

## **AIRPROX REPORT No 2013134**

Date/Time: 16 Sep 2013 1208Z

Position: 6031N 00104W  
(8nm NE Scatsta Airport  
- elevation 81ft)

Airspace: Scottish FIR (Class: G)

Reporting Ac Reported Ac

Type: S92A EC135T2+

Operator: Civ Comm Civ Comm

Alt/FL: 1800ft 1500ft  
QNH (978hPa) QNH (NK)

Conditions: IMC VMC

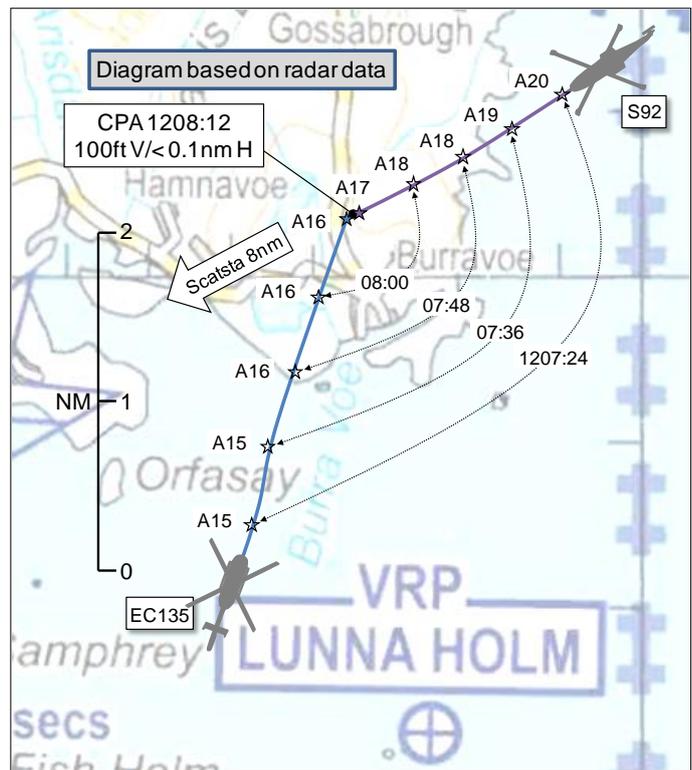
Visibility: NK >10km

Reported Separation:

>200ft V/0nm H NK

Recorded Separation:

100ft V/0.1nm H



## **PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

**THE S92 HELICOPTER PILOT** reports being inbound to Scatsta airport (SCS), IFR, in intermittent cloud, and established on the Final Approach Track for an NDB approach to RW24 in receipt of a Procedural Service. HISL, strobe and navigation lights were illuminated and SSR Mode C, code 2651, was selected; TCAS II was carried. Generic traffic information was passed by ATC as 6nm NE, at 1500ft, travelling S to N. The right-hand side TCAS screen was reduced to 10nm scale but the specific traffic was undetermined. When he was 10nm from the SCS SS NDB, and 40nm from the Sumburgh (SUM) VOR, on passing approximately 1800ft during the descent from 2000ft to 1010ft, he saw traffic about 200ft below passing in the opposite direction. He took a sharp left-hand avoiding turn. There was no TCAS information on the screen, or any warning prior to the traffic passing. A subsequent traffic warning appeared after the aircraft had passed. He informed ATC about the incident after landing.

He assessed the risk of collision as 'High'.

**THE EC135 HELICOPTER PILOT** reports that he had white strobes and navigation lights illuminated, with SSR Modes C and S selected. He was operating a VFR flight from Tingwall airport (LWK), positioning to the northern tip of the Shetland Isles, before returning to LWK. He was flying straight and level at 1500ft SCS QNH, with all Autopilot upper modes engaged (Nav Alt hold). He was in contact, throughout the sortie, with SCS ATC until 6nm from LWK on the return leg. He did not see the S92.

**SCS ATC** reports that the S92 pilot was being provided with a Procedural Service, IFR, in Class G airspace. The S92 was established on the Final Approach Track to RW24 whilst the EC135 was crossing south to north under VFR. The pilot of the EC135, in receipt of a Basic Service, reported at an altitude of 1500ft east of SCS. Traffic Information was passed to both pilots. After landing the S92 pilot stated that he would be filing an Airprox report.

