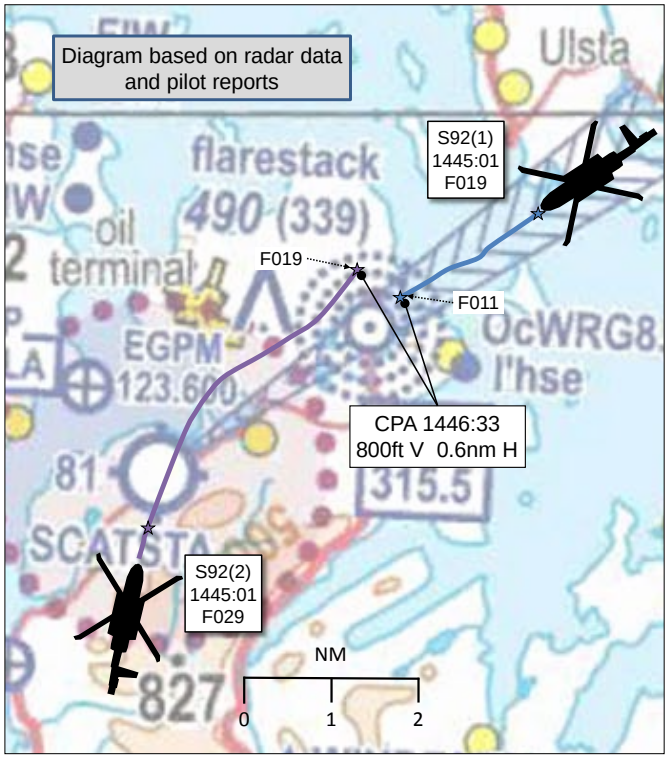
AIRPROX REPORT No 2013178

Date/Time: 9 Dec 2013 1446Z

Position: 6028N 00112W (3.5nm NE of Scatsta Airport)

Airspace: Scottish FIR (*Class*: G)

	Aircraft 1	*Aircraft 2*
Type:	S92	S92
Operator:	Civ Comm	Civ Comm
Alt/FL:	1200ft NK	1500ft QNH
Conditions:	IMC	VMC
Visibility:	NK	10km
Reported Separation:	300ft V/2nm H	400ft V/3nm H
Recorded Separation:	800ft V/0.6nm H	



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE S92(1) PILOT reports flying an SRA approach, in IMC, under a Procedural Service from Scatsta Radar, with navigation lights, strobe lights and HISLs illuminated and squawking transponder Modes 3/A, C and enhanced S. The crew received a TCAS[1] Traffic Alert on S92(2), which appeared to be 300ft above them and descending towards them; the other aircraft appeared on TCAS to 'climb away suddenly' and there was no further conflict. The S92(1) pilot reports that they remained IMC and did not see the other aircraft at any point.

He assessed the risk of collision as 'Low'.

THE S92(2) PILOT reports flying VFR in VMC out of sun, in haze, at twilight he recalls, with HISLs, anti-collision and navigation lights illuminated, squawking transponder Modes 3/A, C and enhanced Mode S. The crew were on a training flight, heading 060° at 120kt, descending through 1500ft QNH to join downwind for RW24, in communication with Scatsta Tower. They were informed of another aircraft carrying out an SRA so the pilot informed ATC that they would extend downwind to allow the inbound aircraft time to land and taxy clear of the runway. They saw the other helicopter's lights at a range of 4nm. As they passed the other aircraft a 'TCAS alert' was heard so the crew turned 'a little further left' to increase lateral separation. At no time did the crew of S92(2) believe there was any risk of collision.

He assessed the risk of collision as 'None'.

Factual Background

Sunset at Scatsta on 9 Dec 2013 was at 1456Z.

The ATSU advised that the weather conditions were clear to the west but with cloud to the northeast on the final approach. The weather at Scatsta at 1450 was recorded as:

```
METAR EGPM 091450Z 24027KT 9000 VCSH SCT010 11/07 Q1010 NOSIG
```

[1] Traffic Alerting and Collision Avoidance System

Analysis and Investigation

Occurrence Investigation

The ATC Unit Investigation concluded that the Tower Controller operated within the parameters of his licence and, in accordance with CAP774, was not required to apply any planned deconfliction minima to S92(2) against S92(1). He was, however, required to integrate S92(2) into the circuit. S92(2) was under a Basic Service, and the pilot was solely responsible for both terrain clearance and traffic avoidance. S92(1) was under a Deconfliction Service with reduced Traffic Information due to limited radar cover. The Tower Controller integrated S92(2) by passing and updating traffic information to aid the pilot's the situational awareness, and instructed him to join number 2 to S92(1).

