

## AIRPROX REPORT No 2011074

Date/Time: 5 Jul 2011 0750Z

Position: 5130N 00004E (London City Airport - elev 19ft)

Airspace: ATZ/CTR (Class: D)

Reporting Ac Reported Ac

Type: RJ100 ATR42-300

Operator: CAT CAT

Alt/FL: 400ft↑ 600ft↓  
agl QNH (1013mb)

Weather: VMC CLOC VMC CLOC

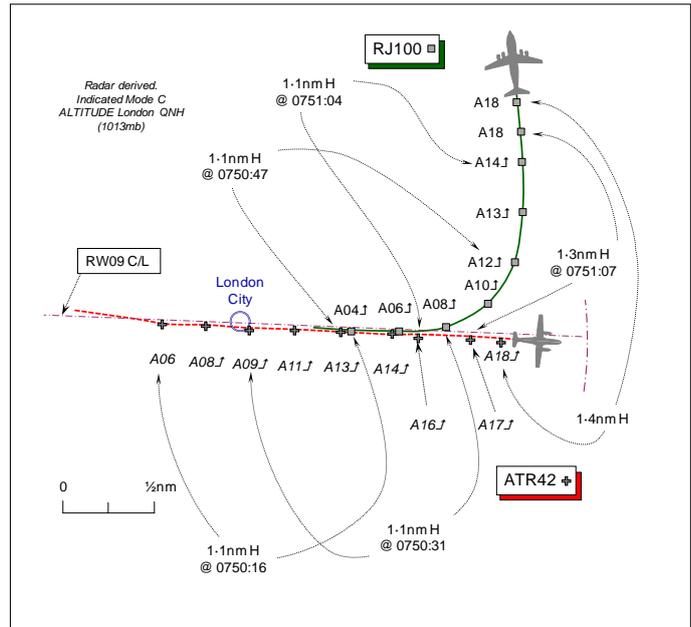
Visibility: 10km 10km

Reported Separation:

Nil V/1.5nm H Not seen

Recorded Separation:

100ft V@1.1nm H



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE RJ100 PILOT** reports he was departing from London City airport bound for Zurich under IFR in VMC and in communication with TOWER on 118.075MHz. The 1<sup>st</sup> Officer in the RH seat was the PF.

After a backtracking ac had vacated the RW, they were cleared for an immediate take-off from RW09. About ½nm on climb-out on RW track heading 096° at 126kt passing 400ft agl, TWR issued an urgent L turn onto a heading of 360°. At this point he noticed a solid blue TCAS target at their height 1.5nm astern; neither a TA nor RA was enunciated by TCAS. Thereafter they were handed over to Thames RADAR on 132.70MHz who, at their request, stated the reason for the avoiding action manoeuvre. The other ac was not seen, he assessed the Risk as 'low' but his workload as 'high' during the initial climb-out.

**THE ATR42-300 PILOT** reports he was inbound IFR to London City from Isle of Man Airport in VMC, in receipt of a radar (sic) service from London City TOWER (TWR). As PIC he was the PF. Established on the LLZ to RW09 at around 5nm, TWR advised the crew to expect a late landing clearance, with an RJ100 lined up for RW09 but still awaiting take-off clearance. Heading 094° at 100kt, whilst he was descending through 700ft QNH, the RJ100 had been cleared to take-off and was accelerating on RW09. Passing 650ft, no landing clearance had been received from TWR, who was engaged in a conversation on RT with an ac on the ground. Passing 580ft, the RJ100 was just rotating, but still no landing clearance had been issued with ATC still in conversation with another ac. At 500ft, at about 1nm Final with no landing clearance received, he commanded a go-around and executed a missed approach, which was notified to TWR passing around 850ft in the climb. Assessing the Risk as 'medium', he stated his workload was very high whilst performing a go-around in busy airspace. The pilot noted that the RJ100 was 'not seen' after the go-around was initiated and was relying on ATC vectors for avoiding action. The ac has a green and white livery; the HISLs were on. TCAS is fitted with enhanced Mode S; neither an RA nor TA was enunciated.

**THE LONDON CITY AIRPORT TOWER CONTROLLER (TWR)** reports that the RJ100 was lined up on RW09, with the previous landing ac backtracking to vacate at 'D'. The ATR42 was the next inbound and the gap was tight, but not particularly so. The weather was CAVOK, so there were no visibility issues. The RJ100 crew was instructed to 'Hold Position and be ready immediate when instructed'; the ATR42 crew was instructed to continue the approach and expect late landing

