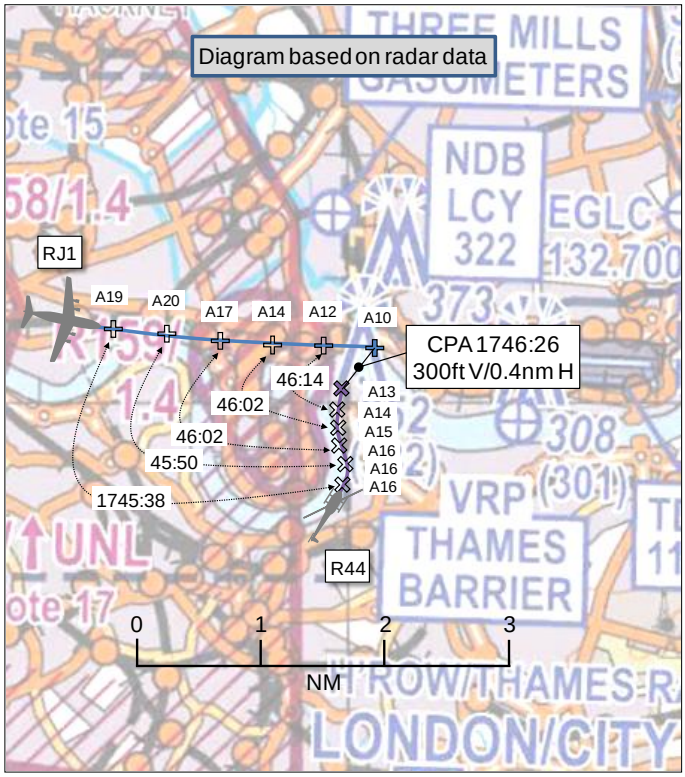
AIRPROX REPORT No 2013100

Date/Time:	6 Aug 2013 1745Z	
Position:	5130N 00032E (2nm W London City Airport - elevation 19ft)	
Airspace:	Lon/City CTR	(*Class*: D)
	Reporting Ac	*Reported Ac*
Type:	RJ1H	R44
Operator:	CAT	Civ Pte
Alt/FL:	1200ft QNH (1015hPa)	2000ft QNH (1016hPa)
Weather:	VMC CLBC	VMC NK
Visibility:	>10km	NK
Reported Separation:	0ft V/0.5nm H	NK V/0.5nm H
Recorded Separation:	300ft V/0.5nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE RJ1H PILOT reports he was inbound IFR to London City airport, in contact with the Tower (TWR) controller. All external lights were switched on (landing, strobes, logo, navigation and wing). SSR Modes C and S were selected, code 6735. Whilst established on the ILS approach to RW09 he received traffic information (TI) initially from City Radar, frequency 128.025MHz and then from London City TWR, frequency 118.075MHz, about a helicopter over the River Thames, E of Canary Wharf, S of his aircraft in his 9 o'clock (*sic*) position. The First Officer was in visual contact with this traffic. After passing the Outer Marker he received a TCAS TA and then an RA "Descend". As he was fully established on the ILS RW09, in visual contact with the corresponding traffic, he continued the steep approach for landing on RW09.

He assessed the risk of collision as 'None'.

THE R44 PILOT reports his helicopter has a black fuselage. SSR Mode C, code 7050, was selected. He was on a VFR flight in the London City, Class D, CTR under the control of City Radar. He was holding at the Isle of Dogs, instructed to proceed N behind the RJ1H. He circled and then held in a hover. He held at the Isle of Dogs until he saw the aircraft when it passed N abeam on final approach at approximately 3nm. He watched it until it was almost straight ahead and then began to accelerate and move forward. He passed at least 1nm behind the RJ1H.

He assessed the risk of collision as 'None'.

