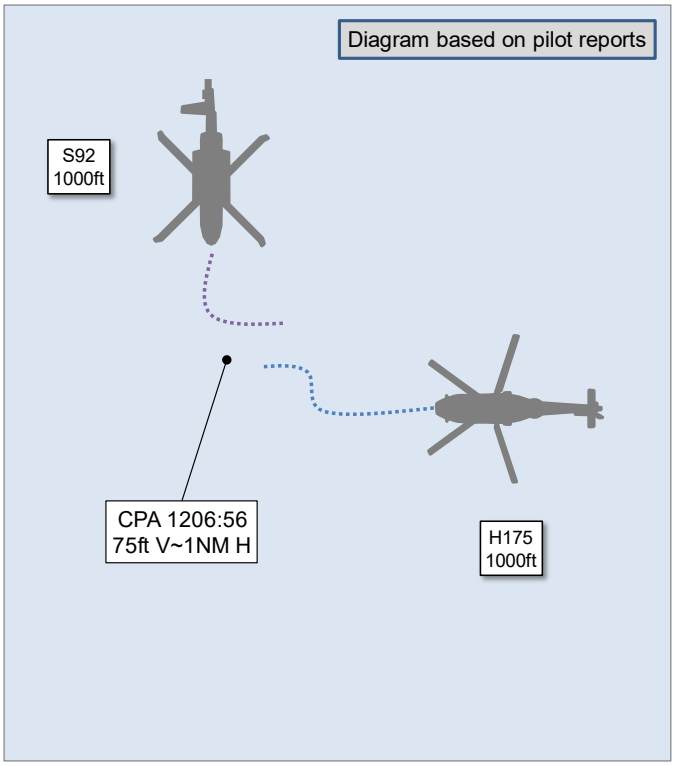
AIRPROX REPORT No 2023031

Date: 15 Mar 2023 Time: 1207Z Position: 5712N 00147E Location: 4NM west Culzean Oil Rig

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	H175	S92
Operator	Civ Comm	Civ Comm
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	IFR	IFR
Service	Reduced Traffic[1]	Reduced Traffic
Provider	Aberdeen	Aberdeen
Altitude/FL	FL009	FL010
Transponder	A, C, S	A, C, S
Reported		
Colours	Blue, Gold, White	Red, White, Blue
Lighting	HISL, Nav	Nav, Anti-col, HISL
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1000ft	1000ft
Altimeter	QNH (1011hPa)	QNH (1011hPa)
Heading	270°	145°
Speed	145kt	135kt
ACAS/TAS	TCAS II	TCAS II
Alert	TA	TA
Separation at CPA		
Reported	0ft V/0.5NM H	0ft V/4NM H
Recorded	75ft V/1NM H	



THE H175 PILOT reports that they departed Culzean Rig at 1203. Prior to departure they had noted an aircraft at approximately 1 o'clock at a range of 10NM but were unaware of their direction of travel. After levelling at 1000ft (at 1205) they became visual with the aircraft (S92) at approximately 5NM and determined that they were southbound and they were on converging headings. As the aircraft was to their right and they were still initiating contact with ATC, they opted to follow the rules of the air and make an avoiding right turn to pass behind. Within a few seconds of initiating the turn, contact was established with ATC who also gave them an immediate right turn to a heading of north for deconfliction. However, during the turn they identified that the other aircraft started to make a turn to the left and hence they remained on conflicting tracks. At this point, the PF decided to stop the right turn at 330° and initiate a left turn back through their original heading onto 245° as further avoiding action. This was relayed to ATC. During the left turn the TCAS TA alarmed once ("Traffic"). The altitude was too low for an RA alarm. Closest point of horizontal separation was hard to gauge with few references over the sea, but estimated to be 0.5NM with zero vertical separation.

The pilot assessed the risk of collision as 'Medium'.