CAA ATSI

CAA ATSI had access to the Scatsta RTF and area radar recordings together with written reports from both pilots and the Scatsta unit investigation report. There was some loss of recorded data on the desk-side recording of telephone/intercom communication between controllers. The ATSU were not initially advised about the Airprox, and no controller report was available. ATSI discussed the incident with the Tower controller.

S92(1) was inbound to Scatsta airport, IFR, from the northeast for an SRA[2] to RW24 terminating at ½nm and was in receipt of a Deconfliction Service (with reduced traffic information due to limited radar coverage) from Scatsta Radar on frequency 122.4MHz. S92(2) was inbound to Scatsta airport from the south to cross the airfield for a VFR join downwind right-hand for RW24 and was in receipt of an Aerodrome Control Service from Scatsta Tower on frequency 123.6MHz.

The Scatsta Tower/Approach controller (Tower) was providing a combined Aerodrome and Approach control service without the aid of surveillance equipment on frequency 123.6MHz. The arrival of S92(1) had been delegated to the Radar controller for the provision of the ½nm SRA. The surveillance system at Scatsta is a Plessey ACR430 primary radar operating without SSR and with limited radar coverage and extensive blind spots in the surveillance coverage because of the surrounding high ground. The situational display used for SRA approaches is set to 4nm range and offset to show the last 6nm from touchdown.

At 1430:02 S92(1) contacted Scatsta Approach, reporting at 2000ft on QNH 1010hPa, in receipt of information 'S' and requesting an SRA approach. Tower instructed S92(1) to maintain 2000ft.

At 1431:47 Tower coordinated the arrival of the S92(1) with Radar for the ½nm SRA and advised Radar that they might also see S92(2) inbound from the south at 3000ft, estimating at 1445. At this point S92(1) was 25.6nm northeast of Scatsta and S92(2) was 44.7nm south-southwest of Scatsta. The Scatsta Manual of Air Traffic Services (MATS) Part 2, Page 57, states:

> *APP[3] may delegate its function to APS[4] for any aircraft according to the circumstances. The APS controller is able to provide SRAs, with a ½ nm termination range, to RWY24.*
>
> *The APP controller shall ensure that he retains control of any other aircraft whilst the APS controller carries out the SRA function.'*

At 1437:10 S92(1) was transferred to Radar and identified 15nm northeast of Scatsta. A Deconfliction Service was agreed with reduced traffic information due limited radar coverage. Radar advised, *"..vectoring for a surveillance radar approach to runway two four terminating half a mile from touchdown normal glidepath three and a quarter degrees check your minima stepdown*

[2] Surveillance Radar Approach
[3] Approach Procedural
[4] Approach Surveilance

fix and missed approach point threshold elevation one five feet". Radar continued to vector S92(1) in accordance with the procedures for the ½ nm SRA approach.

S92(2) contacted Scatsta Approach at 1439:36 and reported 15nm southwest at 3000ft with information 'S' and QNH 1010hPa. The S92(2) pilot reported that he was VFR and requested a Basic Service. A Basic Service was agreed and, with clear skies to the west and cloud mainly to the north east, the Tower asked the S92(2) pilot if he wished to route for a left or right base. The pilot indicated a right-hand pattern and the controller instructed the S92(2) pilot to report downwind right-hand.

At 1443:50 S92(2) was 4nm south of the airfield when the Tower controller passed traffic information regarding a departure and added, *"(S92(2) callsign) roger report right base you'll be number two number one's an S ninety two about six miles ah for the SRA".* The S92(2) pilot responded, *"Okay that's copied positioning downwind right initially two four".*

At 1444:40 S92(2) Tower updated S92(2) on the position of the inbound SRA traffic and the pilot replied, *"(S92(2)callsign) that's copied we'll join downwind and we'll just continue downwind till we pass him"* – Figure 1.

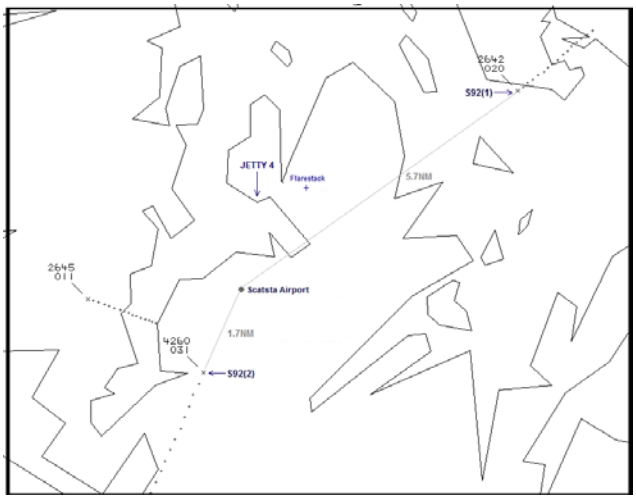


Figure 1 – Prestwick MRT at 1444:40

S92(2) passed overhead the airfield on a northerly track and at 1445:45 S92(2) was turned downwind at a position 1.4nm north-northeast of the airfield and 0.6nm displaced from the runway centreline –Figure 2.

