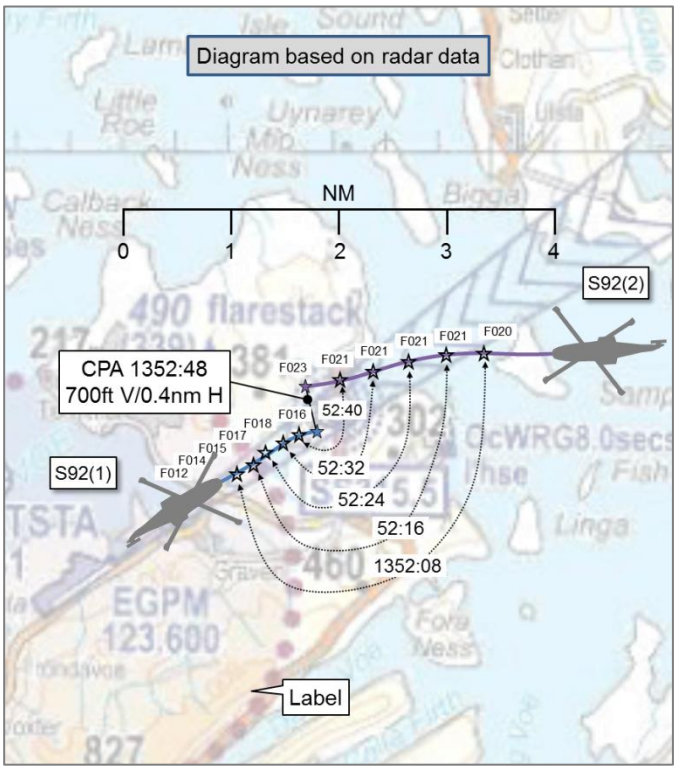
AIRPROX REPORT No 2014032

Date/Time: 24 Mar 2014 1352Z

Position: 6028N 00113W (3nm NE Scatsta airport)

Airspace:	Scottish FIR	(*Class*: G)
	Aircraft 1	*Aircraft 2*
Type:	S92(1)	S92(2)
Operator:	Civ Comm	Civ Comm
Alt/FL:	1500ft QNH (1010hPa)	2000ft QNH (1010hPa)
Conditions:	VMC	VMC
Visibility:	>10km	>10km
Reported Separation:	0ft V/NK H	NK
Recorded Separation:	700ft V/0.4nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE SIKORSKY S92(1) PILOT reports being outbound from Scatsta airport (SCS) on an IFR flight in VMC, and in receipt of a Procedural Service from the Approach/Aerodrome controller. The helicopter was fitted with SSR but he reported that it was switched off[1]. TCAS was fitted. The external lighting state was not reported. His departure clearance from RW06 was direct to the North Cormorant Oil Rig (NCOR) at 3000ft. During his initial climb-out, as he passed approximately 1000ft at 85kt, both crew members became visual with traffic approximately 1000ft above, about 2nm away, inbound to SCS; Traffic Information on this traffic had already been passed by the Aerodrome controller to the S92(1) pilot while his helicopter was on the ground at SCS. His aircraft was fully coupled, IAS/NAV/VS(ALT-P), with a target at 3000ft. He stated to the Co-pilot (Pilot Flying) that the other traffic was likely to cause a TCAS TA. Shortly after this comment, a TA aural alert was heard, followed almost immediately by an RA. The RA commanded a descent at greater than 1000fpm. The Co-pilot immediately responded, decoupled the upper modes, and commenced a descent in compliance with the RA. ATC were informed of the RA and, when clear of the traffic, the initial clearance was recommenced. Throughout this incident the other aircraft was in constant view.

He assessed the risk of collision as 'None'.

THE S92(2) PILOT reports being inbound to SCS on a VFR flight in VMC at 2000ft, and in receipt of a Basic Service from the Approach/Aerodrome controller. HISL, navigation, landing and anti-collision lights were illuminated; SSR Modes A, C and S were selected. He was aware of the company helicopter departing RW06 and cleared to climb through his level. He was cleared to join downwind left-hand for RW06, and positioned north of the runway centreline, visual with the departing aircraft during its climb-out, and saw it turn right, south of the runway centreline. He was north of the NDB beacon when he received a TCAS RA instructing him to climb. Although he was clear of the other helicopter and on a diverging path, the RA instruction was followed without delay and ATC were advised. When the RA had cleared he levelled at 2500ft and a good look-out was maintained for the remainder of the approach in case the RA was in relation to another aircraft. He did not consider the distance between the two helicopters, as well as their relative positions and speed, to be such that

[1] Subsequent analysis of the radar replay established that the helicopter's SSR was transponding.

the safety of the aircraft was compromised and, as such, an initial Airprox report was not made to ATC. He decided to file an Airprox report because he had to respond to a TCAS RA.