THE S92 PILOT reports that they were transiting from one platform to another at an altitude of 1000ft in VMC. They were in contact with ATC the whole time. Communications were poor between them and the [rig] and required the flight watch to be passed at a later stage in flight, but all was completed prior to the following [sequence of events]. ATC had made them aware of another aircraft on deck the Culzean (left of their track). Once the other aircraft was in flight, they became visual with them crossing their track at 1000ft from left-to-right en-route to Aberdeen, appearing to be no issue at this stage. However, their best route was a left turn to route around the back of the other aircraft to clear any conflict. They tried to mention their intentions to ATC, but the radio was busy. With time starting to

[1] Both pilots were in receipt of a Reduced Offshore Traffic Service

become pressured, they made a left turn clearing any conflict. With communications still busy, they heard ATC alert the other aircraft to their position and instructed a right turn. With this now converging towards them, they then made an opposite turn, only to notice the other aircraft do the same. Once both parties realised, both turned left clearing course by approximately +4NM with a TA alert. Overall, they were in VMC and had good visual contact with the other aircraft. They felt there was no serious risk.

The pilot assessed the risk of collision as 'Low'.

THE ABERDEEN CONTROLLER reports that they were in position on REBROS as an OJTI. The S92 was transiting southbound at 1000ft. The trainee informed the pilot that the H175 was on deck on the Culzean which the S92 would be overflying. After this, they had a couple of scenarios to deal with to the north of their sector. Once these were resolved, their attention was drawn to the Culzean area where the STCA was flashing orange, as the H175 had lifted from the rig and was proximate to the S92, with the S92 indicating 1000ft and the H175 (not identified) also indicating 1000ft. Before either the trainee or the instructor could do anything, the H175 pilot called on frequency at 1000ft. Given the duty of care, the trainee passed Traffic Information and issued a turn to the right to avoid. At this point the STCA turned red and while the H175 started turning, they could see that the S92 was turning left, reducing the separation between the two aircraft further. This did suggest, however, that the S92 pilot was visual with the H175. The H175 pilot reported visual with the S92 and advised that they had turned left. The trainee was going to issue another heading (the instructor could not recall whether this happened or not), but the instructor advised that there was nothing further they could do to resolve the situation; if both pilots were visual, they were better equipped to deconflict themselves than the controllers were. They then decided to remove the trainee from console and control solo until they could be relieved.

Factual Background

The weather at Aberdeen was recorded as follows:

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METAR COR EGPD 151150Z AUTO 17005KT 130V200 9999 NCD 06/M05 Q1010 NOSIG=
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Analysis and Investigation

Aberdeen Occurrence Investigation

S92 was in the REBROS sector receiving a Reduced Offshore Traffic Service, routing southeast from the Nelson platform to the Valaris 122 platform, maintaining 1000ft. The route taken by the S92 while transiting between these two rigs required it overfly the Culzean platform where the H175 was on deck. The REBROS sector controller was a trainee (referred to as REB-Tr), under OJTI supervision.

1202:14
REB-Tr – *"[S92 C/S], Radar*."
S92 – *"[S92 C/S], go ahead*."
REB-Tr – *"[S92 C/S] for your information there is a H175 currently on deck the Culzean you will be overflying. They're next for Aberdeen*."
S92 – "*Copied, we will keep a lookout, thanks [S92 C/S]."*
1202:49 – [another aircraft] passed estimates to REBROS for 80NM and Aberdeen.
1203:43 – H175 started to lift from the Culzean and appeared on the RDP at 200ft.
1204:27 – [another aircraft] checked in with REBROS.
1205:05 – The REBROS trainee passed Traffic Information to [another aircraft] on handover, prior to descent to a rig.

1205:37 the H175 reached 1000ft, the same altitude as the S92, and started to track west towards Aberdeen. Lateral separation between the S92 and H175 was 6.20NM/100ft (Figure 1).