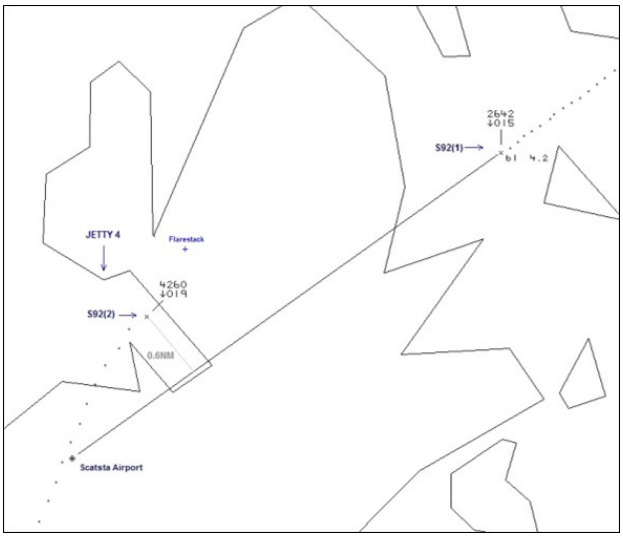


Figure 2 – Prestwick MRT at 1445:45

Tower advised Radar that S92(2) would be joining on right base. Meanwhile Radar passed the S92(1) pilot a 4nm range check and issued a landing clearance. S92(2) was passing FL019 and S92(1) was passing FL015.

The S92(2) pilot's written report indicated that he had sighted the lights of the inbound S92(1) at a range of 4nm. The Tower controller indicated that he visually acquired both aircraft as the S92(2) turned downwind.

At 1446:01, S92(2) was at FL014 and 0.5nm displaced from the centreline. The S92(2) pilot indicated that after receiving a TCAS alert he had turned a little further left. At 1446:21 radar showed that S92(2) had turned slightly left and was in the climb passing FL015

At 1446:30 Radar advised S92(1), *"three miles altitude should be one zero six zero feet turn left two degrees heading two four zero".* At 1446:33 the two aircraft passed abeam at a range of 0.6nm (CPA) and a vertical distance of 800ft – Figure 3.

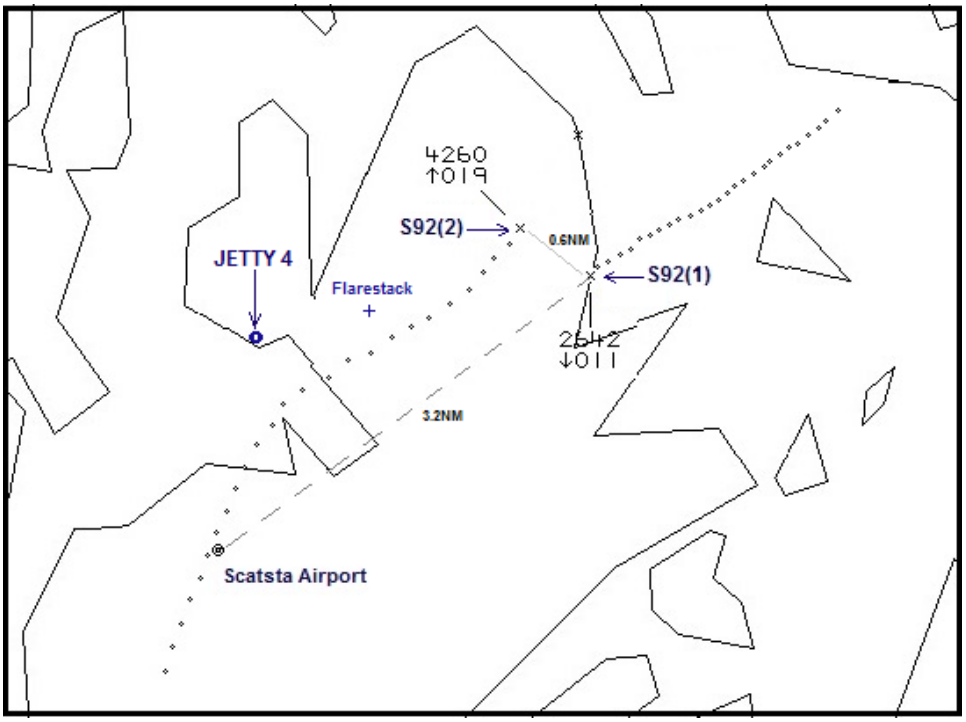


Figure 3 – Prestwick MRT at 1446:33

At 1446:40 Radar advised, "(*S92(1)callsign) company traffic joining on a right base". The S92(1) pilot acknowledged, "Yeah affirm".*

