

## AIRPROX REPORT No 2012053

Date/Time: 17 Apr 2012 1612Z

Position: 5131N 00001E (1.5nm W  
London/City - elev 19ft)

Airspace: ATZ/CTR (Class: D)

Reporting Ac Reported Ac

Type: EMB190 AH64

Operator: CAT HQ JHC

Alt/FL: 1500ft↑ 1500ft  
QNH QNH

Weather: VMC NR VMC CLBC

Visibility: >10km 20km

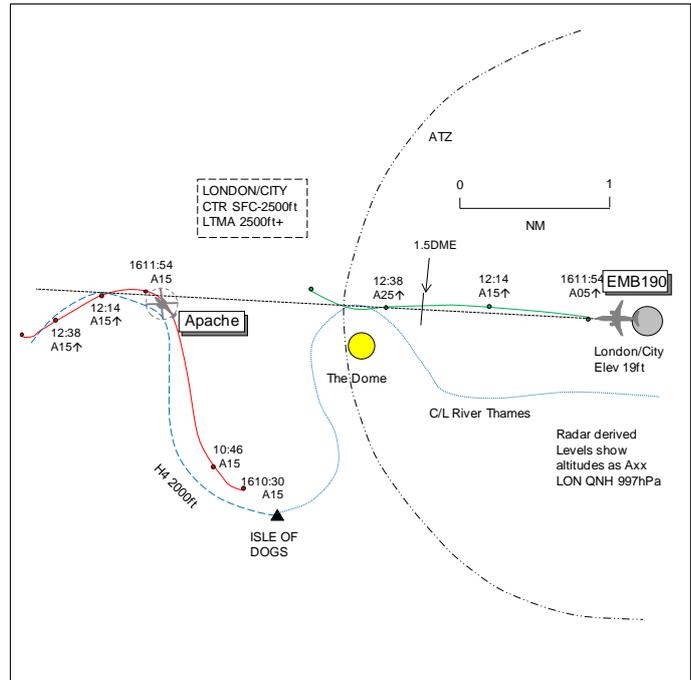
Reported Separation:

300ft V/1nm H NR

Recorded Separation:

Nil V/2.6nm H

OR 1000ft V/2.2nm H



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE EMB190 PILOT** reports on departure from London/City, IFR, and in communication with City Tower on 118.075MHz squawking with Modes S and C. While lining-up RW27 ATC informed them of an army helicopter holding at the Isle of Dogs VFR not above 1500ft. ATC then informed them this traffic would be routing directly W'bound staying S of the C/L. They confirmed the traffic in sight over the Isle of Dogs well S of the climb-out and they could also see it on their TCAS display showing 1400ft. They were cleared for take-off and as they rotated the Capt, PNF, noted the traffic was not tracking directly W but NW, still at 1400ft. The Capt reported this to ATC as they passed through 500ft however ATC did not speak to the helicopter flight. The helicopter continued closer to the RW27 C//L at 1400ft and the FO, PF, followed the departure flight guidance while the Capt searched for a visual reference; both crew monitored the TCAS display. Heading 274° at 128 kt the FO called for 'climb sequence' at 1000ft aal however the Capt announced that the intention was to delay acceleration owing to the proximity of the traffic. The FO confirmed he had the traffic on TCAS and both crew agreed the safest course of action was to continue at V2+10kt to out-climb the helicopter. The climb sequence/acceleration was completed at 2000ft aal with all other SOPs adhered to. He estimated the helicopter was within 1nm and 300ft below as they followed the SID passing 1500ft climbing straight ahead to the 1.5nm turn point on the CLN departure. No TCAS TA or RA was generated and he assessed the risk as high.

**THE AH64 APACHE PILOT** reports en-route from Wattisham to Middle Wallop VFR and in communication with London/City Tower on 118.075MHz squawking with Modes S and C. Earlier he had been cleared by Heathrow Radar direct from QE2 Bridge to the Isle of Dogs. As they approached they were transferred to City Tower and the controller gave them clearance to enter heli-route H4 with a clearance limit London Bridge at standard operating altitudes. ATC subsequently provided TI on an ac shortly to depart London/City, the EMB190, which they were visual with on the RW. ATC then informed the EMB190 flight of their helicopter and then cleared the ac for take-off. At this point they turned N following H4 from the Isle of Dogs at 70kt and as they reached the bend of the river the EMB190 crew advised ATC that the previously called traffic, their helicopter, was on the C/L going N. This statement was absolutely correct as that is where the heli-route H4 is. The controller acknowledged the call but passed no comment or instructions. They continued to follow the river as it turns W and then S towards London Bridge. He believed that there was no conflict at

