AIRPROX REPORT No 2014043

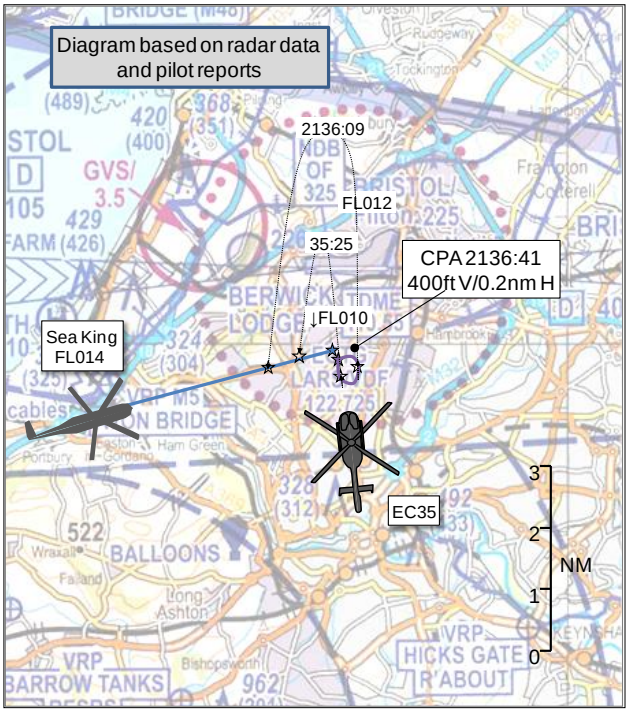
Date/Time: 17 Apr 2014 2136Z (Night)

Position: 5129N 00235W (1nm S Bristol Filton)

Airspace: LON FIR (*Class*: G)

	Aircraft 1	*Aircraft 2*
Type:	EC135	Sea King
Operator:	NPAS	HQ Air (Ops)
Alt/FL:	1400ft QNH (1020hPa)	2000ft QNH (1020hPa)
Conditions:	VMC	VMC
Visibility:	>10K	30K
Reported Separation:	300ft V/100m H	NK

Recorded Separation: 300ft V/0.2nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE EC135 PILOT reports flying a blue-and-yellow aircraft with red strobes and white navigation lights. The SSR transponder was selected with modes 3A and C, and the aircraft was fitted with TCAS. He reported being on task in uncontrolled airspace and receiving a Basic Service from Bristol ATC. He was aware via ATC that a Sea King helicopter was transiting through the Bristol area routing eastbound. He initially saw the aircraft displaying on TCAS indicating 300ft above, West of his position; as it got closer on TCAS he selected white strobe lighting. He became visual with the Sea King when it was approximately 0.5nm away, which coincided with audio alerts from the TCAS. Due to the close proximity of the aircraft, he aborted the Police Task and descended to increase separation. The aircraft passed directly overhead and turned left towards North. ATC advised that the Sea King had been visual with the EC135 prior to over-flight; however, the pilot opined that he did not expect it to overfly by only 300ft vertical separation. He didn't know whether the Sea King was on a rescue mission so he thought it best not risk distracting the crew by declaring an Airprox over the RT, so he waited until landing before speaking with Bristol ATC via telephone.

He assessed the risk of collision as 'Medium'**.**

THE SEA KING PILOT reports flying in VMC with all lights illuminated and SSR transponder code 0023[1] with modes 3A and C selected. The aircraft was not fitted with TCAS. The pilot reported that he was conducting a live SAROP and was transferring a critically ill patient and medical staff to Great Ormond Street Hospital. He was receiving a Basic Service from Bristol ATC when traffic information was given on a rotary aircraft at 12 o'clock with a range of 2nm. Both the pilots and the rear crew identified the aircraft and, between them, maintained "padlock" on it. The aircraft appeared low, but was turning towards their position. He reported that they were aware that they were approaching Bristol Filton which, although closed, still operates some rotary, and they suspected that the aircraft was a police helicopter returning to base. They continued to monitor the path of the aircraft, and flashed a spot light for conspicuity, but it was apparent that the aircraft was going to cross behind and below; therefore, the pilot elected to maintain his direct routing. They used the FLIR to remain visual even as the aircraft passed behind. As a crew, he felt that they had taken all reasonable deconfliction measures and were content with the separation.