## **Factual Information**

The SCS weather was:

METAR EGPM 161150Z 20017KT 9999 VCSH FEW015 SCT025 11/07 Q0979 TEMPO SHRA=

[VCSH indicating that there was precipitation within 16km (but not at) the aerodrome.]

CAP 774 UK Flight Information Services, defines the following service levels:

**Procedural Service**<sup>1</sup>. Under a Procedural Service the controller shall provide traffic information, if it is considered that a confliction may exist, on aircraft being provided with a Basic Service and those where traffic information has been passed by another ATS unit; however, there is no requirement for deconfliction advice to be passed, and the pilot is wholly responsible for collision avoidance. The controller may, subject to workload, also provide traffic information on other aircraft participating in the Procedural Service, in order to improve the pilot's situational awareness.

**Basic Service**<sup>2</sup>. A Basic Service is provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights. This may include weather information, changes of serviceability of facilities, conditions at aerodromes, general airspace activity information, and any other information likely to affect safety. The avoidance of other traffic is solely the pilot's responsibility.'

CAP 774<sup>3</sup> also states that:

'...Controllers may, subject to workload, initiate agreements (as defined in Service Principles) with pilots of aircraft under a Basic Service to restrict their flight profile in order to co-ordinate them with aircraft in receipt of a Procedural Service. However, controllers shall limit the occasions on which they make such agreements to those where it is clear that a confliction exists, and only when controller workload permits.

*Pilots must remain alert to the fact that whilst in receipt of a Procedural Service, they may encounter conflicting aircraft about which neither traffic information nor deconfliction advice have been provided. Additionally, the adequacy of ATC deconfliction advice relies on compliance by pilots, and in the non-surveillance environment ATC are unable to recognise when pilot position reports are inaccurate or incorrect.'*

## Analysis and Investigation

### CAA ATSI

An Airprox occurred at 1208:12, 8.4nm NE of SCS within Class G uncontrolled airspace between an S92 and an EC135. The S92 was operating IFR inbound to SCS and was in receipt of a Procedural Service from SCS Approach on frequency 123.6MHz. The EC135 was on a VFR flight from LWK to the northern tip of the Shetland Isles and return. The pilot was in receipt of a Basic Service from SCS Approach on frequency 123.6MHz.

The SCS was providing a combined Aerodrome and Approach Control service without the aid of surveillance equipment. The controller's workload was medium/high with a sequence of inbounds. The ATSU is equipped with a primary radar system only (without SSR) which is available subject to manning and operational requirements. Approach Control may delegate its function to Approach Radar Control for any aircraft according to the circumstances. The Approach Radar Controller is able to provide Surveillance Radar Approaches to RWY24.

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<sup>1</sup> Chapter 5

<sup>2</sup> Chapter 1

<sup>3</sup> Chapter 5, Paragraph 6

The CAA ATSI had access to the RTF and area radar recording, the unit investigation report, together with written reports from the controller, the S92 pilot and the EC135 pilot.

The S92 (requesting a Procedural Service) was the last in the sequence of four helicopter arrivals inbound to SCS. Helicopter (1) and (2) were on frequency and in receipt of a Basic Service at 1000ft. The controller was waiting for helicopter (3) to call.

At 1157:22 the S92 pilot contacted SCS Approach, reporting at 28nm at an altitude of 3000ft. The controller agreed a Procedural Service for RW24 with QNH 979hPa. This was acknowledged by the S92 pilot and the controller responded, "*[S92 C/S] roger cleared for the NDB approach runway two four report established final approach track. I'll give you descent shortly there's three helicopters, they're not too far ahead of you, I'm just waiting for the third one to come on frequency and confirm his altitude and then I'll drop you back down again*".

Helicopter (3)'s pilot then called at a range of 22nm at 1000ft and shortly afterwards reported descending to 500ft.

The controller passed traffic information to the pilots of the three helicopters on a Basic Service.

At 1200:12 the S92 pilot was instructed to descend to 2000ft and he reported leaving 3000ft.

Shortly afterwards, at 1200:57, the pilot of helicopter (1) reported at 5nm and was cleared to land on RW24.

At 1203:24 in response to a request from ATC the S92 pilot reported at a range of 13nm.