any time and thought the EMB190 crew were under the mis-apprehension that his helicopter was somewhere where it shouldn't have been. The fact the controller didn't pass comment or instructions to either flight suggested that he didn't understand why the EMB190 crew has passed comment on his helicopter's position, presumably as he could see his helicopter was where it should have been and that the route would shortly turn W and S again. The EMB190 crew may not have known this and perceived that a collision was possible. After being passed the TI on the EMB190 he had maintained 1500ft instead of climbing to 2000ft which had increased separation. SA could have been improved if ATC had responded to the EMB190 crew's call by informing them that his helicopter would be turning W and then S. If he had perceived a risk, not knowing the EMB190's departure route or what other traffic was a factor, his only option would have been to maintain his cleared route knowing that the controller was aware of both ac's positions and had provided adequate separation. Subsequently they continued along the route as cleared, no comment was passed on the RT or was an Airprox notified on any of the frequencies he used en-route. He was unaware there had been a perception or actual risk of collision until being contacted 1wk post incident. He assessed the risk as none.

**ATSI** reports that the Airprox was reported by the crew of an EMB190 when it came into proximity with an AH64 Apache helicopter as the EMB190 departed London City's RW27.

The EMB190 was departing London City RW27 on a CLN7T SID for an IFR flight to Amsterdam and was in contact with London City TWR on 118.075MHz. The Apache was on a VFR flight from Wattisham to Middle Wallop and at the time of the incident was in contact with London City TWR on 118.075MHz.

[UKAB Note (1): The UK AIP at AD 2-EGLC-6-3 CLN7T SID RW27 states 'Climb and maintain 3000 – straight ahead until I-LSR d1.5 turning right (MAX 210KIAS) onto LON VOR R076 to be level by LON D18 (7.94%). Resume normal speed. At LON D25.5 turn right onto BNN VOR R106. At BNN D32 turn left onto CLN VOR R246 to CLN VOR.']

ATSI had access to pilot and controller reports, recorded area surveillance, recordings of the London City TWR frequency, Heathrow SVFR frequency and the London City Coordinator's telephone line. In addition ATSI received the London City unit investigation report.

The prevailing weather for London City was: METAR EGLC 171550Z 26021KT 9999 –SHRA FEW022 SCT030 09/05 Q0997=

At 1551:40UTC the Apache pilot called LTC Heathrow SVFR (SVFR) on 125.625MHz. The Apache was identified and given a BS. The SVFR controller instructed the Apache to route direct from the Queen Elizabeth II Bridge to the Isle of Dogs, VFR, not above altitude 1500ft.

The EMB190 crew called London City TWR at 1557 and was issued with squawk and clearance, then the ac's start-up was approved.

At 1559:20 SVFR called London City TWR and notified TWR of the Apache, which was, "*...going direct to the southern tip of the Isle of Dogs not following the river*".

The EMB190 crew called for taxi at 1603:40 and was instructed to taxi to holding point 'Delta'.

At 1605:40 SVFR spoke to the London City Coordinator to enquire as to whether or not they wished to work the Apache. The London City Coordinator elected to work the Apache and details were passed. SVFR informed the London City Coordinator that the Apache intended to route along H4 from the Isle of Dogs to London Bridge. At the same time, the TWR controller informed a departing C510 that, "*...an Apache helicopter about a mile south of the field will be holding two miles southwest.*" Shortly after, at 1606:40, the EMB190 flight was instructed to backtrack and line-up.

At 1607:34 the SVFR controller re-iterated the Apache's clearance limit as the southern tip of the Isle of Dogs and the Apache flight was instructed to contact London City TWR. The Apache was 2.2nm E of the Isle of Dogs VRP at 1100ft.

The Apache flight called TWR at 1608:20 as it approached the Isle of Dogs. The Apache pilot was instructed, "...you can continue westbound H four to London Bridge" and was instructed to operate at 'standard altitudes'.