He perceived the severity of the incident as 'Negligible'.

[1] 0023 is assigned to aircraft on actual SAR Operations UK AIP ENR 1.6-9

Factual Background

The weather at Bristol was reported as:

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METAR EGGD 172150Z 32006KT CAVOK 09/05 Q1020
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Analysis and Investigation

CAA ATSI

CAA ATSI had access to Bristol RTF and area radar recording, together with the written reports from the both pilots. Bristol were not initially advised about the Airprox and no controller or unit report was available. The ATSU reported that both helicopters operate frequently in the Bristol area. The Bristol Radar controller was providing an SSR-only radar service and a Traffic Service would not have been available below 4000ft. The controller was vectoring three inbound aircraft for the ILS RW27 and CAA ATSI assessed the controllers workload as medium.

The EC135 contacted Bristol Radar at 2126:45 and reported operating at Southmead, which lies to the northeast of Bristol CTR, up to an altitude of 1500ft VFR. The EC135 pilot requested a Basic Service which was agreed, and the Radar controller passed the Bristol QNH 1020. A minute later, at 2127:45, the Sea King helicopter contacted Bristol Radar and reported, *"(S61)c/s we've just lifted from er Newton this time and we're routeing to er London routeing north of your field and requesting Basic Service squawking zero zero two three"*. A Basic Service was agreed and the Bristol QNH 1020 was passed.

At 2130:00, radar recording showed the EC135 operating north of the Bristol CTR, 8.2nm northeast of Bristol Airport at FL012. The Sea King was at FL014 and crossing the north bank of the Bristol Channel. The distance between the two aircraft was 13.7nm – Figure 1.

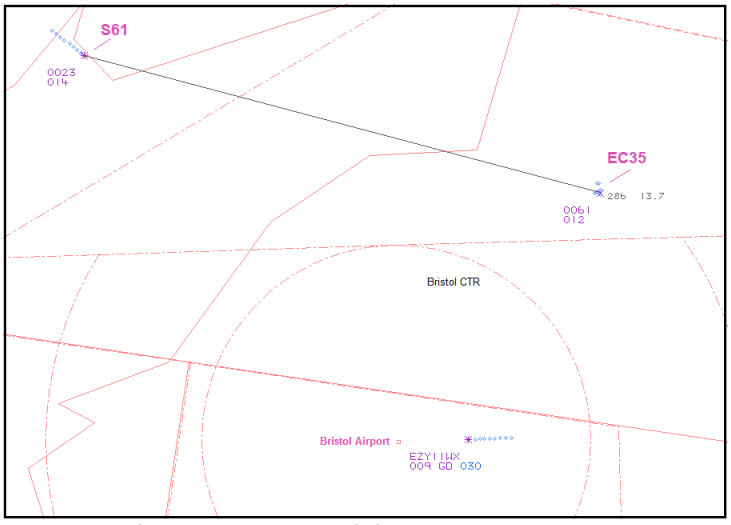

Figure 1 – Swanwick MRT at 2130:00

At 2131:55 the distance between the two aircraft was 10nm and the following RTF exchange occurred:

ATC *"(Sea King)c/s there's er traffic a helicopter operating er to the northern part of the city of Bristol not above one thousand five hundred feet"*
S61 *"Er Bristol from (Sea King)c/s ????? ????? visual this time"*
ATC *"Roger"*
EC135 *"Er Bristol (EC135)c/s have you any er traffic in this area"*
ATC *"Er not with you at the moment got er Rescue helicopter just er mid channel just er about to coast in south of Avonmouth er heading er east-southeast possibly on that track to route to the south of you"*
EC135 *"That's copied thanks (EC135)c/s"*

S61 *"Er Bristol from (Sea King)c/s just as I ????? we're gonna coast in and we'll be routeing about ????? five miles north of Colerne eastbound inbound London"*

ATC *"Okay that's understood and er the helicopter's operating about two miles er south of the old Filton airfield site not above one thousand five hundred feet"*

S61 *"Er (Sea King)c/s visual this time".*

At 2135:42 the controller updated the Sea King regarding the EC135, *"(SeaKing)c/s that helicopter on your nose now range of er two miles";* the Sea King pilot reported visual – Figure 2.