At 1203:36 the EC135 pilot contacted Scatsta approach and the following RTF exchange occurred;

EC135 *"Hello again it's [EC135 C/S]"*

ATC *"[EC135 C/S] Scatsta pass your message"*

EC135 *"Four on board and we're currently three miles east-southeast of the Voe at this time one thousand five hundred feet nine seven nine request a Basic Service....."*

ATC *"...[EC135 C/S] say again your position"*

EC135 *"Roger we are three miles er southeast of the Voe at this time correction east of Voe"*

ATC *"[EC135 C/S] confirm you're three miles ah southeast of Scatsta"*

EC135 *"ah negative we are ah six miles southeast of Scatsta at this time [EC135 C/S]"*

ATC *"[EC135 C/S] roger Basic Service Scatsta QNH is nine seven nine hectopascals I've got three helicopters routeing inbound from the northeast two of them are ah one thousand feet and below will be routeing around er Yell Sound er inbound to the airfield and the other one is on a Procedural Service shortly descending from altitude two thousand feet remain well to the east please".*

EC135 *"Roger wilco [EC135 C/S] and er can accept a climb if you need that"*

ATC *"er thanks very much standby".*

The controller's written report indicated that when the EC135 pilot offered to climb the controller thought that this would be unwise until he could more accurately determine his position and level, as the S92 would be on a conflicting track.

Shortly afterwards the pilot of helicopter (2) reported turning final and was cleared to land.

At 1205:31, in response to a request from ATC, the S92 pilot reported established on the final approach track at a range of 12nm and at 2000ft.

At 1205:46 the area radar picture showed the traffic situation with the EC135 passing east abeam SCS at FL024 (1500ft) and the S92 at a range of 12.5nm at FL029 (2000ft) as shown in Figure 1 below:

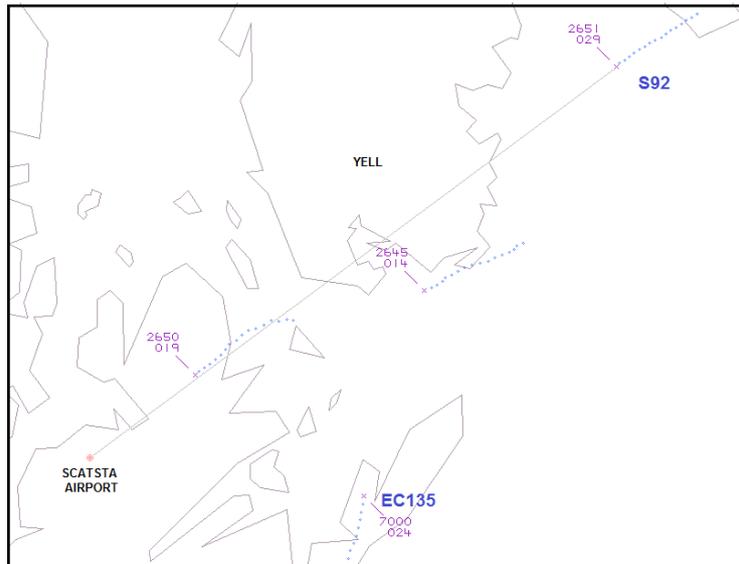


Figure 1 – Prestwick MRT at 1205:46

At 1205:49 the EC135 pilot reported east abeam by 5nm.

At 1206:07 the controller asked the EC135 pilot to report passing the southern coast of Yell and he confirmed being at altitude 1500ft. The controller responded with Traffic Information, “[EC135 C/S] roger I’ve got one track er about er one one track miles just about to descend from two thousand feet”, which was acknowledged by the EC135 pilot.

At 1206:30 the controller passed traffic information to the S92 pilot, “[S92 C/S] traffic information EC one three five is er tracking er south north to the east of Scatsta altitude one thousand five hundred feet”. However, there was no response from the S92 pilot and he called the S92 again. The S92 pilot replied “[S92 C/S] go ahead” and the controller advised, “There’s an EC one three five routeing south north east of Scatsta ????? ????? ????? standby for his range on that he’s altitude one thousand five hundred feet”. The S92 pilot acknowledged with, “Copied [S92 C/S]”.

At 1207:07 in response to a request from the controller the EC135 pilot reported 6.5nm just east of northeast. The S92 pilot was asked if he had copied the information and he replied, “Copied [S92 C/S]”.