THE LONDON CITY WATCH MANAGER reports that the RJ1H pilot reported to City Tower, after landing, that he had received a TCAS RA, at 1747, from a helicopter, which he had had in sight. After receiving an Airprox report from the pilot, he listened to ATC RTF recordings and reviewed the Separation Monitoring Function and observed a helicopter holding at the Isle of Dogs. This helicopter was not talking to City Tower.

Factual Background

The London City weather was:

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EGLC 061720Z 35005KT CAVOK 22/08 Q1015=
EGLC 061750Z VRB02KT CAVOK 22/08 Q1015
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MATS Part 1[1] states the ATC responsibilities for Class D airspace:'....Pass traffic information to IFR flights on VFR flights and give traffic avoidance advice if requested; Pass traffic information to VFR flights on IFR flights and other VFR flights'.

Analysis and Investigation

CAA ATSI

CAA ATSI had access to written reports from both pilots, area radar recordings, RTF recordings and transcripts of the City Radar frequency and the London City Tower frequency. No report was received from the City Radar controller.

The R44 was receiving a Radar Control Service (RCS) from City Radar. At 1740:20 the R44 was given a clearance to proceed eastbound along the Thames to the Isle of Dogs not above 2000ft VFR.

At 1744:03 the RJ1H, also being provided with an RCS by City Radar, was given a closing heading for the ILS RW09 of 060°.

At 1744:42 the R44 was holding at the Isle of Dogs, in accordance with its clearance, with the RJ1H establishing on final approach (Figure 1). The City Radar controller passed TI on the RJ1H and the R44 reported having the traffic in sight.

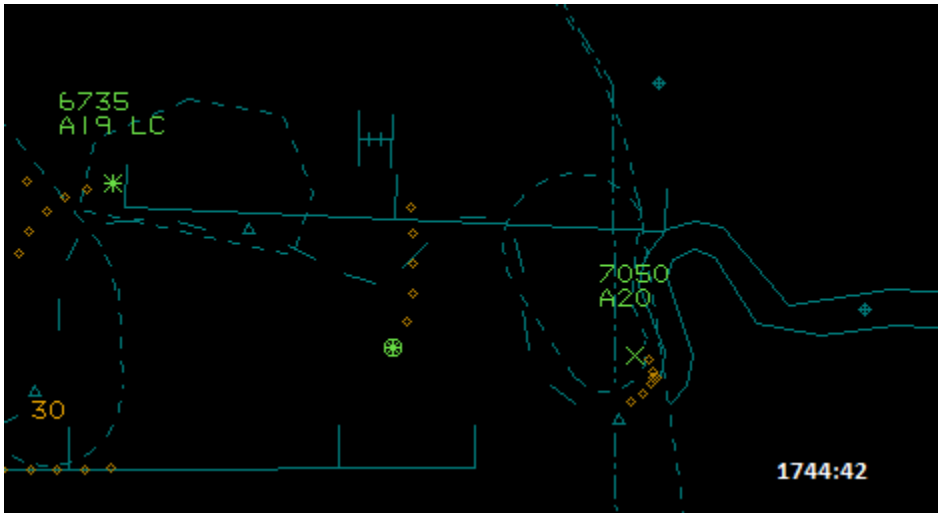

Figure 1.

At 1745:10 the RJ1H pilot was informed of the presence of the R44, holding S of a two mile final and was told that the R44 would pass behind him. The RJ1H was transferred to London City Tower. The City Radar controller instructed the R44 pilot, after the RJ1H had passed, to proceed up the Lea Valley not above 2000ft VFR. The controller also instructed the R44 pilot to arrange his flight to pass behind the RJ1H, which was complied with.