clearance. Both pilots confirmed their instructions. As the backtracking ac was vacating the RW he checked the inbound ATR42's progress. The gap was still fine, so he cleared the RJ100 crew for an immediate take-off. After barely a moment's hesitation the RJ100 rolled and the ac approached rotation he started transmitting to the ATR42. As the RJ100 rotated he cleared the ATR42 to land whilst turning his head to check that ac's position. The ATR42 was in a nose-up attitude and obviously climbing. As he finished the transmission, the ATR42 pilot stated he was already going around. Assessing the situation, as the RJ100 was climbing through about 200ft he decided to allow the ATR42 to continue on a standard missed approach. Therefore, he instructed the ATR42 pilot to 'continue straight ahead to altitude 2000ft', which the pilot read back. He then passed an avoiding action L turn to the RJ100 crew onto a heading of 360°, which the RJ100 pilot read back. As he watched the turn generate separation he called Thames RADAR on the landline. The Thames controller was happy to take both ac on their current headings and cleared altitudes. Both flights were therefore transferred correctly. After the ATR42 completed a successful second approach, he queried the pilot on the reason for his missed approach. The ATR42 pilot advised that as he had reached 500ft in the descent, had not been cleared to land and could see the departing RJ100 had not yet rotated; he elected to execute a missed approach.

**ATSI** reports that the Airprox occurred at 0750:15, within the Aerodrome Traffic Zone (ATZ) of London City Airport, Class D airspace. The London City ATZ consists of a circle, radius 2nm, centred on Runway 09/27 and extending to 2000ft above the aerodrome elevation of 19ft.

The RJ100 was departing from London City RW09; the ATR42 was inbound and established on the ILS for RW09. The controller was operating AIR and Ground Movements Control (GMC) combined (TWR).

The London City 0750UTC METAR: 09004KT 060V130 CAVOK 18/13 Q1013=

Prior to the Airprox the RJ100 crew was waiting for departure at RW09 holding point 'Alpha'. An Embraer E190 was established on final, followed by the ATR42 with 7nm spacing. At 0746:44, the E190 was cleared to land. At 0747:17, after the landing E190, the controller instructed the RJ100 crew to line up and wait RW09 assessing the gap between arrivals was adequate to allow the departure. The E190 landed long and at 0747:51, the controller instructed the ac to backtrack the runway and vacate at 'Delta' for the main apron. Shortly afterwards at 0748:06, the E190 crew was instructed to expedite the backtrack.

At 0748:21, the ATR42 crew contacted TOWER and the controller replied, "[ATR42 C/S] City TOWER good morning to you continue approach 0 9 you are number 1 there will be a departure ahead expect a late landing clearance." The pilot replied, "Continue approach ????? [ATR42 C/S]".

The controller then passed a departure clearance to an outbound aircraft on the apron.

At 0749:14, once the E190 had vacated the runway, the RJ100 crew was cleared for an immediate take off, "[RJ100 C/S] the surface wind is 0-8-0 degrees at 4 knots Runway 0-9 is cleared for immediate take off" and the pilot replied, "Clear for take off niner [RJ100 C/S]". Although the pilot did not repeat the clearance for 'immediate', the controller indicated that the ac started to roll within 2 to 4 seconds and was satisfied that the ATR42 would be given the late landing clearance as planned.

At 0749:30, as the inbound ATR42 was passing an altitude of 1200ft. The controller passed a start clearance to an ac on stand.

From 0749:41 to 0749:52 the controller advised the E190, which was approaching the apron, that there may be a short delay going on to stand. Radar recordings shows the ATR42 passing an altitude of 600ft.

The written report from the ATR42 pilot indicated that as the aircraft reached 650ft, the controller was engaged in an RT conversation with an aircraft on stand. At 580ft the RJ100 was rotating and the controller was still in conversation. At 0749:56, radar recordings show the ATR42 indicating an

altitude of 500ft on short final and at this point with no landing clearance, the pilot initiated the go around.

At 0749:58, the controller gave the ATR42 crew a landing clearance, “[ATR42 C/S] *clear to land surface wind is 0-8-0 degrees 4 knots.*” The pilot responded, “[ATR42 C/S] *going around.*” The controller instructed the ATR42 to continue straight ahead to altitude 2000ft and this was acknowledged correctly. The ATSU report indicated that the controller had both ac in sight and provided ‘reduced separation in the vicinity of the aerodrome’.

At 1750:12 the controller transmitted, “[RJ100 C/S] *avoiding action when able turn left immediately heading 3-6-0 degrees acknowledge.*” The pilot replied, “*Left heading 3-6-0 turning left now* “[RJ100 C/S]”. (It was noted that the phraseology used to give avoiding action gave no information regarding the conflicting traffic and the RJ100 crew was probably not aware of the reason for the avoiding action.)

At 0750:21, radar recording shows the ATR42 had crossed the runway threshold indicating an altitude of 800ft, the RJ100 indicating an altitude of 600ft climbing on the runway centreline. The minimum spacing between the two aircraft was 1.1nm, which was maintained as the RJ100 crew turned L onto the northerly heading. From 0751:07, separation increased as the tracks diverged. After the RJ100 was transferred to Thames RADAR, the pilot requested the reason for the urgent avoiding action and subsequently made an Airprox report.

