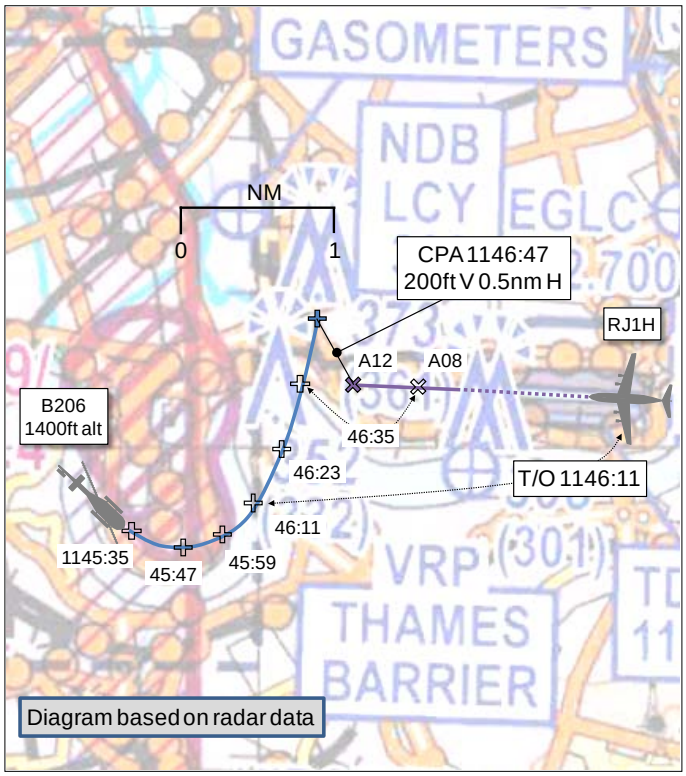
AIRPROX REPORT No 2013052

Date/Time: 22 Jun 2013 1147Z (Saturday)

Position: 5131N 00001E (1.5nm W London/City A/D-elevation 16ft)

Airspace: London/City CTR (*Class*: D)

	Reporting Ac	*Reported Ac*
Type:	RJ1H	B206
Operator:	CAT	Civ Comm
Alt/FL:	1200ft QNH	1500ft QNH
Weather:	VMC CLAC	VMC CLOC
Visibility:	NK	>10km
Reported Separation:	100ft V/150m H	Not seen
Recorded Separation:	200ft V/0.5nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE RJ1H PILOT reports departing runway RW27 at London City squawking SSR Modes S and C. The aircraft was climbing to 3000ft in strong wind, which was creating moderate turbulence and shifting wind direction. At approximately 600ft agl TWR informed him about traffic crossing the RW27 axis ahead. At 800ft agl a TCAS TA was received and visual contact established with a blue and white helicopter (believed to be a JetRanger) at one o'clock, less than 200m away, about 100ft higher. Due to the short distance from the helicopter, pitch was reduced to 5° (speed increased to 150 KIAS, no flap over-speed due to fast reaction). Everything happened within less than 5 seconds. Afterwards normal clean-up was performed. He reported the minimum vertical separation as 100ft and horizontal as 100-200m.

He considered the severity of risk as high.

THE B206 LONGRANGER PILOT reports operating under SVFR, he thought, with clearance from Heathrow Radar on frequency 125.625MHz (see UKAB Note(1) below). The predominantly blue helicopter had SSR Modes S and C selected. He was heading 360°, speed 100kt at 1500ft, in VMC, with flight visibility and horizontal distance from cloud as over 10km. To the best of his knowledge he had been cleared from London Bridge, via the Isle of Dogs Visual Reporting Point, to leave the Zone to the N. From his experience he was usually instructed to hold at London Bridge or the Isle of Dogs if there was traffic at London City. Additionally, he was often transferred to London City TWR (118.075MHz) for onward clearance. As far as he could remember he had not been instructed to hold or given any clearance limit. Heathrow issued an avoiding action descent to altitude 1000ft during the incident. He did not see the RJ1H. An ACAS was not fitted.

[UKAB Note(1): The helicopter was operating on a VFR clearance at the time of the Airprox.]