At 1446:57 S92(2) was 2.8nm northeast of the airfield (Figure 4) and at 1447:00 Tower transmitted, *"(S92(2) callsign) the colleague you're following is at two and a half miles now*". The S92(2) pilot acknowledged, "*That's copied we've just passed him we're turning in behind him".*

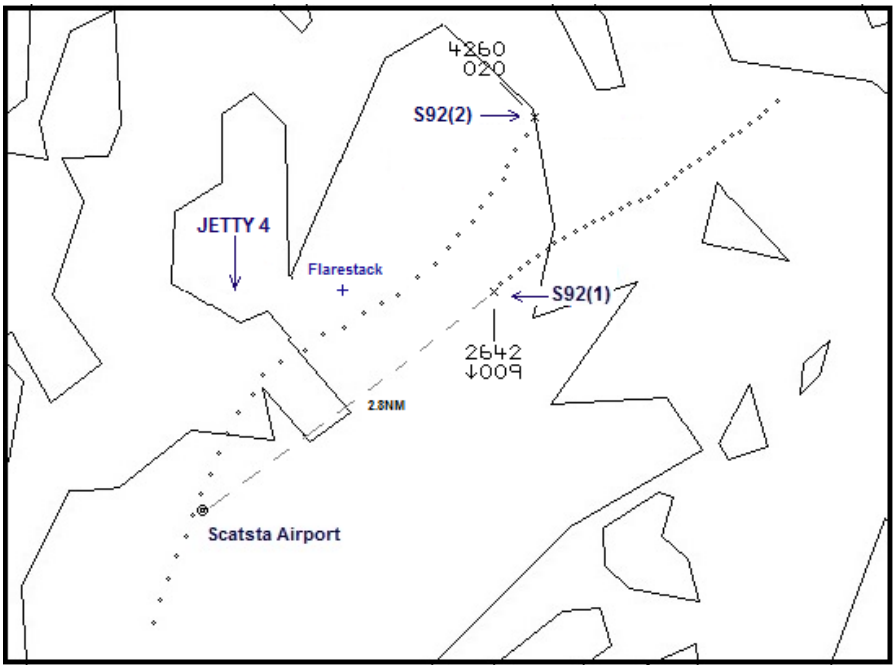


Figure 4 – Prestwick MRT at 1446:57

At 1447:30 the S92(1) pilot reported visual with the airfield and was transferred to the Tower on 123.6MHz.

At 1447:42 S92(1) called the Tower and the following RTF exchange occurred:

S92(2)	*"Er (S92(2)callsign) on finals"*
Tower	*"(S92(2)callsign) you are cleared to land wind two four zero two eight"*
S92(2)	*"That's copied clear to land er where's the other aircraft please"*
Tower	*"He's behind you now and after landing taxi north apron"*
S92(2)	*"And er yeah taxi north apron we'll need to talk to you on the ground about that that he got very close"*
Tower	*"Roger"*

Both helicopters continued to land without further incident.

The Tower controller indicated that he was confident that S92(2), being VFR, would extend downwind to turn in behind the SRA traffic and was reassured when this was confirmed by the S92(2) pilot. The Tower controller agreed that the provision of Traffic Information to the S92(1) pilot may have aided the pilot's situation awareness regarding the circuit traffic. The Tower controller indicated that the normal right-hand circuit pattern tended to route over 'Jetty 4' (1nm north of C/L) and north of the 3-tip Flarestack (0.7nm north of C/L). However the S92(2)'s circuit was tighter than expected, which he considered was a contributory factor.

The ATSU reported that as a result of two recent Airprox reports involving aircraft from the same company, they were in discussion to examine procedures and the provision of Traffic Information regarding the integration of VFR and IFR traffic.

The Radar controller was providing a Deconfliction Service, limited due to the radar coverage and nature of the ½nm SRA and radar equipment. The Scatsta MATS Part 2, Chapter 6, Paragraph 6.7, states:

> Prior to providing an aircraft with an SRA, the APS Controller will be given any relevant traffic information by the APP controller.