The controller was content with the 7nm spacing of arrivals and considered the gap sufficient to allow the safe departure of the RJ100 with the ATR42 on final, advising the ATR42 pilot to expect a late landing clearance. As the RJ100 rolled and the ATR42 was approaching short final, the controller was transmitting a start clearance, followed by information to the E190 about a delay on stand. This was a crucial point from the ATR42 pilot’s perspective. The controller could have kept RT to a minimum prior to the issue of the late landing clearance. However, the controller remained satisfied with the situation, anticipating that a late landing clearance would be provided. As the ATR42 pilot approached 500ft without a landing clearance, the pilot elected to initiate the go around. With both ac in sight, the controller utilised ‘reduced separation in the vicinity of the aerodrome’, before he decided to issue avoiding action.

The ATSU indicated that as a result of similar reported incidents at other airports when separation had been compromised, the subject of avoiding action had been included as a ‘Hot Topic’, in controller emergency training – TRaining in Unusual Circumstances and Emergencies (TRUCE) - using advanced Aerodrome Traffic Monitor (ATM radar) procedures. Controllers have been encouraged to act quickly in order to establish the separation minima. The Manual of Air Traffic Services Part 1, Section 1, Chapter 5, Page 1, Paragraph 1.1.3, states:

‘Surveillance systems may also be used to provide the following, whether or not the aircraft has been identified:

- a) Information on the position of aircraft likely to constitute a hazard;
- b) Avoiding action’

Although the controller was using ‘reduced separation in the vicinity of the aerodrome’, the controller immediately issued avoiding action in order to resolve the confliction and increase the separation. However the controller omitted to pass the RJ100 crew TI regarding the conflicting traffic. The incident occurred as a result of the controller passing avoiding action to provide increased separation between the two ac, without passing appropriate TI. This resulted in the RJ100 pilot becoming concerned about the close proximity of the other aircraft.

The ATSU reported that the controller realised that avoiding action was not strictly necessary, even if the RJ100 crew had not made an immediate left turn.

ATSI Recommendation:

CAA ATSI recommends that the ATSU review their TRUCE training requirements for the provision of avoiding action, in order to ensure that controllers use correct phraseology appropriate to the circumstances.

## **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 controller involved and a report from the appropriate ATC authority.

It seemed that the RJ100 crew had departed as expeditiously as feasible when their 'immediate' take-off clearance was issued by TWR. Therefore, apart from prompt compliance with TWR's instructions, the RJ100 crew had little impact on what occurred, although the PIC, as the pilot initiating the Airprox, was concerned at the lack of TI or amplification following TWR's robust avoiding action L turn instruction. The catalyst of this Airprox was the late landing clearance to the ATR42 crew following the RJ100's take-off and the ATR42 Captain's decision to execute a go-around into a missed approach. A controller Member opined that a missed approach might be initiated at any point and controllers should be prepared for them. Nevertheless having pre-warned the ATR42 crew that their landing clearance would be issued at a late stage, it was unfortunate that TWR should choose such a moment to enter into a lengthy transmission with the E190 on the ground; a military controller Member perceived that TWR had not suitably prioritised his actions. However, TWR had been content with the landing interval, albeit close, had forewarned the ATR42 crew and had issued the landing clearance as soon as he had finished transmitting to the E190: the late landing clearance transmission commencing at 0749:58, a mere 2 sec after the radar recording revealed that the ATR42 was passing 1nm final indicating 500ft. Some controller Members thought that combining TOWER and GROUND Movements Control (GMC) onto one operating position might be an issue, but the Board was briefed by the NATS Ltd Advisor that there was no alternative at this point due to the unserviceability of the GMC RT frequency. Consequently, the Board recognised that the interval between the PIC of the ATR42 deciding to initiate a go-around and the controller starting to transmit the late landing clearance was indeed minimal. A pilot Member suggested that the ATR42 pilot's go-around was perhaps actioned a modicum too early. However, another CAT pilot Member emphasised that the 5½° glide-path flown at London City is a steep approach and can be quite challenging; when no landing clearance had been received at 1nm/500ft he understood why the ATR42 Captain felt compelled to command a go-around. The Board agreed that this was the PIC's decision alone and any criticism of his decision was unjustified. Such events are not unusual, civilian controller Members opined, and it was evident that horizontal separation of 1.1nm had been maintained between the two ac as the RJ100 departed and turned L onto N in compliance with TWR's instruction, thereby safely vacating the 'climb-out' for the ATR42 proceeding straight ahead. All this was closely observed by TWR and in accord with his remit to effect 'reduced separation in the vicinity of the aerodrome'. The Board was briefed that the controller's recent TRUCE training had figured large in his prompt decision to issue avoiding action to the RJ100 crew, but the absence of any explanation for the instruction had caused the RJ100 crew concern; they would probably have been reassured by receiving TI about the ATR42. The Board concluded that this Airprox had resulted because the RJ100 pilot was concerned at receiving avoiding action shortly after takeoff. Whilst submission of the Airprox by the RJ100 pilot was entirely reasonable, it had been shown that standard procedures had been applied, separation had been maintained and the Board concluded that normal safety parameters had not been breached.

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

Cause: The RJ100 pilot was concerned at receiving avoiding action shortly after takeoff.

Degree of Risk: E.