He assessed the risk of collision as 'None'.

THE SCS AERODROME/APPROACH CONTROLLER reports that he was acting as an On the Job Training Instructor (OJTI) to an experienced controller. The runway in use was RW06, the weather was fair/good and the traffic was light. Because the NDB is positioned 2.6nm from the RW24 threshold, and most of the traffic departs to and arrives from the NE, there is a potential that the majority of aircraft will conflict at some point and so good Traffic Information is essential. S92(2) was inbound and S92(1) was taxiing for departure. As S92(1) was back-tracking the runway in preparation for departure, the pilot was given Traffic Information on S92(2). (The pilot of S92(2) had just reported at a range of 13nm at 2000ft.) The pilot of S92(1) was cleared for take-off and the pilot of S92(2) was informed about the company traffic shortly departing and climbing through his level. It was approximately 1½-2 minutes between the Traffic Information being issued and S92(1) getting airborne. S92(2)'s pilot had been instructed to report at 5nm, which was carried out. At this point, he was instructed to *'join downwind left'*. SCS is not equipped with a DF indicator, consequently it is difficult to tell if the aircraft are N or S of the extended centre-line at that range, therefore, it was a 'legitimate' call. (He normally gives pilots a choice of circuit direction after Traffic Information has been passed and was going to use this as a teaching point afterwards.) S92(1) was airborne by now and was approximately ¾-1nm upwind, heading towards S92(2). He could see S92(2) just inside 5nm and, while he considered the situation to be less than ideal, because S92(2) was just crossing the extended centre-line it was apparent that it would be clear of the track of S92(1) in good time. He instructed his student to ask the pilot of S92(1) if he could see the inbound helicopter. (He was trying to give him enough time to do this of his own volition but it needed to be carried out.) In response the pilot of S92(2) reported visual with S92(1); the pilot of the latter then also reported visual. About 20-30 seconds after the pilots had reported visual, the pilot of S92(2) called *"Traffic RA"* and he thought that the pilot of S92(1) reported *"me too Traffic RA"*. Both pilots followed their respective climb/descent instructions. He instructed his trainee to acknowledge the pilots' calls.

Factual Background

The SCS weather was:

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METAR EGPM 241320Z 12014KT 9999 FEW033 06/00 Q1011 NOSIG
METAR EGPM 241350Z 9999 FEW033 05/M01 Q1011 NOSIG
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CAP 493 Manual of Air Traffic Services Part 1[2] states the responsibilities of Aerodrome Control:

> Aerodrome Control shall issue information and instructions to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic with the objective of preventing collisions between: aircraft flying in, and in the vicinity of, the ATZ.

CAP 774-UK Flight Information Services, states

> A Basic Service is an ATS 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.[3]

> A Procedural Service is an ATS where, in addition to the provisions of a Basic Service, the controller provides restrictions, instructions, and approach clearances, which if complied with, shall achieve deconfliction minima against other aircraft participating in the Procedural Service. Neither traffic information nor deconfliction advice can be passed with respect to unknown traffic.[4]

[2] Section 2, Chapter 1, Page 1
[3] ibid., Chapter 2
[4] ibid., Chapter 5

Analysis and Investigation

CAA ATSI

CAA ATSI had access to the SCS RTF and area radar recordings together with written reports from the controller, SCS ATSU and both pilots. The ATSU were advised that both pilots intended to file an MOR as a result of the TCAS RA and were subsequently advised about the Airprox 4 or 5 days later.

S92(1) was outbound from Scatsta IFR, the pilot reported in receipt of a Procedural Service. However, at the time of the Airprox, S92(1) was leaving the ATZ and was in receipt of a combined Aerodrome and Approach Control Service on frequency 122.4MHz. S92(2) was inbound to SCS VFR from the NE, the pilot reported in receipt of a Basic Service. However, at the time of the AIRPROX, S92(2) was approaching the ATZ and was in receipt of a combined Aerodrome and Approach Control Service on frequency 122.4MHz.

The SCS Aerodrome/Approach controller was providing a combined Aerodrome and Approach control service without the aid of surveillance equipment. ATCO training was being provided by the controller acting as an OJTI to an experienced trainee. The SCS (SS) NDB is situated 2.6nm NE of the airport, most of the SCS traffic departs to, or arrives from, the NE.

At 1343:10 the pilot of S92(2) called SCS reporting 25nm NE at 2000ft, having obtained the current weather. He requested a Basic Service which was agreed and the pilot was instructed to report the field in sight. At 1446:30 the S92(1) pilot, prior to departure, was passed the following clearance, *"[S92(1) C/S] hold at alpha after departure route direct the North Cormorant climb altitude three thousand feet Procedural Service squawk two six five four".* This was acknowledged correctly by the S92(1) pilot.