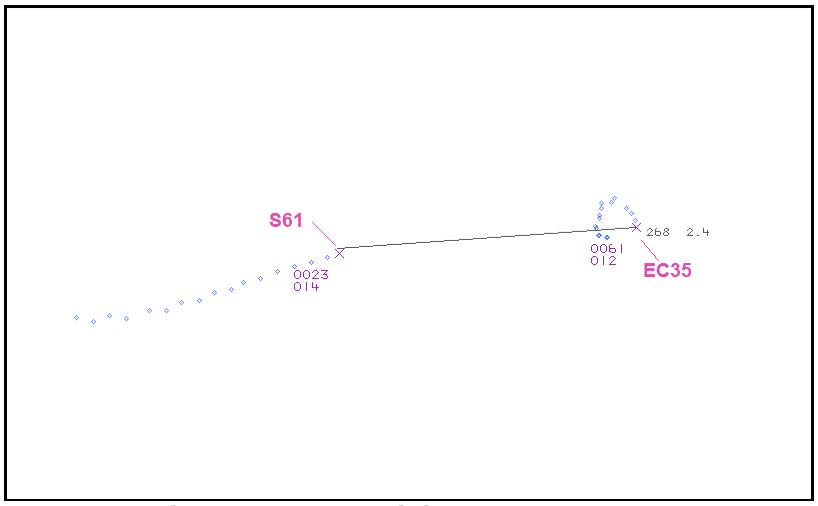

Figure 2 – Swanwick MRT at 2135:42

At 2136:38 the horizontal distance between the two aircraft was 0.4nm, with the EC135 in a right hand orbit at FL011 and the Sea King eastbound at FL014 (Figure-3). At 2136:42 the EC135 is shown commencing a left turn, and the horizontal distance between the aircraft was 0.2nm (Figure-4). The CPA occurred at 2136:46 as the two aircraft passed abeam at a range of 0.1nm and vertical distance of 300ft (Figure 5).