Figure 1

1205:58 The RDP STCA flashed an amber warning. The REBROS trainee was still passing Traffic Information to [another aircraft]. Both the S92 and the H175 were at 1000ft and separation between them was 4.75NM/100ft (Figure 2).

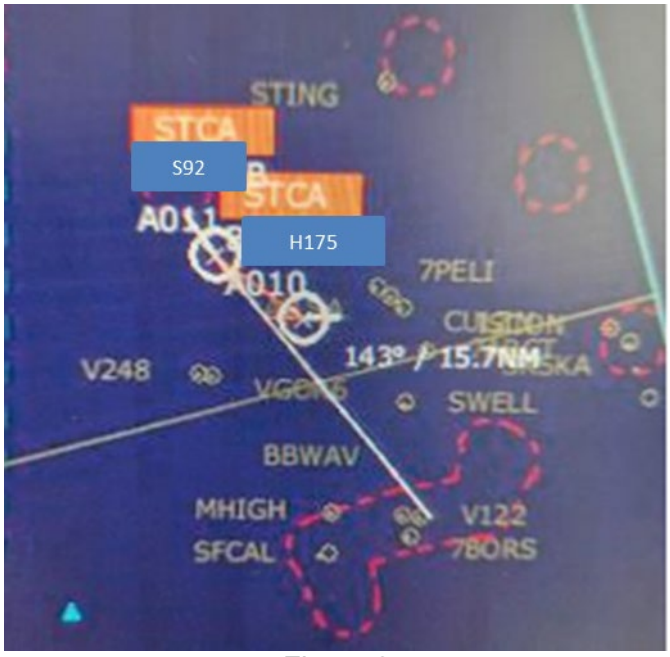


Figure 2

1206:03 (Separation between S92 and H175 was 4.49NM/125ft)
H175 – "*Aberdeen Radar, [H175 C/S]*."
REB-Tr – *"[H175 C/S], Aberdeen Radar, I've got traffic in your right 2'oclock, same level, tracking right to left ahead of you and if not sighted turn right on a heading north*." (During this transmission at 1206:13, the RDP STCA flashed red. Separation between the S92 and H175 was 3.81NM/125ft).

1206:17 H175 – *"Er...we are visual with that traffic, and we are already turning right to avoid…er they're also turning…they're turning left, so we're now…er [H175 C/S]*."
(S92 started to turn left when the aircraft were 2.76NM/75ft apart).

1206:34 (Separation between the S92 and H175 was 2.28NM/100ft)
REB-Tr – *"[S92 C/S], I've got traffic previously mentioned now lifting and turning right to avoid. Suggest a right turn if not visual also to avoid*."

(A very distorted and unintelligible transmission was heard, with an alarm sounding in the background.)

1206:48 the H175 had made a right turn to face north and at the same time the S92 had made a left turn, east which put the aircraft into closer conflict. Separation between the S92 and H175 was 1.33NM/125ft (Figure 3).

Figure 3

1206:53 (Separation between S92 and H175 was 1.11NM/100ft)
H175 – "*Er, we're tracking southwest now, [H175 C/S]*."
1206:56 the S92 and H175 were at their Closest Point of Approach, both were at 1000ft with a separation of 1.07NM/75ft.(Figure 4)

Figure 4

1206:56 RDP raw data recording showed a separation of 1.07NM/75ft between the S92 and the H175 (Figure 5).

Figure 5

1206:58 - Separation between the S92 and H175 was 1.08NM/100ft and continued to increase from this point.
1207:03 - (Separation between S92 and H175 was 1.29NM/100ft).
REB-Tr – *"[H175 C/S], roger*."
1207:18 – H175 reported clear of traffic and requested 2000ft back to Aberdeen.
1208:51 – The REBROS OJTI took over the position from the trainee.

Both the S92 and the H175 continued without further incident.