Although the Tower controller had initially informed Radar about S92(2) when it was 44nm south at 3000ft, the Radar controller had not been updated on the Tower controllers plan to integrate the S92(2) into the visual circuit.

Additionally S92(1) had been transferred to Radar before S92(2) came onto the Approach frequency and consequently the S92(1) pilot was likely unaware of the inbound S92(2). CAP774, Flight Information Services, Chapter 4, Paragraph 4.5, states:

> The controller may, subject to workload, pass traffic information on deconflicted traffic in order to improve the pilot's situational awareness.

The Radar controllers workload was high with limited radar coverage using the short range radar set to 4nm. The radar controller would not have observed the S92(2) as it routed via the overhead due to the limitations of the radar equipment. The S92(2) would probably have flown into radar coverage as it routed downwind, but may not have been observed by the Radar controller who was absorbed on the ½nm SRA.

The Tower controller retained control of all other traffic and was responsible for the integration of S92(2) into the visual circuit. CAP493 MATS Part1, Section 2, Chapter 1, Paragraph 1.26, states:

> Traffic information and instructions shall be passed to aircraft on any occasion that a controller considers it necessary in the interests of safety, or when requested by a pilot. In particular, Aerodrome Control shall provide:
>
> > generic traffic information to enable VFR pilots to safely integrate their flight with other aircraft; specific traffic information appropriate to the stage of flight and risk of collision;
> >
> > timely instructions as necessary to prevent collisions and to enable safe, orderly and expeditious flight within and in the vicinity of the ATZ.

There is no published circuit pattern at Scatsta. The ATSU indicated that helicopters normally hold or route via Jetty 4 and route north of the flarestack. The Tower controller passed traffic information to allow S92(2) to integrate downwind positioning number 2 and did not consider that the S92(2) would be in conflict with the arriving SRA traffic. The Tower controller probably did not consider that the provision of Traffic Information to Radar was essential.

The S92(2) pilot joined downwind as instructed with the S92(1) in sight and both the Tower controller and S92(2) pilot were assured of the plan. However, the S92(1) pilot was likely concerned about the intentions of the S92(2) which he sighted at the same time as a TCAS TA activated and when being advised about traffic joining right base. Traffic information would have aided the S92(1) pilot's situational awareness and prepared him for the possibility of sighting the circuit traffic.

The S92(2)'s downwind leg was 0.5nm displaced from the centreline and tighter than expected. This likely caused the TCAS TA and this together with the absence of traffic information to Radar or the S92(1) pilot resulted in the Airprox report.

Summary

An Airprox was reported at 1446:33, 3.2nm northeast of Scatsta airport on the final approach for RW24, within Class G airspace, between two Sikorsky S-92A helicopters, S92(1) and S92(2), when the S92(2), operating VFR, and the S92(1), operating IFR came into proximity whilst operating in Class G airspace in the vicinity of the Scatsta ATZ.

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 considered the actions of the S92(2) pilot and noted that he had flown his circuit further downwind and tighter than normal. Nevertheless, the Board agreed that the crew of S92(2) was operating VFR and, as they were required to do, had avoided the S92(1), which was being flown IFR.

In trying to sequence S92(2) behind S92(1), there was some debate as to whether ATC could have allowed S92(2)'s crew to position ahead of the other helicopter rather than have them fly so far downwind; however, it was agreed that it was a reasonable decision to sequence S92(1) first given that its crew were flying an instrument approach and that S92(2)'s tighter than normal circuit was probably attributable to the patchy weather. Nevertheless, members opined that, if Scatsta ATC had passed Traffic Information to the crew of S92(1), they may not have been as concerned about the presence of the other helicopter, and would have been better able to interpret the information displayed on their TCAS.

It was agreed that the lack of Traffic Information and the flight path chosen by the crew of S92(2) were both key elements in this Airprox, but there was considerable debate as to which was the cause and which was a contributory factor. In the end, it was agreed, by a small majority, that the cause was that the S92(2) pilot had flown close enough to cause the S92(1) pilot concern, and that the lack of Traffic Information from ATC to the crew of S92(1) had been a contributory factor. When discussing the risk, members noted that the crew of S92(2) had maintained visual contact with the lights of S92(1) and had achieved 800ft vertical and 0.6nm horizontal separation, which they agreed was acceptable under normal procedures and safety standards for a VFR aircraft avoiding an IFR one; they therefore agreed that the Degree of Risk was E.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The S92(2) pilot flew close enough to cause the S92(1) pilot concern.

Contributory Factor(s): Scatsta ATC did not pass Traffic Information regarding S92(2) to the S92(1) pilot.

Degree of Risk: E

ERC Score[5]: 10

[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.