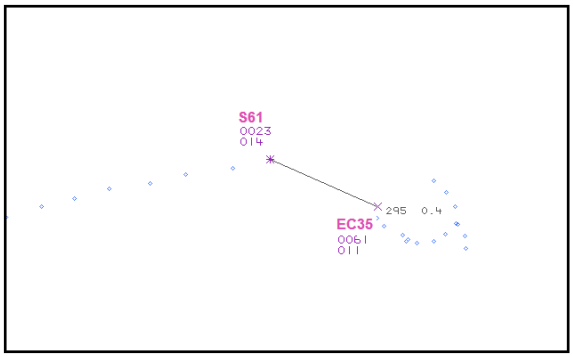

Figure 3 - 2136:38

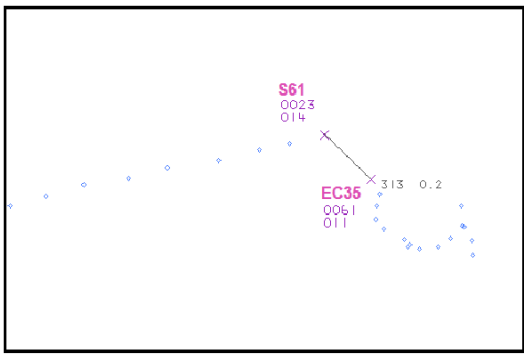

Figure 4 - 2136:42

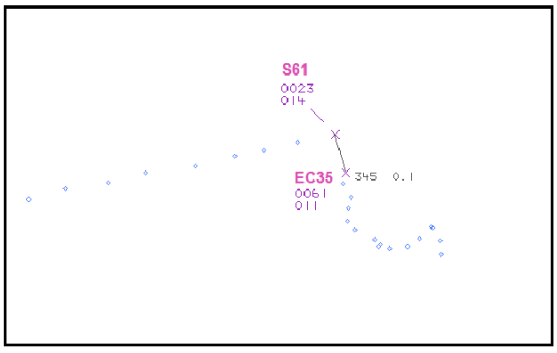

Figure 5 - 2136:46

At 2137:22 the EC135 called Bristol Radar. The controller was engaged in providing vectors to an inbound aircraft before asking the EC135 pilot to pass his message. The EC135 pilot responded, *"Yes (EC135)c/s clear Southmead now operating the city up to fifteen hundred feet er visual with the Sea King is that departing the area now it flew straight over the top of us".* The controller replied, *"Yeah Yeah he had you in sight and he's now two miles northeast of you continuing away".* The EC135 acknowledged with *"Roger"*.

The written report from the EC135 pilot reported being aware of the Sea King in transit routeing from Wales to Colerne and first observing it on TCAS 300ft above and to the west before acquiring it visually at a range of 0.5nm. The EC135 pilot decided to abort his task and descended to increase separation. The Sea King pilot's written report indicated that he sighted the EC135 at a range of 2nm and he monitored the EC135 visually as it crossed behind and below.

The two aircraft were in receipt of a Basic Service where the avoidance of other traffic is solely the pilot's responsibility. The controller was not required to monitor the flights or to pass specific traffic information. However, the controller did pass general traffic information at an early stage when the distance between the two aircraft was 10nm and the EC135 pilot was advised that the Sea King would possibly route to the south of his position. When it became apparent to the controller that the Sea King was routeing towards the EC135, the controller passed specific traffic information to the Sea King pilot, warning of the EC135, 2 miles ahead. CAP 774, Chapter 2, Paragraph 2.5, states:

> '…A controller with access to surveillance-derived information shall avoid the routine provision of traffic information on specific aircraft, and a pilot who considers that he requires such a regular flow of specific traffic information shall request a Traffic Service. However, if a controller considers that a definite risk of collision exists, a warning may be issued to the pilot.'

A Traffic Service would not have been available below 4000ft and the EC135 pilot might have considered it possible that the Sea King would route south of his position as previously advised by the controller. However this had not been updated and the EC135 pilot first observed the Sea King on TCAS, 300ft above and to the west of his position. This resulted in him breaking off his task and descending.

Both aircraft were operating in good weather conditions and in receipt of a Basic Service where the avoidance of other traffic is solely the pilot's responsibility. At an early stage the controller provided general traffic information to both aircraft. When it became apparent that the Sea King was routeing toward the EC135 on task, the controller provided specific traffic information to the Sea King warning him about the EC135, 2 miles ahead.

UKAB Secretariat

Amongst other exemptions, holders of a Police Air Operator's Certificate are exempt from the 500ft rule, the 1000ft rule and, on having right of way, the requirement to maintain course and speed[1]. Apart from the use of such provisions as NOTAMs or Temporary Restricted Areas, there is no provision in the Air Navigation Order 2009 or Rules of the Air 2007 for any other exemption, deviation, or prioritisation, including with regard to 'operational' flights. Notwithstanding, both pilots had an equal responsibility to avoid a collision[2] and if the geometry is considered to be converging, the Sea King pilot was required to give way[3]. Furthermore, an aircraft that is required to give way shall avoid passing over or under the other aircraft, or crossing ahead of it, unless well clear of it.[4]

[1] Rules of the Air 2007(as amended), Rule 6(e) (Exemptions from the low flying prohibitions) and Rule 8(7) (Avoiding Aerial Collisions).
[2] Ibid., Rule 8 (Avoiding aerial collisions)
[3] Ibid., Rule 9 (Converging)
[4] Ibid., Rule 8.4 (Avoiding aerial collisions)

Comments

HQ Air Command

Both pilots in this incident were in receipt of the highest level of ATS available and had received timely and accurate information regarding the other aircraft. From the accounts of both pilots it is clear that each had sufficient SA but also that each believed he had priority over the other aircraft; what is disappointing is that this was never communicated in the air – the EC135 was on task but was assumed by the Sea King pilot to be simply returning to base, the EC135 pilot assumed that the Sea King's track would take it clear or, if not, that the Sea King would deviate. There clearly never was any risk of actual collision but more separation could have been generated, primarily by the Sea King pilot. A simple lack of communication caused safety margins to be eroded where a radio call stating intentions (both aircraft were on the same Bristol ATC frequency) would have avoided the incident entirely.