CONTROLLER FEEDBACK

REBROS OJTI Controller

In discussion with the REBROS OJTI controller the following points were noted:

• It was the first time that the OJTI had sat with that particular trainee. However, the trainee was already valid on both the Sumburgh and Brent sectors at Aberdeen and had reached phase 10 (the final phase) in their training on the REBROS sector.
• Before the incident, their attention had been drawn to the northwest of the sector (around the 047 HMRI) as there had been a lot to resolve in that area. This had meant that they had been looking mainly at the top RDP screen.
• The OJTI had first noticed the confliction when they spotted that the STCA was flashing amber and had advised the trainee that they needed to do something.
• At the same time as the STCA had started flashing, the H175 pilot first called on frequency and the OJTI had considered taking over the position, but the trainee had started dealing with the situation.
• The trainee controller had decided to turn the H175 to the right, and the OJTI confirmed that they would have reacted in exactly the same way, reasoning that it would increase the chance of the aircraft seeing each other and it would allow the H175 to pass behind the S92.

• The OJTI thought that the trainee had then either given another turn or asked if they should, but the OJTI had advised that as both pilots had reported visual, there was nothing else that they could do, and the pilots were best placed for sorting it out.
• The OJTI explained that, as the RDP picture only updates every 6sec, what the pilots were seeing out of their windows was more current than the historical picture that the controllers see on the radar.
• The OJTI had felt confident that the trainee could handle the incident as they were already a valid controller on other sectors. If the trainee had been an ab-initio controller, the OJTI said they would have taken over.
• Following the resolution of the incident the OJTI didn't feel like they had the capacity to continue training so they elected to take over from the trainee and take control of the sector themselves until another controller could be found to relieve them.
• The workload just before the incident occurred was estimated by the OJTI to be either a 6 or 7 on a scale of 1 to 10 (where 1 is very quiet and 10 is experiencing overload). This was due to the traffic situation in the northwest of the sector combined with the fact that they had just taken over the sector and workload is always higher after just sitting down, scanning all strips and realising the traffic picture.
• The OJTI controller added that they were under the impression that if an aircraft was overflying a rig and they had been informed that there is another aircraft on the deck of that rig, that the crew would listen out on the rig's frequency and possibly even speak to the other pilot.

Trainee REBROS controller

In discussion with the trainee REBROS controller the following points were noted:

• The trainee had been valid on Sumburgh and Brent sectors since the end of 2019.
• When they took over the REBROS sector from the previous ATCO, S92 had been transiting from north to south at 1000ft and H175 had been on deck at a rig along its routing.
• The trainee had given S92 pilot Traffic Information on H175 and the crew had confirmed that they were looking out.
• On a scale of 1 to 10 (where 1 is very quiet and 10 is experiencing overload), the trainee estimated the workload to have been a 7 where they didn't feel overwhelmed, but they did feel busy. They explained this was because they had just taken over the sector and things hadn't settled yet.
• They had only taken over the sector from the previous controller about 10min before the incident happened, and at the time their attention had been on the top RDP screen, sorting out a confliction and co ordinating with the HELS controller.
• After taking over the sector they had only had time to conduct a quick scan and a full scan had not yet been achieved, however, the trainee said that they had been glad that one of the first tasks they carried out after sitting down was to give Traffic Information to S92.
• The trainee first noticed the confliction issue between the S92 and H175 when the STCA alerted amber.
• At the same time as the STCA alerted, the H175 pilot made first contact on frequency. Under duty of care, instead of carrying out the normal check-in of the aircraft, they immediately gave the pilot Traffic Information on the conflicting aircraft and advised that they turn right to avoid.
• After the H175 started to turn right, the pilot stated that they were visual with the other aircraft.
• The trainee explained that they had decided to advise the H175 pilot to take a right turn because it was dictated in the Rules of the Air and also it would allow the aircraft to pass behind the S92.
• As both pilots had reported visual with each other, the trainee said that their OJTI had advised them that at that point the pilots were in the best position to resolve the confliction.
• The trainee said that if the S92 had been transiting at 1500ft it would have given the H175 more space for lifting from the deck of the Culzean, however they had assumed that they were at 1000ft because that was what they crew had requested. They also thought that, as the S92 pilot had been given Traffic Information, the crew would have been in contact with H175 on the rig's frequency.