At 1610:29 the Apache flight, having just passed the Isle of Dogs VRP, was passed TI, "...shortly to depart from runway two seven is an Embraer one ninety will be turning north roughly abeam the Dome climbing three thousand feet." The Apache pilot acknowledged the TI with, "...copied the traffic".

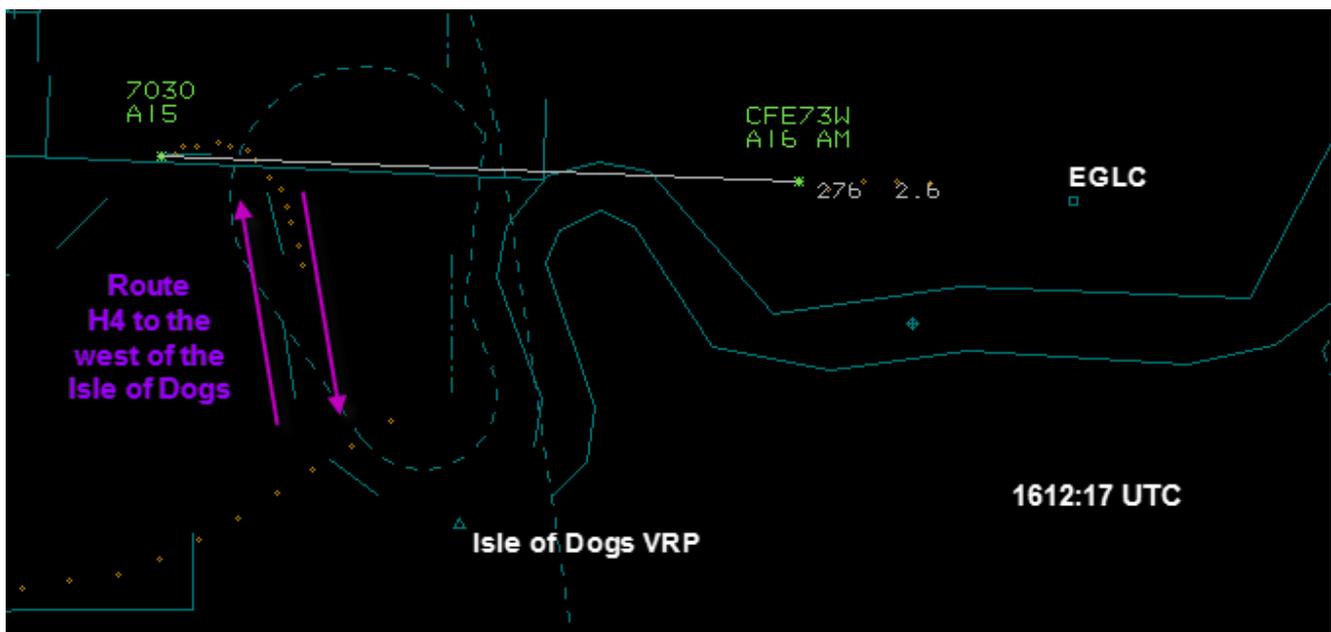
At 1610:45 the EMB190 crew was informed, "...traffic information for you there's an Apache helicopter approximately two and a half miles southwest of the field indicating fifteen hundred feet continuing westbound." The EMB190 pilot reported visual and was then cleared for take-off. The Apache was 3nm WSW of the London City ARP at altitude 1500ft and turning on to a N'y track as it joined the H4 heli-route inbound London Bridge.

By 1611:49 the Apache had reached a position on H4 concomitant with the extended C/L/climb-out track for the London City RW and was turning onto a W'y track at altitude 1500ft.

At 1611:53 the EMB190 crew reported, "...that traffic's (the Apache) directly on the centreline now." The TWR controller responded, "Roger."

[UKAB Note (2): The EMB190 first appears on the radar recording at 1611:54 0.4nm W of London/City climbing through altitude 500ft, 2.9nm E of (and behind) the Apache, which is turning through W, level at altitude 1500ft.]

By 1612:17 the EMB190 was passing 1600ft 2.6nm E of the Apache (see screenshot below).



[UKAB Note (3): As the EMB190 climbs through altitude 2500ft at 1612:38, the Apache is 2.2nm ahead and 1000ft below.]

The Apache flight was instructed to contact Heathrow SVFR at 1612:40.