[1] MATS Part 1, Section 1, Chapter 2, Page 2

Summary

The Airprox occurred within Class D airspace of the London City CTR. The RJ1H was operating IFR and the R44 VFR. Both the City radar and the London City TWR controllers complied with ATC responsibilities for flights within Class D airspace; appropriate TI was issued to both flights. The R44 was visual with the RJ1H and complied with the City radar's instruction to pass behind it. The RJ1H received a TCAS RA to descend, which was complied with by descending on the ILS. Neither pilot considered there was any risk of collision.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Airprox was reported by the RJ1H pilot following receipt of a TCAS RA against an R44 crossing behind. Board members wondered why the pilot of the RJ1H had decided to file an Airprox report as there had been no risk of a collision and both aircraft had been operating as cleared. It transpired that the associated airline's company reporting form does not have a separate field for reporting TCAS alerts, therefore, it is possible that the Airprox box was used instead. It was noted that there have been a number of similar Airprox reports from the same company operating into LCY.

The Board then considered the actions of the pilots. The R44 had been instructed to cross behind the RJ1H, which it had in sight. Although the pilot reported he had headed North from the Isle of Dogs after the RJ1H had passed through his twelve o'clock, radar recordings indicate that he actually set course before the aircraft had crossed. Whilst this complied with the ATC clearance, it resulted in the RJ1H receiving a TCAS RA due to the helicopter's forward vector then impinging on the RJ1H's TCAS Protection Volume. Airline members commented that this was due to the high Glide Path angle at London City (5½°), where the aircraft was higher on approach than at other airports such that the RJ1H would still have been above the TCAS Descent RA reporting threshold of 900ft at the time. Civil ATC members stated that it was not possible to cross single-engine helicopters further to the west due to operating restrictions.

The Board members agreed that the cause of the Airprox had been the TCAS RA received by the RJ1H due to the R44 flight vector. However, there was considerable discussion over the associated risk and, specifically, whether it should be classified as a Category C (no risk of collision) or a Category E (normal procedures, safety standards and parameters pertained). Many members considered that, because this was normal operations at LCY, with no risk of collision, an E was appropriate. However, it was equally pointed out that it should not be normal procedure to receive a TCAS RA on final approach (or at any other time in flight). The definition of a Category E is that: "an incident meets the criteria for reporting, but, by analysis, it was determined that the occurrence was so benign that it would be misleading to consider it an Airprox occurrence. Normal procedures, safety standards and parameters pertained", the key consideration was therefore whether 'normal procedures, safety standards and parameters pertained'. After much debate, it was decided that normal procedures and parameters had in fact pertained (in as much as the LCY 5½° approach is an unusually steep approach compared to other airfields) and that integrated operations conducted as in this case had met 'normal safety standards' because there had been no risk of collision or breakdown in situational awareness by the pilots, who had both received timely Traffic Information from ATC and had had each other in sight before the TCAS system had generated the RA. Notwithstanding, the Board remained very concerned that TCAS RA warnings should not be considered as 'normal' at any time. They therefore resolved to recommend that the CAA reviews TCAS interaction between local traffic and CAT inbound and outbound LCY in order to determine how operating procedures might be modified to avoid similar occurrences.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Although well clear of the other aircraft, and with it in sight within Class D airspace, following appropriate TI from ATC, the R44 flight vector generated a TCAS RA in the RJ1H.

Risk: E

ERC Score[2]: 1.

Recommendation: The CAA reviews TCAS interaction between local traffic and CAT inbound and outbound LCY.

[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.

ANNEX A

UKAB 2013/100: CAA ATSI Report

1 Background

1.1 An AIRPROX was reported by a British Aerospace RJ100 (RJ1H) following receipt of a TCAS RA against a Robinson R44 II (R44) in Class D airspace whilst being vectored for the ILS approach to runway 09 at London City.

1.2 The RJ1H was operating IFR inbound to London City, squawking 6735, and was in receipt of a Radar Control Service from City Radar on frequency 128.025MHz.

1.3 The R44 was operating VFR to and from Denham, squawking 7050, and was in receipt of a Radar Control Service from City Radar on frequency 128.025MHz.

1.4 CAA ATSI had access to written reports from both pilots, area radar recordings, RTF recordings and transcripts of the City Radar frequency and the London City Tower frequency.