Over the R/T to the REBROS OJTI controller following the resolution of the incident:

S92:

"*We saw the other aircraft take off and we were watching them. From our position they were going to cross us from left to right, so we made a left turn. We tried to get a word in, but [they were] speaking at the same time. When we went left, they made the turn as well. But no, it was fine, we had good visuals on them*."

Point of note:
The pilot of S92 pilot stated that they had been visual with H175 when they lifted off the Culzean, at this point the aircraft had been 12.37NM/900ft apart.

H175:
"*We spotted them and started turning right as we made initial contact on the radio. Unfortunately, about 10 seconds after that they looked like they turned in an attempt to go behind us. So, we were just adopting the right-hand rule and then they stared to turn left and when they turned, it was just going to be more of a closing issue*."

Phone call from the pilot of the H175 to the Aberdeen Watch Manager
In conversation with the Watch Manager about the Airprox with S92 the following points were noted:

• The pilot said they were considering filing an Airprox with regards to the incident.
• They had lifted off the Culzean to 1000ft and, as they were contacting ATC, they noticed an aircraft that was on a closing angle.
• Just as they were about to speak to ATC, the pilot of H175 opted to turn right behind S92 in accordance with the 'Rules of the Air'.
• ATC responded instantly after they made contact and said, "turn right", which is what they were already doing to head north and exactly what they would have wanted and expected.
• Unfortunately, just after the H175 had completed their turn to the north, the S92 pilot decided they were going to turn left.
• To avoid getting any closer, they had to go back to a left-hand turn to avoid the S92.
• The crew of the H175 had estimated that the distance between the 2 aircraft had closed to half a mile apart, if not closer.
• The pilot of the H175 said that their feelings were that ATC quickly gave them exactly the right instructions, which they had already instigated as they felt that the aircraft would have become too close if they had waited any longer to make the turn.

ABERDEEN REDUCED OFFSHORE TRAFFIC SERVICE (ROTS)

The S92 pilot was in receipt of a Reduced Offshore Traffic Service at the time of the event. This is a modified version of the standard UK FIS Traffic Service, in accordance with the Memorandum of Understanding (MOU) that exists between NATS Aberdeen and offshore helicopter operators in support of the North Sea Oil and Gas industry. The service is specified as 'Reduced' due to the surveillance coverage being SSR only in that area.

CAP774 defines a Traffic Service as:

> "a surveillance based ATS, where in addition to the provisions of a Basic Service, the controller provides specific surveillance derived traffic information to assist the pilot in avoiding other traffic. Controllers may provide headings and/or levels for the purposes of positioning and/or sequencing; however, the controller is not required to achieve deconfliction minima, and the pilot remains responsible for collision avoidance."

DUTY OF CARE
CAP 774 (UK Flight Information Services) states:

> Nothing prevents controllers from using their own discretion, initiative, and professional judgement in response to unusual circumstances, which may not be covered by the procedures in CAP 774. In dealing with any such situations, controllers/FISO shall take account of the duty of care requirements (contained within Appendix A of CAP 774).

> The nature of the ATS task in providing the UK Flight Information Services means that it is not possible to be totally prescriptive about all actions to be taken, particularly with regard to unknown traffic and the passing of advice and warnings on high risk conflictions to pilots who have requested Basic Service and Traffic Service. Consequently, there is a need for controllers/ FISOs to remain free to use their professional judgement to determine the best course of action for them to take for any specific situation.

Under 'Duty of Care', the trainee REBROS controller elected to immediately pass pertinent Traffic Information and an avoiding turn to the H175 on first contact prior to identifying them or establishing a service. When the trainee REBROS controller decided to give an avoiding turn to the S92 this again was under their 'Duty of Care' as it is not a requirement of the Reduced Offshore Traffic Service which was being provided.