Whilst the S92(1) was backtracking RW06 the following RTF exchange occurred at 1348:20:

ATC	*"[S92(2) C/S] report your range".*
S92(2)	*"[S92(2) C/S] one three miles".*
ATC	*"[S92(2) C/S] thank you company traffic shortly departing Scatsta out to the North Cormorant climbing through your level to three thousand feet".*
S92(2)	*"[S92(2) C/S] Roger".*
ATC	*"[S92(1) C/S] company traffic inbound two thousand feet Basic Service one three miles northeast surface wind one three zero degrees one three knots runway zero six clear for take off".*
S92(1)	*"Clear for take-off [S92(1) C/S] thank you copy the traffic"*.

At 1351:20 the pilot of S92(2) reported 'field in sight' at 5nm; the controller replied, *"[S92(2) C/S] join and report downwind left-hand runway zero six".* The pilot acknowledged, *"er join downwind left for zero six [S92(2) C/S]".*

The controller's written report recalled sighting the S92(2) at just under 5nm crossing the extended centreline and considered its relative position was less than ideal but judged that the S92(2) would be clear of the departing traffic in good time. This prompted the controller to ensure that each had the other in sight. At 1352:04, the controller asked the pilot of the departing S92(1), *"[S92(1) C/S] are you visual with the departing* [sic] *traffic"* and the pilot replied *"er [S92(1) C/S] I'm visual with the arriving traffic".* The controller responded, *"[S92(1) C/S] thanks – [S92(2) C/S] are you visual with the departure".* The S92(2) pilot replied *"[S92(2) C/S] Affirm" (* Figure 1).

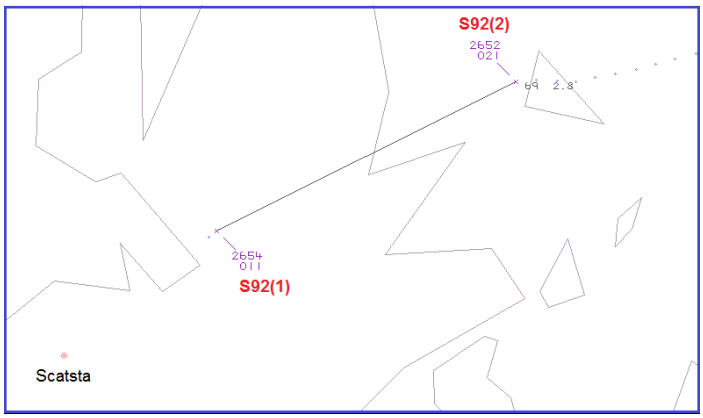

Figure 1 – Prestwick Centre MRT at 1352:04

At 1352:44, both pilots reported receiving a TCAS RA. The controller responded with *"Roger"*. The distance between the two aircraft was 0.5nm and the vertical separation was 200ft with S92(1) shown to be climbing (Figure 2).

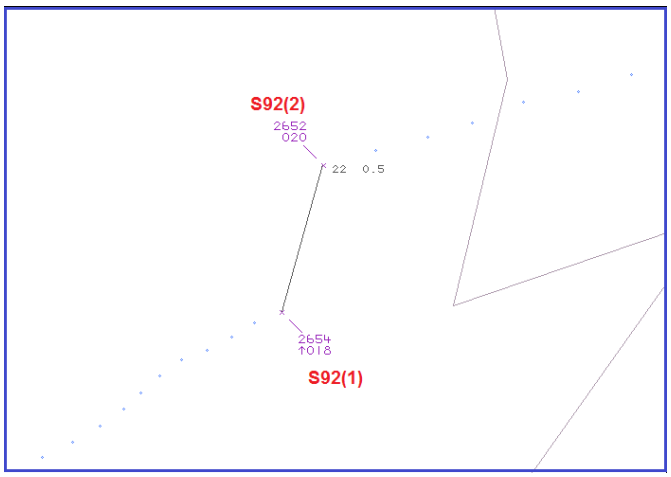

Figure 2 – Prestwick Centre MRT at 1352:44

S92(2) then climbed and S92(1) descended. At 1353:02 (CPA), the pilot of S92(2) reported clear of traffic. The horizontal distance between the two aircraft was 0.4nm with vertical separation of 700ft (Figure 3).