1.5 The London City weather is reproduced below:
EGLC 061720Z 35005KT CAVOK 22/08 Q1015=
EGLC 061750Z VRB02KT CAVOK 22/08 Q1015=

2 Factual History

2.1 At 1740:20 the R44 was given a clearance to proceed eastbound along the Thames to the Isle of Dogs not above 2000ft VFR.

2.2 At 1744:03 the RJ1H was given a closing heading for the ILS runway 09 of 060 degrees.

2.3 At 1744:42 the R44 was holding at the Isle of Dogs in accordance with his clearance with the RJ1H establishing on final approach (Figure 1). The City Radar controller passed traffic information on the RJ1H and the R44 reported having the traffic in sight.

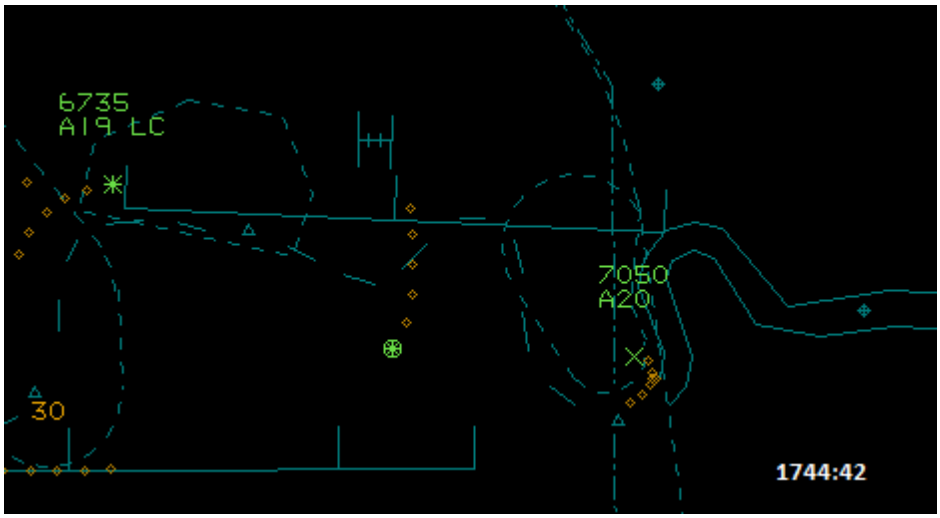

Figure 1.

2.4 At 1745:10 the RJ1H was informed of the presence of the R44, holding south of a two mile final, and was told that the R44 would pass behind them. The RJ1H was transferred to London City Tower.

2.5 The City Radar controller instructed the R44 that when the RJ1H had passed the R44 could proceed up the Lea Valley not above 2000ft VFR. The controller also instructed the R44 to arrange his flight to pass behind the RJ1H which was complied with.

2.6 After landing at London City the RJ1H informed the Tower controller that they received an RA from the helicopter but that they had the traffic in sight.

2.7 The written report from the RJ1H stated they were informed about the helicopter by City Radar and the First Officer had visual contact with the R44. The RJ1H received a Traffic Advisory followed by a Resolution Advisory 'descend'. The RJ1H was fully established on the ILS and visual with the traffic so they continued for an uneventful landing.

2.8 The written report from the pilot of the R44 stated that he was holding at the Isle of Dogs and had been instructed to proceed northbound after the RJ1H. The R44 flew behind the RJ1H, maintaining his own separation and the pilot stated that 'at no time was there the remotest possibility of a collision'.

2.9 No report was received from the City Radar controller.

3. Analysis

3.1 The RJ1H and the R44 were operating in Class D airspace. There are no separation minima prescribed between IFR and VFR traffic in Class D airspace. Both aircraft were passed traffic information. The R44 reported having the RJ1H in sight. The RJ1H did not request traffic avoidance and subsequently reported having the R44 in sight. The R44 complied with the instructions given to route behind the RJ1H.

4. Conclusion

4.1 An AIRPROX was reported by an RJ1H when it received a TCAS RA against an R44 in Class D airspace. Traffic information had been passed to both aircraft on each other and both aircraft had each other in sight.