THE LONDON CITY TWR/GROUND CONTROLLER reports that, as the RJ1H was rolling, he observed, on the ATM, an un-coordinated helicopter that (he realised) had previously been transferred to Heathrow SVFR heading along route H4 into London. He observed the helicopter out of the window but did not pass traffic information (TI) as the departure was beyond the point of stopping safely. Whilst the SUP contacted SVFR he used the priority line to inform the SVFR controller that a

departure was rotating. He visually observed that the aircraft were not going to collide. He added that he could not turn the RJ1H N because it would have prolonged the risk Also, he could not stop its climb due to the proximity of high buildings. The pilot reported visual with the helicopter, adding he thought it was dangerous. Subsequently, the pilot reported on RTF that he had stopped the climb at 1400ft, with the helicopter 300ft above. The controller visually assessed that the helicopter had cleared the climb out before the departure stopped climbing.

THE LTC THAMES RADAR/SVFR CONTROLLER reports that there were two airways aircraft airborne and approximately four General Aviation aircraft on frequency, either on the heli-lanes or flying in the London City (LC) zone. The B206 (VFR helicopter) had been handed back to him by LC TWR travelling W to Vauxhall Bridge. LC TWR had called him and informed him that an RJ1H was the last departure before airport closure. His perception of this exchange was that the RJ1H in question was an aircraft just airborne (same company as the subject aircraft), and as such there would be no further departing LC traffic to affect VFR aircraft. After this call he cleared the B206, a VFR helicopter, to route eastbound via the Isle of Dogs and Lee Valley to leave controlled airspace northbound. This routed him through the climb out of LC RW27, approximately 2nm W of LC. As this helicopter was passing through the climb out the LC priority line rang and upon answering, the TWR informed him there was departing traffic airborne. TI and a descent to not above 1000ft was given to the B206. Both aircraft reported visual; however, the pilot of the subject RJ1H informed him subsequently that he had had to deviate from the SID as a result of this.

Factual background

MATS Part 1 states: 'Separation standards are not prescribed for application by ATC between VFR and IFR flights in Class D airspace'[1].

The London City weather was:

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METAR EGLC 221120Z 21019KT 9999 SCT022 SCT040 17/11 Q1005=
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Analysis and Investigation

CAA ATSI

CAA ATSI had access to written reports from both pilots, the London City Tower controller, the Thames Radar controller, area radar recordings, RTF recordings and transcripts of London City Tower frequency, Thames/SVFR frequency and desk-side telephone calls. ATSI also interviewed both the London City Tower controller and the Thames Radar controller.

The London City controller was operating AIR and GMC combined (London City). The Thames Radar controller was operating Thames and SVFR combined (Thames). London City Airport was open beyond usual operating hours and, in accordance with normal practice, was due to close 15min after the last aircraft movement.

The Thames controller plugged in at approximately 1115 with the position already band-boxed. At interview, the controller reported that the frequency was busy but that the traffic was reasonably straightforward and he was anticipating that the situation would become significantly easier when London City closed, which was due to happen shortly.

At 1130:00 Thames spoke to the London City Supervisor on the telephone and ascertained there were no more arrivals and 5 departures pending before London City closed.

[1] MATS Part 1, Chapter 5, Paragraph 5.3

At 1141:20 the B206, which had previously been operating on the London helicopter routes, reported back on frequency with Thames (from London City) as it was passing London Bridge routeing westbound on helicopter route H4. The B206 was instructed to route westbound and was given a clearance limit of Vauxhall. The B206 pilot informed Thames that he would be turning at Vauxhall to return eastbound and the B206 was given a return clearance limit of London Bridge.

At 1141:40 the London City Supervisor telephoned Thames stating that "our last one's just backtracking to line-up now". During this telephone call another helicopter, not involved in the Airprox, called Thames and the controller recalled the Battersea telephone line ringing. Thames thanked London City and hung-up. At interview the Thames controller reported that he believed that London City had said "that's the last one". At 1141:53 the penultimate departure from London City, an aircraft that was not directly involved in the Airprox, became visible on radar (the Thames Radar controller believed that this was London City's last movement prior to official close fifteen minutes later).

At 1143:31 Thames cleared the B206, "*eastbound again hotel four to the Isle of Dogs to leave the zone northbound not above two thousand VFR"*. The Thames controller stated, at interview, that, as he believed that movements at London City had finished, and in a bid to reduce his workload by avoiding having to reissue a clearance, he cleared the B206 to leave the zone to the N, which would require crossing the London City RW27 climb-out.