The EMB190 commenced a RH turn on its allocated SID having reached 3000ft at 1612:57. The Apache was 2nm W of the EMB190 at 1500ft continuing on a W'ly track in the vicinity of Wapping.

The EMB190 flight was instructed to contact LTC NE at 1613:00.

The incident occurred in Class D CAS, within which there are no prescribed separation standards between IFR and VFR flights. Controllers have a responsibility to prevent collisions between known flights; therefore in Class D airspace controllers pass sufficient TI to IFR and VFR flights to assist pilots in avoiding each other.

The London City TWR controller passed TI to both the Apache and the EMB190 crews. To the EMB190 the controller stated, "...an Apache helicopter approximately two and a half miles southwest of the field indicating fifteen hundred feet continuing westbound." The TI passed allowed the EMB190 crew to form an expectation that the Apache would, literally, continue W'bound. This is amplified in the EMB190 pilot's report, 'this traffic would be routing westbound staying south of the centre line. The Apache was to fly from the Isle of Dogs in an 'upstream' direction along H4, which could be considered as an overall W'bound direction. However, in that position, the upstream heli-route/river direction marks an almost 90° degree turn to the N and intercepts the London City RW extended C/L/climb-out track. Whilst the Apache was continuing as cleared it was not going to continue truly W'bound at that time.

When the EMB190 crew called visual with the Apache, the Apache was only in its turn and not established on a N'ly track. Then, sometime during the EMB190's take-off roll and rotation, the Apache reached the limit of that N/S stretch of the heli-route before turning W. Therefore there was a difference between the expectation of the EMB190 crew with regard to the Apache and the actual flight path of the helicopter, causing the EMB190 crew to amend their SOP as described in their report.

An Airprox was reported by an EMB190 departing London City's RW27 when an Apache - operating in the vicinity as cleared - did not manoeuvre as the EMB190 crew had expected, causing the EMB190 crew to amend their SOP on departure.

Contributory to the Airprox was the TI formulated by the London City TWR controller, which informed the EMB190 crew that the Apache would be continuing W'bound, when its flight path would actually be taking it initially on a N'ly track towards at the extended C/L/climb-out track.

Further to the incident London City ATC recorded the following learning point to be disseminated across the unit and also shared with other units:

"Traffic information must be clear and correct in order to give pilots situational awareness. Simply meeting the requirements of IFR-VFR separation is not enough ... and judgement must be used in regards to pilot awareness..."

**HQ JHC** comments that the Apache crew correctly operated their ac in accordance with the clearance given from ATC, with standardised London helicopter routing and, given that the radar derived CPA was 1000ft/2.2nm, is in agreement with the helicopter crew in there being no conflict at any time.

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

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

It was clear that the EMB190 crew had a different expectation of the Apache's flightpath from that which was actually flown. The City ADC had informed the crew that the helicopter would route

W'bound but the Apache had proceeded in accordance with its ATC clearance to continue W'bound on H4 which involved a turn onto a N'ly track at the Isle of Dogs before turning W and then S following the river while on the extended C/L RW27. The EMB190 crew thought the Apache would stay S of the extended C/L so were concerned when, after visually acquiring the helicopter prior to departure as it commenced its turn at the Isle of Dogs, it then appeared on TCAS in potential confliction immediately after take-off. The crew monitored the helicopter's progress and elected to delay acceleration so as to out-climb it. Members thought that the 'whole picture' would have been painted better to the EMB190 crew had the ADC said the helicopter was 'following the river'. The minimum ATC services requirement for Class D airspace is for TI to be passed to both the IFR (EMB190) and VFR (Apache) flights and to give traffic avoidance advice to the IFR flight if requested; no separation minima are specified. The NATS Advisor informed Members that the turn at the Dome (d1.5 on the CLN7T SID) and the promulgated climb gradient to be followed assists in deconflicting departures from helicopters routeing on heli-route H4. After TI was passed to the Apache pilot he saw the EMB190 on the RW and he was aware of its intended flightpath. The radar recording shows the EMB190 climbing out on the SID to 3000ft, 'in trail' of the Apache, and turning R when over 2nm distant and 1000ft above. Whilst conscious of the EMB190 crew's concern, with both flights flying in accordance with their clearances and safety margins having been maintained, the Board concluded that this had been a sighting report where normal procedures, safety standards and parameters pertained.

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

Cause: Sighting report.

Degree of Risk: E.