At 1207:34 the S92 pilot had started a descent and was passing FL028 (1900ft) as the two helicopters converged at a range of 2.7nm. The vertical separation was 400ft as shown in Figure 2 below.

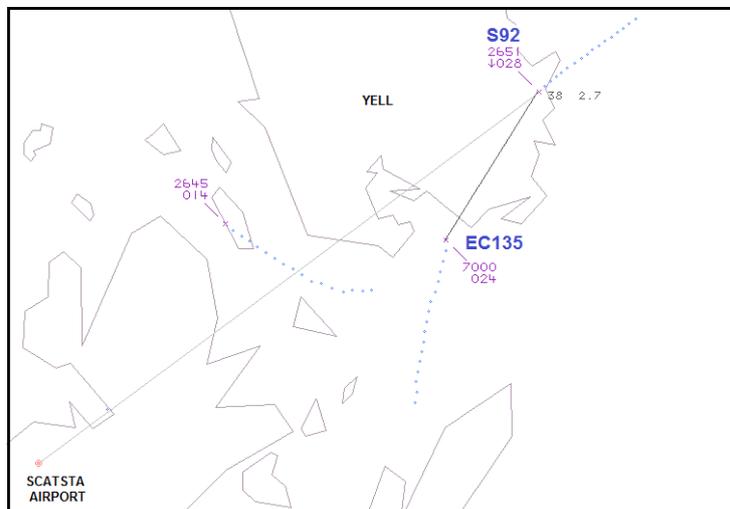


Figure 2 – Prestwick MRT at 1207:34

By 1208:08 the lateral distance had reduced to 0.3nm with a vertical separation of 100ft (Fig 3).

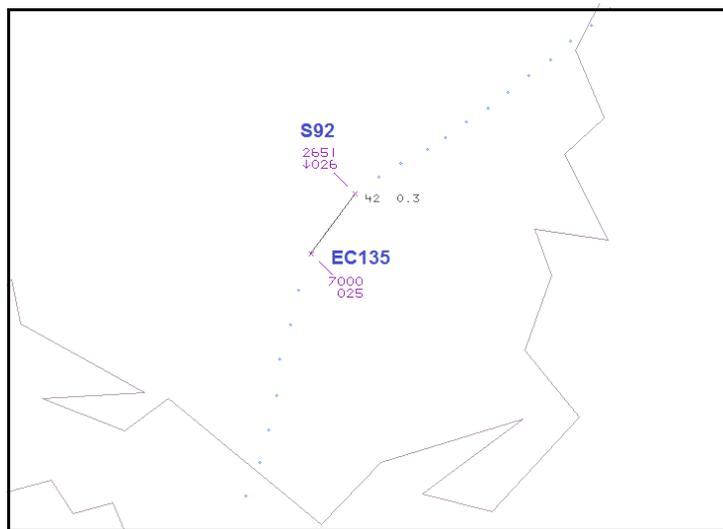


Figure 3 – Prestwick MRT at 1208:08

The CPA occurs at 1208:12 when the EC135 crosses 0.1nm ahead of the S92 and 100ft below as shown in Figure 4.

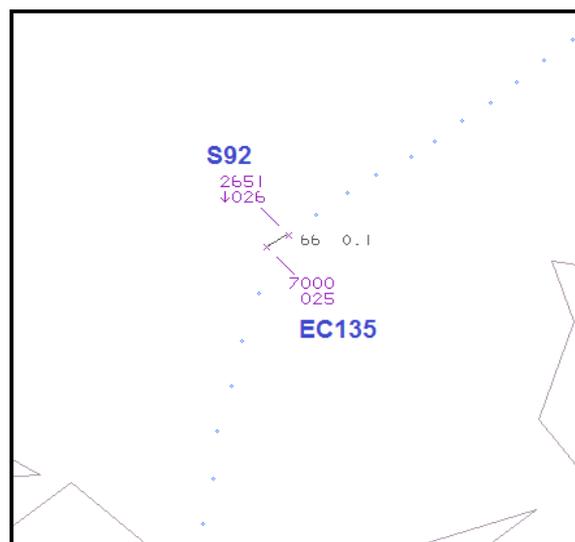


Figure 4 – Prestwick MRT at 1208:12

## Summary

The Airprox occurred when the S92 and the EC135 came into close proximity whilst operating in Class G airspace. The controller passed appropriate traffic information to the S92 pilot in receipt of a Procedural Service, and passed traffic information to assist the EC135 pilot in receipt of a Basic Service. The S92 pilot saw the EC135 about 200ft below, passing opposite direction and made a sharp avoiding action left turn. He assessed the risk of collision as high. He did not receive a TCAS alert. The pilot of the EC135 did not see the S92. The minimum separation was recorded as 100ft vertical and 0.1nm horizontal.