There was a pending departure strip for the RJ1H and the Departure Status Information display indicated that the RJ1H was still to depart but the Thames controller had not noticed either. Strips are usually delivered 5-10 minutes before departure by an assistant. When London City closes, departure checks (which require London City to request a radar release from Thames prior to giving take-off clearance to departing aircraft) are automatically put in place in anticipation of the first movement the following morning. As Thames believed that London City had no more movements he had placed the 'check' strips in the relevant bays, indicating that Thames had control of the airspace (effectively indicating that departure checks were on). London City, having not received an instruction to impose departure checks, had no reason to request a radar release from Thames before departing the RJ1H.

At 1143:20 the RJ1H pilot informed London City that he would need another 2 minutes before departure. The RJ1H was instructed to report ready. A fixed-wing aircraft was transiting the London City Zone to the S. London City was aware that this had not been co-ordinated but was not overly concerned as it was a callsign the controller was familiar with and he was aware that the flight would operate to the S of the airport. Earlier in the day Thames had co-ordinated traffic remaining outside the London City Zone, which had subsequently entered the Zone without further co-ordination. The London City controller stated that, had the traffic been another squawk, he would have contacted Thames to obtain details on it. London City passed TI to the RJ1H on the fixed wing to the S and issued take-off clearance to the RJ1H. At 1145:20 the take-off clearance to the RJ1H had been read back and the B206 was NW of the Isle of Dogs, tracking SE (Figure 1).

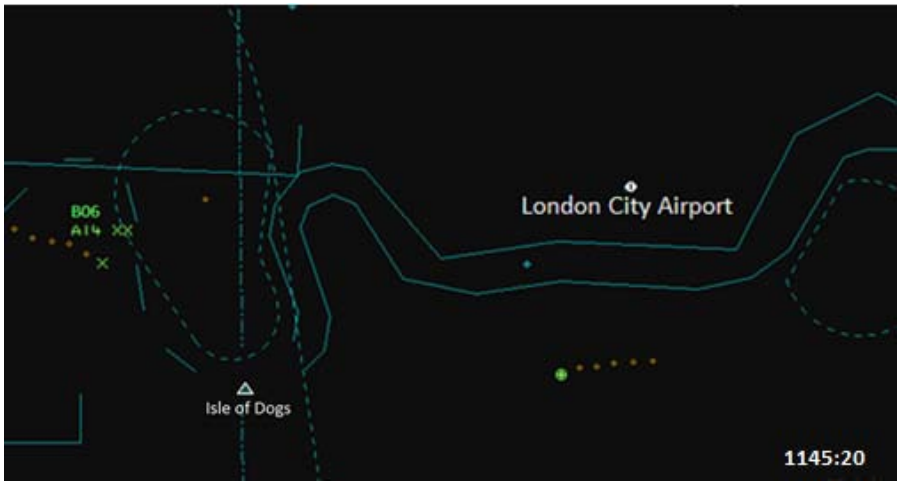

Figure 1.

As the RJ1H became airborne the London City controller looked at the ATM, preparing to transfer the RJ1H to Thames and observed that the B206, instead of following the river to the Isle of Dogs, appeared to have 'cut the corner' and was closer to the London City climb-out than expected. The London City controller was concerned about the position of the B206 and commented to a colleague that if the B206 turned N the situation would be difficult (although it was merely an observation - he had no expectation that the B206 would turn N. The B206 had conducted several flights during the course of the morning and, in common with other helicopters operating on H4 that morning, had often spent a few minutes operating over the city S of the Isle of Dogs before continuing onward).

At 1146:22, having observed that the B206 was, in fact, tracking N (Figure 2), London City initiated a telephone call on the priority line to Thames to co-ordinate avoiding action.