Conclusions:

The trainee REBROS controller had been busy with traffic in the northwest of their sector when the H175 lifted from the Culzean platform and started to head east, putting it into direct conflict with the S92. After levelling at 1000ft and determining that the S92's heading was converging with their own, the H175 pilot immediately commenced a right turn, in accordance with the Rules of the Air. The aircraft were 2.76NM apart at this point and the pilot of H175 said they believed that they had to act straight away to avoid the aircraft getting too close.

When the trainee REBROS controller was alerted to the confliction by the STCA, they acted quickly under 'Duty of Care' even though the H175 hadn't been identified; they were immediately given Traffic Information on the conflicting aircraft and advised to turn right to head north. The S92 pilot was then given further Traffic Information and advised to turn right if not visual. [Helicopter company] confirmed that this quick action from ATC was exactly what they wanted and would have expected.

The crew of the S92 only commenced a turn to avoid H175 when the aircraft were approximately 2.76NM apart following Traffic Information provided to them by the Trainee REBROS controller, however, they stated that they had been visual with the other aircraft when they saw the H175 lift from the Culzean when they were 12.37NM apart. The pilot of the S92 unfortunately elected to turn left to avoid H175 with the intention of passing behind them, however, they were unable to notify ATC of their intentions as the RT had been busy. The S92's turn to the left only put them into closer conflict resulting in the H175 having to make another turn back to the southwest to resolve the situation.

UKAB Secretariat

The H175 and S92 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[2] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[3] If the incident geometry is considered as converging then the H175 pilot was required to give way to the S92.[4] The aircraft that has the right-of-way shall maintain its heading and speed.[5]

Summary

An Airprox was reported when a H175 and an S92 flew into proximity at the North Sea oil rigs at 1207Z on Wednesday 15th March 2023. Both pilots were operating under VFR in VMC, both in receipt of a Reduced Offshore Traffic Service from Aberdeen.

[2] (UK) SERA.3205 Proximity.
[3] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.
[4] (UK) SERA.3210 Right-of-way (c)(2) Converging.
[5] (UK) SERA.3210 Right-of-way (a).

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs, reports from the air traffic controller involved and reports from the appropriate operating authorities. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board discussed the actions of both pilots and those of the controller. They noted that the S92 pilot had been visual with the H175 from some distance and that the H175 pilot, once airborne, had become visual with the S92. Concerned that there would be a confliction, the H175 pilot had turned right and this had been reinforced by ATC also providing deconfliction advice in the same direction. The S92 pilot, visual with the H175, had wanted to turn behind it in order to route towards their landing rig and had therefore turned left. The S92 pilot had already been given Traffic Information by ATC that the H175 had been routing to Aberdeen, so probably had an expectation that it would continue westbound. The Board discussed the SERA right-of-way rule and noted that it had been for the H175 pilot to have given way to the S92 and that, therefore, the S92 pilot would normally have been required to have maintained course and speed. However, in this case, the Board considered that the aircraft had been at a range of about 3NM, which could be considered to have been early enough to be outwith the intention of the right-of-way rule. It had been unfortunate that the S92 pilot had not been able to communicate their intentions on the RT because, had the controller been aware that the S92 pilot had been visual and intended to turn left, they could have reassured the H175 pilot that the S92 pilot had been visual with them and was navigating accordingly. That being said, members were satisfied that there had been sufficient separation between the aircraft and that there had been no risk of collision. It was therefore agreed that normal safety parameters had pertained and, as such, the Board assigned Risk Category E to this event. Members agreed that the following factors (detailed in Part C) had contributed to, or were outcomes from, this Airprox:

CF1: The S92 pilot could not call ATC to tell them they intended to turn left behind the H175 due to the busy frequency.

CF2: The STCA at Aberdeen had alerted.

