30.

The EC145 pilot initiated a climb, and at the closest point of lateral approach there was 900ft indicated vertically between the aircraft (Figure 2).

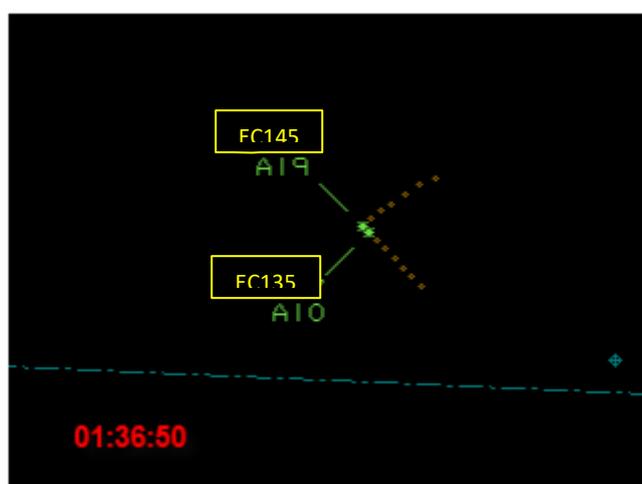


Figure 2: CPA

There was no mention on the frequency to an Airprox, however the pilot of the EC145 later filed the event as an Airprox.

Given that the climb initiated by the pilot of the EC145 was to increase separation, this was not deemed to be a critical manoeuvre to avoid a collision.

The EC145 and EC135 pilots were operating under a Basic Service outside Controlled Airspace. As such there were no separation requirements.

### UKAB Secretariat

The EC145 and EC135 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>1</sup> If the incident geometry is considered as converging then the EC135 pilot was required to give way to the EC145.<sup>2</sup>

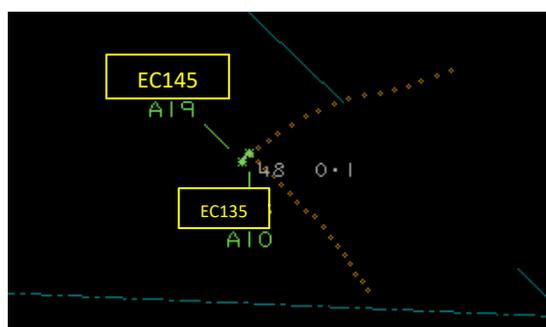


Figure 3: The EC135 passes behind the EC145

### NPAS Occurrence Investigation

The pilot of the EC135 called visual with the EC145 and did not feel there was any need to alter course. The pilot of the EC145 called visual shortly after and did not see the pilot of the EC135 alter course, so initiated a climb to increase separation. Perception is the probable cause for this being reported as an Airprox as one pilot, after consideration and debriefing with the crew, felt it was an Airprox and the other did not. The EC135 pilot was confident that there would be no confliction after reporting visual and was happy to continue, the EC145 pilot felt there was a possible confliction and took avoiding action by climbing to minimise any perceived risk. There is no criticism in the EC145 pilot taking this action.

<sup>1</sup> SERA.3205 Proximity.

<sup>2</sup> SERA.3210 Right-of-way (c)(2) Converging.

## Summary

An Airprox was reported when an EC145 and an EC135 flew into proximity at Walthamstow at 0136Z on Wednesday 29<sup>th</sup> July 2020. Both pilots were operating under VFR in VMC, both pilots in receipt of a Basic Service from Heathrow.

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

Information available consisted of reports from both pilots, radar photographs/video recordings and reports from the air traffic controller involved. 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided dial-in/VTC comments.

The Board began by looking at the actions of the Heathrow controller. Both aircraft were on a Basic Service but, even though the controller was not obliged to monitor the aircraft, they elected to pass Traffic Information to both pilots until they became visual with each other. The Board commended the controller's perseverance and agreed that the multiple Traffic Information reports had enabled the pilots to identify the other aircraft.

The Board then turned to the actions of the EC145 pilot. Although the aircraft were initially separated by about 400ft vertically Board members agreed that the night conditions could have been a factor in the pilot's perception of the separation between the aircraft when the pilot eventually saw the EC135. They wondered if the perception of the height and separation may have been affected by the conditions, the helicopter Board member said that flying around highly built-up areas at night results in a lot of ambient backlight which often result in late sightings, especially because some of the helicopters can have a reflection into the cockpit from the aircrafts own lighting system (**CF4**). Regardless, when the EC145 pilot saw the EC135, inside 0.5NM (**CF5**), they were concerned that the aircraft were in proximity and increased the separation by climbing and attained 900ft between the aircraft at CPA (**CF2**).