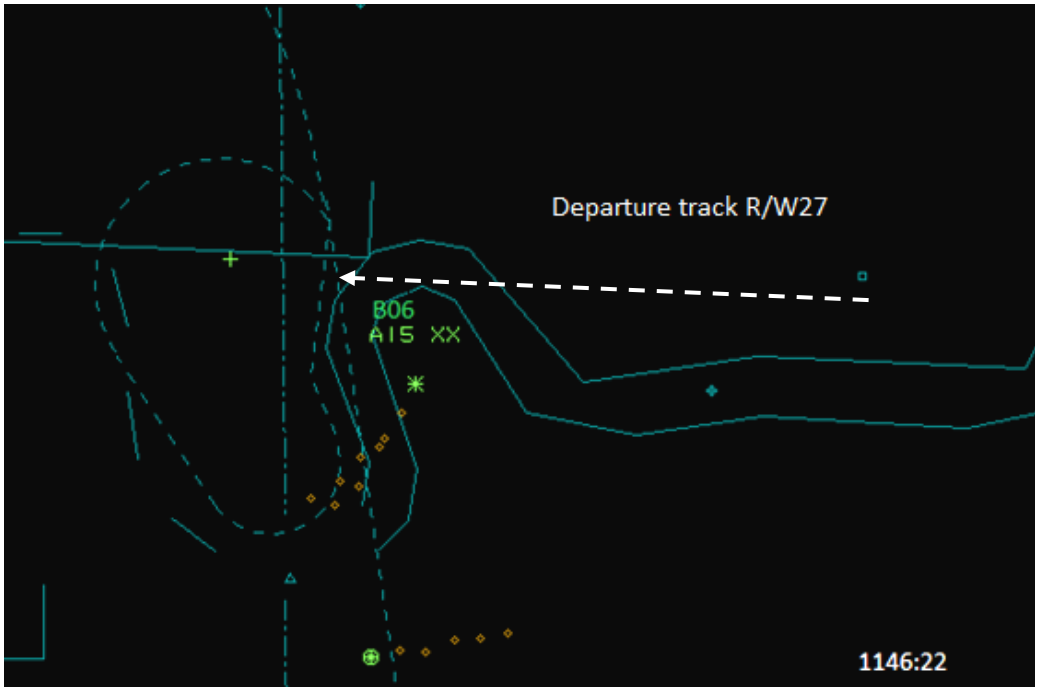

Figure 2

The London City controller reported being confident in general about giving avoiding action but in this particular instance he felt that he had no options available – turning S would bring the RJ1H into proximity with tall buildings while turning N would exacerbate the confliction with the B206.

Instructing the RJ1H to stop the climb, considering the subsequent inertia, had the potential to increase the conflict with the B206, particularly as the London City controller was unaware of the intentions of the B206. When the telephone was answered, London City asked Thames what the B206 was doing as the departing RJ1H was “going straight at him”. At 1146:29 the departing RJ1H became visible on radar (Figure 3). Thames replied with some alarm that “...you didn’t tell me about that one...” before informing London City that the B206 was going N.

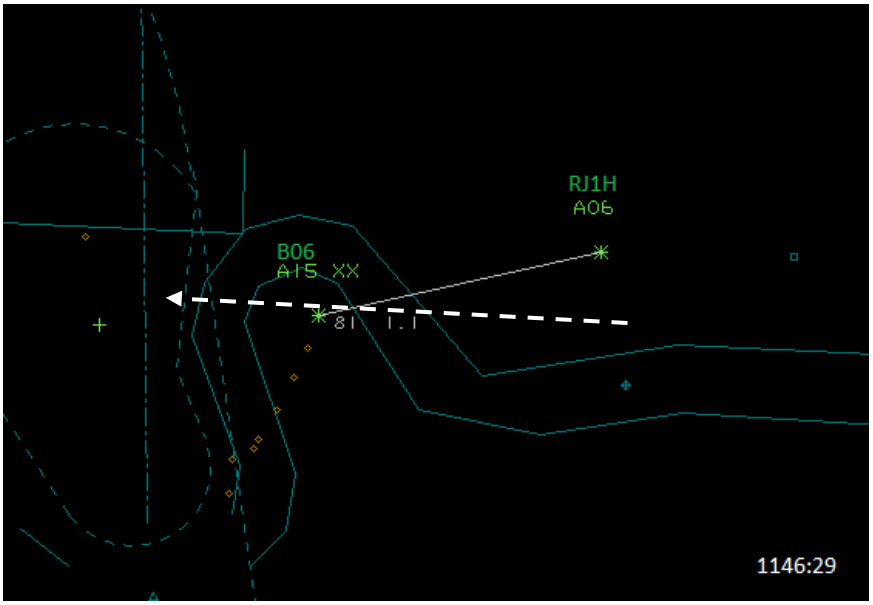

Figure 3.

During the course of the telephone conversation the London City controller, who could see both aircraft out of the window, realised that the helicopter would pass ahead of the RJ1H. With hindsight the London City controller believed that TI to the RJ1H would have assisted the crew’s situation awareness; however, at the time, his focus was on co-ordinating action with Thames to avoid a collision.