NPAS

It is clear from both pilots' accounts that both aircraft were very much aware of each other and, assisted by the local ATC provider, had a clear view of their relative positions. With both aircraft on their primary missions (SAR and Police Ops respectively) both of which afford the aircraft with equivalent priority status over other airspace users (albeit Police using a suffix B and not A callsign) this can only be a knock-for-knock incident.

That the Police aircraft chose to abort its task, based on undeviating height difference on TCAS, is a good indication of the level of uncertainty/concern felt by the pilot. This, when a small alteration of course by the Sea King would have alleviated all concern and without detracting from the SAR mission. The downwash from a Sea King is significant, and good airmanship would advocate greater separation. Whilst 300 feet and 0.2 mile may be an acceptable margin between collaborating units on scene, a situation we may well find ourselves in on another day/night with the same aircraft, it was close enough to cause concern on this occasion.

Summary

An Airprox was reported when a EC135 and a Sea King flew into proximity at 2235 on 17th April 2014 when both were engaged on separate priority tasks. Both pilots were VMC and receiving a Basic Service from Bristol. The Bristol controller gave Traffic Information to both pilots.

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 photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first discussed the actions of the Sea King pilot. He was on a rescue mission and the Board recognised that he would no doubt be seeking as expeditious a routing and as minimum a delay as possible. However, even though he believed the EC135 was returning to base (when in fact it too was on an operational task), the Board opined that a small track deviation of just 10° when he became visual with the EC135 would have meant that he could have avoided it by a considerably larger lateral margin with little difference to his routing overall. Whilst some members felt that 300ft height separation could be considered acceptable, the Board noted that the EC135 pilot was concerned enough to break off his tasking, and they opined that pilots needed to consider the perceptions of other airspace users rather than simply assume that their own comfort level was appropriate.

Notwithstanding, the Board also considered that the EC135 pilot could have done more to alleviate the situation. Had he stated his intentions on the frequency, the Sea King pilot would have been more aware of nature of his flight profile and the fact that he was orbiting on a task. In this respect,

the Board agreed with the HQ Air Command comment regarding the overall lack of communication by both pilots regarding their respective intentions; being on the same frequency, a short radio call stating their intentions would have avoided the incident entirely. Conversely, the Board praised the actions of the Bristol controller who had communicated accurate Traffic Information to both pilots, and updated the information, even though both pilots were receiving only a Basic Service.

The Board then went on to discuss the notion of priority status for emergency aircraft. In discussing this Airprox they wondered whether both pilots had become 'priority' focused to the detriment of flight safety; both clearly believed they had priority status over other airspace users when in fact this was not the case. In this respect, the Board were intrigued as to the NPAS comments whereby it was mooted that SAR and police operations "…afford the aircraft with equivalent priority status over other airspace users". In fact this comment is technically accurate in that, under the Rules of the Air, neither aircraft had any priority over other airspace users at all; however, clearly, emergency services operators consider that they do. This then led to a discussion over the actual definitions of Category A and B flights wherein it was recognised that the whole prioritisation concept and the overall operating regimes of emergency aircraft were very woolly indeed. The Board resolved to recommend that the CAA considers publishing definitive guidance and information on the meaning and use of emergency services priority flights, and that other airspace users take due consideration of their potential inability to manoeuvre when on task or orbiting.

In looking at the cause, the Board agreed that it was that the Sea King pilot who was required to give way and who had flown close enough to the EC135 to cause its pilot concern. Nevertheless, when assessing the risk, the Board felt that normal safety standards had pertained, and that the risk was Category E.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Sea King pilot flew close enough to the EC135 to cause its pilot concern.

Degree of Risk: E.

ERC Score[5]: 2.

Recommendation(s): The CAA considers publishing guidance and information on the meaning and use of priority flights.

[5] 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.