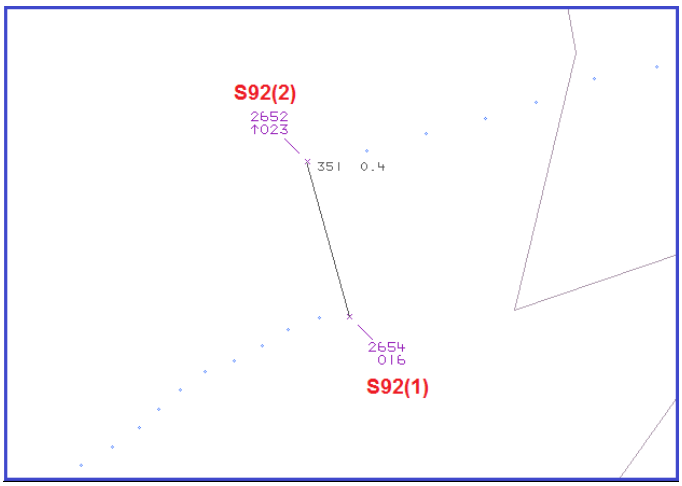

Figure 3 – Prestwick Centre MRT at 1353:02

The two aircraft continued without further incident.

The ATSU reported that, as a result of two recent Airprox reports involving aircraft from the same company, they had been in discussion with the company to examine procedures and the provision of Traffic Information regarding the integration of VFR and IFR traffic. The discussion is ongoing to examine: the use of VRPs; the use of noise abatement speed control measures at and below 2000ft and was likely to conclude that all inbounds from the NE will join downwind right-hand when RW06 is in use.

UKAB Secretariat

Both pilots shared an equal responsibility to avoid collision and not to fly into such proximity as to create a danger of collision[5].

Summary

The Airprox occurred when S92(2), operating VFR, and S92(1), operating IFR, came into proximity whilst both were VMC within Class G uncontrolled airspace in the vicinity of the SCS ATZ. The controller had provided the pilot of the departing IFR S92(1) with Traffic Information and had provided the arriving VFR S92(2) pilot with sufficient Traffic Information in order to allow his safe integration into the circuit pattern. The pilots of both aircraft had reported visual with each other; however, their relative positions generated a TCAS RA to both helicopters, which both pilots followed.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from both pilots, the controller concerned, area radar and RTF recordings and reports from the appropriate ATC and operating authorities.

The Board noted that although the S92(1) pilot was under IFR and the S92(2) pilot was operating under VFR, they were both in VMC in Class G airspace and, consequently, ATC was not required to provide 'standard separation' between the two helicopters. Because S92(2)'s pilot was positioning for a downwind left-hand join, as instructed, it was apparent that his flight path would cross that of the outbound S92(1). ATC had recognised this potential conflict and had issued timely Traffic Information to both pilots, assisting them in sighting the other traffic. The Board quickly decided that, because they were both visual with each other well before CPA, there had been no real risk of a collision between the two helicopters.

The Board went on to note that even though the VFR helicopter had avoided the other by what the Board considered an appropriate distance in collision avoidance terms, RA instructions had been received by both pilots, and this had resulted in action having to be taken by them. It was considered that the generation of the TCAS RAs had therefore been the cause of the Airprox report - a TCAS sighting report. Notwithstanding, the Board noted that Eurocontrol ACAS 11 Bulletin (No.4) states that: "*RAs generated in the aerodrome environment **should not** be dismissed as unnecessary and disruptive. They demonstrate that a risk of collision exists*." The Board agreed that the pilots had been correct to action the RAs, but could have prevented them by ensuring greater separation between the aircraft given that they were visual with each other well before the RAs were generated. Recalling previous Airprox involving TCAS equipped aircraft operating VFR/IFR, the Board noted that TCAS is not optimised for mixed operations as opposed to IFR-only separation requirements (Airprox 2013095, 2013099, 2013100 and 2013121 all refer to similar situations and associated recommendations that the CAA reviews IFR/VFR/SVFR traffic procedures with regard to TCAS).

The Board opined that the incident met the criteria for reporting but, by analysis, it was determined that normal procedures, safety standards and parameters had pertained; they agreed that the risk should be classified as Risk E. Notwithstanding this benign outcome, the Board noted that, as a result of this Airprox being reported, the ATSU and the helicopter operating company were in discussion about possible changes to the airport's operating procedures to try to minimise the possibility of potential conflictions in the future.

[5] Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

The CAA Flight Operations advisor commented that it had been noticeable in recent Airprox, where pilots had received TCAS RAs, that they were not using correct phraseology to inform ATC. CAP413 Radiotelephony Manual[6] states: 'Pilots should report TCAS manoeuvres as "Call-sign 'TCAS RA'". No other comments should be made.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A TCAS sighting report.

Degree of Risk: E

ERC Score[7]: 1

[6] Chapter 5, Page 8, Paragraph1.7.2

[7] 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.