CF3: Both pilots had received a TCAS TA.

CF4: The H175 pilot had been concerned by the proximity of the S92.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

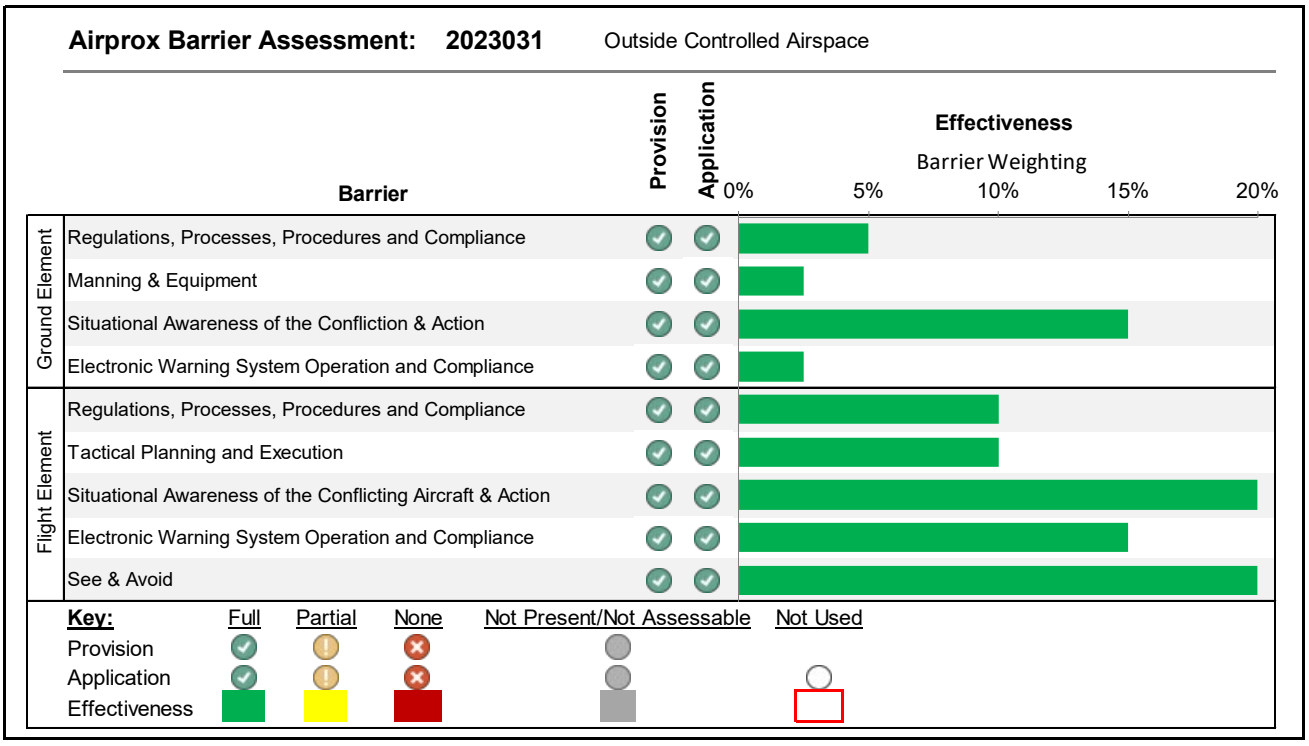
	2023031			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• Frequency Congestion	An event involving frequency congestion that reduces the effectiveness of communications	
	• Electronic Warning System Operation and Compliance			
2	Technical	• STCA Warning	An event involving the triggering of a Short Term Conflict Alert (STCA) Warning	
	Flight Elements			
	• Electronic Warning System Operation and Compliance			
3	Contextual	• ACAS/TCAS TA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system traffic advisory warning triggered	
	• See and Avoid			

4	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: E.

Safety Barrier Assessment[6]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that all of the safety barriers had been effective.



[6] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.