Thames instructed the B206 to descend to 1000ft and passed TI on the departing RJ1H. The Thames controller expected that the RJ1H would be at 1500ft and climbing when it reached the position of the B206 and with limited options available to him chose to issue descent instructions in an attempt to ‘cross levels’ and resolve the confliction.

At 1146:37 the RJ1H informed London City that they had the helicopter in sight (Figure 4). London City replied that unknown traffic had just passed ahead in front. The RJ1H replied, “*traffic in sight continue*”.

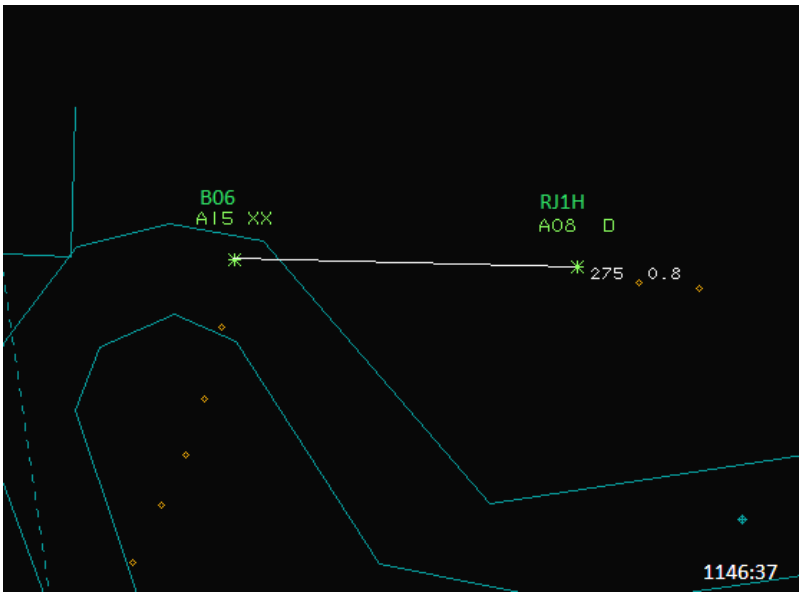

Figure 4.

The RJ1H passed behind the B206. CPA was 0.5NM/200ft (Figure 5).

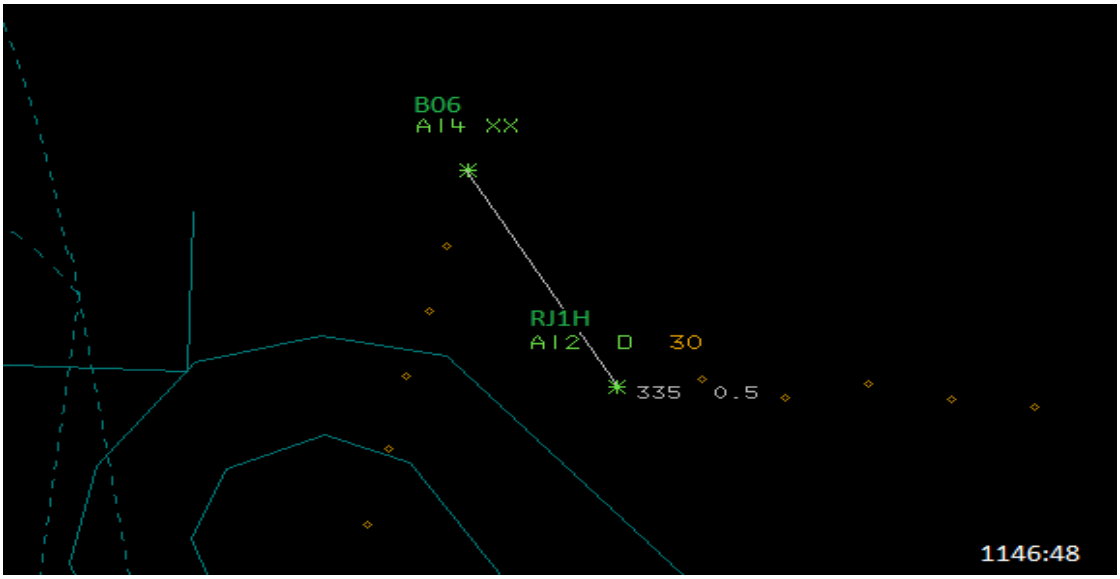

Figure 5.