The Board then looked at the actions of the EC135 pilot. The pilot was visual with the EC145 at 0.5NM and determined that they would pass behind and below the EC145. The radar recording indicates that the EC135 pilot altered their track when they were closer to the EC145, but the EC145 pilot had climbed by then, the Board opined that the EC135 pilot would have been better served adjusting their track earlier to increase the separation before CPA (**CF1**), either when they first saw the EC145 or using the Traffic Information they received from the Heathrow controller. Both pilots received a TCAS TA indication (**CF3**) which, as well as the Traffic Information from the Heathrow controller, contributed to their situational awareness.

Finally, the Board turned to the risk. The Board discussed the risk at some length, the helicopter member said that this was normal operations for NPAS at night. Other members wondered if this was not normal operations and both pilots, when they were not visual with the other aircraft, should have been more proactive. Eventually the majority agreed that the actions of the EC145 pilot had increased the separation suitably to ensure the aircraft were separated by 900ft at CPA and therefore there was no risk of collision, a Risk Category E.

**PART C: ASSESSMENT OF CONTRIBUTORY FACTOR(S) AND RISK**

Contributory Factor(s):

2020081			
CF	Factor	Description	Amplification
<b>Flight Elements</b>			
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>			
1	Human Factors	• Lack of Action	Pilot flew close enough to cause concern despite Situational Awareness
2	Human Factors	• Situational Awareness and Sensory Events	Pilot was concerned by the proximity of the other aircraft
<b>• Electronic Warning System Operation and Compliance</b>			
3	Contextual	• ACAS/TCAS TA	
<b>• See and Avoid</b>			
4		• Any other event	Perception of conflicting flightpath at night
5	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots
6	Human Factors	• Perception of Visual Information	Pilot perceived there was no conflict

Degree of Risk: E.

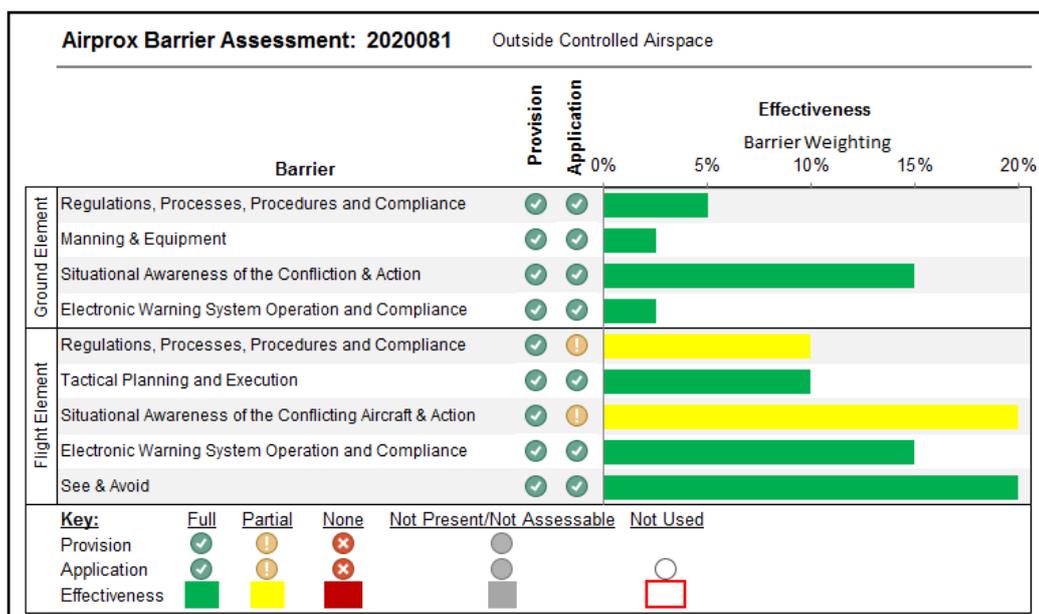
Safety Barrier Assessment<sup>3</sup>

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

**Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **partially effective** because the EC135 pilot did not alter course to provide adequate separation from the EC145.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **partially effective** because EC135 pilot did not adjust their course to adequately increase the separation from the EC145.



<sup>3</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](http://www.ukab.co.uk).