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

Information available included reports from the pilots of both helicopters, a transcript of the relevant RTF frequency, radar video recordings, a report from the controller involved and reports from the appropriate ATC and operating authorities.

The Board first considered the actions of the S92 pilot and agreed that his descent to 1010ft on the Final Approach Track (FAT), was in accordance with the NDB approach to RW24 at Scatsta airport. Although he had been provided with Traffic Information about the EC135, the Board thought that it was possible that he misunderstood its position and believed it was NE of him rather than SW. This could explain why he did not see the traffic on his TCAS screen, as he was concentrating his attention to the right of his track. However, the S92 pilot was in communication with Scatsta approach on the same frequency as the EC135 pilot, and consequently should have been able to hear the Traffic Information being issued to the EC135 pilot. Given that he was operating in IMC, some members considered that it might have been prudent for him to take action himself to avoid a conflict with the EC135 by either requesting a climb for deconfliction or a descent to achieve VMC. Other Members believed that he had a mandate to continue as he was doing on the NDB because he was on a published instrument procedure and it was the other helicopter that was required to give way under the Rules of the Air. Finally, the Board noted that the S92 was fitted with TCAS and that the EC135 was squawking Mode C; they were at a loss to explain why the pilot of the S92 had not received a TCAS RA during the Airprox.

Turning their attention to the actions of the EC135 pilot, who was operating in VMC below the cloud, the Board noted that he had been provided with appropriate and timely Traffic Information about the S92 but had not seemingly acted upon it. Additionally, he had been on the Approach frequency when the S92 pilot reported established on the FAT at a range of 12nm and should therefore have been aware of the S92's location. The Board opined that it was not prudent for the EC135 pilot to fly through a promulgated instrument approach without first sighting the S92; he should have avoided the approach track either vertically or horizontally (probably by routeing further to the East to give a wider berth as requested by ATC). The Board noted that, in mitigation, the EC135 had offered to climb, but the unanimous opinion was that this would probably have taken him into IMC, with, consequently, less likelihood of visual sightings being achieved.

Civil ATC members wondered if the Traffic Information phraseology issued by the controller to inform the S92 pilot of the position and routeing of the EC135 might have been ambiguous and could have led him to believe, erroneously, that the traffic was to his NE. They agreed that it was difficult to ascertain how the phraseology was passed, because it was only available to the Board members as a transcription, without any punctuation marks. However, since the meeting CAA ATSI have listened to the RTF recording and reports that 'the controller says the EC135 is routeing south north [pause] east of Scatsta'. From the inflection and tone of the transmission it was clear that the south north was attached to the routeing and the east of Scatsta was separate and an inferred position

The Board then debated at length the cause of the Airprox. Some members suggested that it was the EC135 pilot who had flown into conflict with the S92. However, following further discussion, and noting that both pilots were in fact responsible for collision avoidance in accordance with Rule 8 of the Rules of the Air Regulations 2007 (despite the fact that the S92 was IMC on an IFR approach), it was decided that the cause was a late sighting by the S92 pilot and a non-sighting by the EC135 pilot.

The Board members quickly agreed that the two helicopters had passed very close to each other. Although noting that the S92 pilot had taken an avoiding action turn on sighting the EC135 below him, it was considered that this action probably occurred as the EC135 was already passing the S92. Consequently, it was agreed that the turn probably did not measurably increase the separation between the two helicopters. The Board agreed unanimously that, because separation had been reduced to the minimum and chance had played a major part in events, nothing more could have been done to improve matters and the risk was assessed as Category A.

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

Cause: A late sighting by the S92 pilot and a non-sighting by the EC135 pilot.

Degree of Risk A.

ERC Score<sup>4</sup>: 101

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<sup>4</sup> 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.