SUMMARY

The Thames controller was busy when London City telephoned and one other aircraft called whilst the telephone call was being conducted. It is likely that Thames misheard London City due to a combination of being distracted by the other tasks and the other aircraft calling at the same time, making the telephone call more physically difficult to hear. Thames was also expecting, and hoping for, a telephone call from London City to say they were closing, which may have predisposed him towards the misunderstanding. When the London City Supervisor informed Thames that the last aircraft was backtracking, neither controller referred to an aircraft callsign, so the identity of the aircraft actually being described was unclear. When the London City controller observed the fixed wing traffic to the S he did not query the lack of co-ordination with Thames as he was familiar with the callsign and the standard operating route of the flight. As Thames had not fully co-ordinated previous traffic through the London City Zone, the London City controller thought that Thames had forgotten to

co-ordinate the fixed-wing; whereas Thames actually believed that London City's movements had finished and therefore there was no requirement to co-ordinate. The London City controller commented that, had it been another aircraft, he would have queried the routeing and lack of co-ordination, which may have alerted the Thames controller to his misunderstanding that London City was in the process of closing. The Departure Status Information indicated that there was another departure prior to London City closing. The departure strip for the RJ1H was in the pending strip bay but the controller had not noticed it. It is likely that the strip had been placed in the bay prior to the telephone call that led the Thames Radar controller to believe that London City were in the process of closing the airport, following the last aircraft movement. It is also likely that his conviction that London City were closing, in combination with the other strips indicating that he had control of the airspace, contributed to him overlooking the information that indicated otherwise.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board quickly came to the conclusion that the Airprox had occurred because the Thames controller, believing that London City (LCY) airport had closed, had cleared the B206 pilot to cross its RW27 climb-out lane as the RJ1H was departing the airfield. Much of the ensuing discussion was focused on why this had occurred.

With regard to the Thames controller, a civil Terminal Control member explained that the Thames ATC display would have shown that LCY had not closed, that there would have been a pending departure strip for the RJ1H, and that the Departure Status Information display would have shown that the RJ1H was still to depart. Not only had the Thames controller apparently not assimilated this information but, additionally, believing that the airport was closed, the controller had placed 'check' strips in the relevant bays in preparation for the first movement the following day. At the time, the controller was performing the combined tasks of Thames/SVFR. As it was a busy period, the Board wondered whether the positions should have been split. The ATSI advisor commented that, with hindsight, this might have been appropriate; however, the workload was expected to reduce very shortly after London City had closed and so it was not unreasonable for the two tasks to have been combined.

The Board then turned its attention to the co-ordination between LCY and the Thames controller. They considered that the co-ordination should have been more positive. Neither the LCY Supervisor (who had carried out the co-ordination) nor the Thames controller referred to an aircraft callsign during the co-ordination process; doing so might have highlighted the fact that the last flight of the day had not yet departed. Additionally, it was suggested that the LCY controller's call of, "*our last one's just backtracking to line-up now*", had allowed the Thames controller to form the conclusion that the aircraft he saw on his radar display shortly afterwards was that last departure , when it was in fact the penultimate departure. If LCY had positively waited until the last aircraft was airborne before speaking to Thames then any ambiguity would have been removed.

Turning to the LCY Tower controller, a Board member wondered whether the Tower controller should have noticed the presence of the B206 on the Air Traffic Monitor before clearing the RJ1H for take-off. However, radar recordings show that, when he passed the RJ1H's take-off clearance, the helicopter was still tracking SE towards the Isle of Dogs and not towards the airport and so was not a factor at that time.

Finally, a civil helicopter pilot member wondered whether the B206 pilot had looked out towards LCY as he was crossing the airport's climb-out lane to check if there were any aircraft departing or about to depart. No mention had been made about this in the B206 pilot's report, but the pilot member considered that this would have been good operating practice in any case, even if the B206 pilot had been told that LCY was closed.

Discussion then took place about whether the risk should be classified as a Category B or C. Some Members opined that, because the RJ1H pilot had reportedly observed the helicopter 200m away, and had in fact remained at least 0.5nm from it, the classification should be Risk C (no risk of collision). However, the majority agreed that the circumstances of the event meant that the RJ1H pilot had had very little time to react and few options available to him to manoeuvre; even though he had taken action by levelling off in the very short time available after visual contact, the incident had still resulted in safety margins being much reduced below the normal.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Thames controller allowed the B206 to fly into conflict with the RJ1H.

Degree of Risk: B.

Contributory Cause: A lack of coordination by Thames Radar and LCY.

ERC Score[2]: 102

[2] Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.