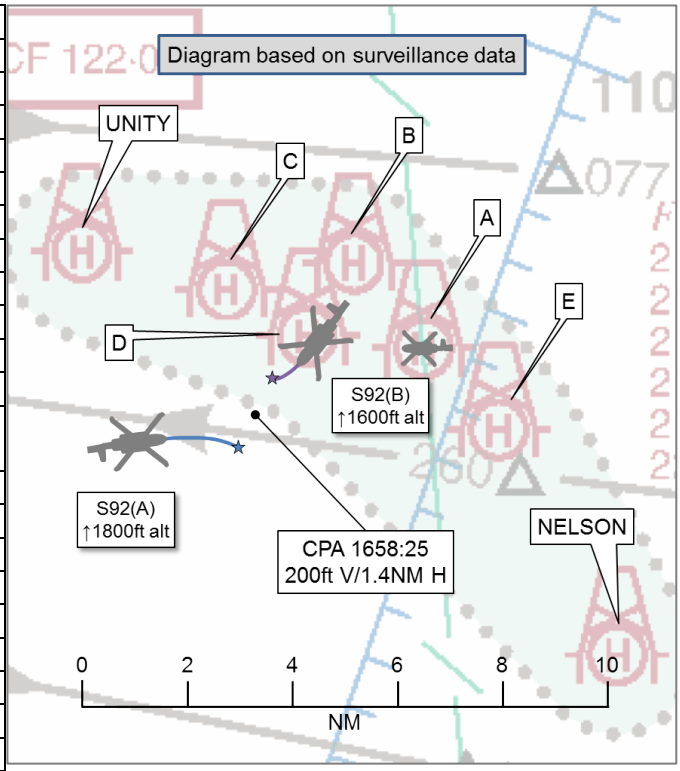
AIRPROX REPORT No 2019323

Date: 26 Nov 2019 Time: 1658Z Position: 5742N 00050E Location: Forties Oilfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	S92(A)	S92(B)
Operator	Civ Comm	Civ Comm
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	IFR	IFR
Service	None	None
Provider	Aberdeen Radar	Aberdeen Radar
Altitude/FL	1800ft	1600ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Red/White/Blue	Blue/White
Lighting	Strobe/Nav lights	Strobe, Nav, Landing lights
Conditions	IMC	IMC
Visibility		Nil
Altitude/FL	1500ft	1000ft
Altimeter	QNH (994hPa)	
Heading	090°	070°
Speed	130kt	120kt
ACAS/TAS	TCAS II	TCAS II
Alert	None	None
Separation		
Reported	200ft V/1NM H	Not seen
Recorded	200ft V/1.4NM H	



THE S92(A) PILOT reports routing to the Nelson Platform when, prior to commencing descent, the PM passed the flight watch to the Nelson platform (Forties traffic frequency) and contacted separately both other aircraft [including the Airprox helicopter] operating on the Forties field, communicating clearly their intention to conduct an Airborne Radar Approach (ARA), including the final approach track and missed approach track. Following the descent to 1500ft amsl and approaching the initial approach point for the ARA, the [S92(B) C/S] announced take off from the Forties D in a south-easterly direction. Since the [S92(B) C/S] departure path conflicted with their own approach path, the PM called the [S92(B) C/S] twice on the Forties traffic frequency with no acknowledgment. Because the [S92(B) C/S] departure path and vertical profile on ACAS conflicted with their own track and compromised their vertical separation, immediate action was required. The PM called 'going-around' and announced it on both the traffic frequency and to ATC. The PF decoupled the aircraft and initiated a right turn and climb. The [S92(B) C/S] continued to climb past 1000ft amsl as they initiated a right turn towards Aberdeen, did not contact ATC and did not acknowledge the S92(A) pilot's calls. The crew decided to reposition for another ARA once the traffic was deconflicted. A third helicopter announced that they would stay on deck until the S92(A) had completed its approach onto the Nelson platform.

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

THE S92(B) PILOT reports that, on approach to the Forties D platform, they heard that the non-Airprox helicopter had landed on the Forties C platform. The weather required an ARA to the Forties D platform; their ARA was planned to the Forties C platform and on to the Forties D. They broke cloud at 400ft and continued on to the Forties D. As they passed the Forties C, they were visual with the non-Airprox helicopter on the platform. While refuelling on the Forties D they had 'Log' on radio box 1 and 'Traffic' on box 2 and they heard the non-Airprox helicopter lifting to go to the Forties A. Because the non-Airprox helicopter was conducting an ARA to the Forties A, they remained on deck until it was on short

final and they were visual. Before lifting, they had 'Radar' on box 1 and 'Traffic' on box 2; they transmitted a lifting call on 'Traffic' giving time, callsign, position, destination and the height to which they were climbing. They heard the S92(A) pilot asking 'Radar' to climb to 3000ft. At 1000ft, they contacted 'Radar' and requested a 2000ft transit to base. At no point did they hear the S92(A) pilot acknowledge their lifting call or advise them that they were in the area. On contact with 'Radar' they were not informed of any conflicting traffic.

The pilot did not make an assessment of the risk of collision.

THE ABERDEEN HELS/REBROS CONTROLLER reports that the HELS and REBROS frequencies were band-boxed; there were 2 helicopters from the S92(B)'s operating company operating in the Forties oilfield when S92(A) came on frequency. The S92(A) pilot was given early Traffic Information about the two other aircraft operating in the oilfield, and that one of them was conducting an Airborne Radar Approach (ARA). The S92(A) pilot was also planning an ARA to the Nelson platform. At approximately 20NM from the platform, the S92(A) pilot asked for descent and reported in two-way contact with the platform. The controller updated the pilot with the position of the 2 other aircraft and the pilot replied that he was content to continue offshore. He monitored the S92(A)'s progress and, as the aircraft passed 2000ft, he noticed that one of the other aircraft was lifting. The S92(A) was at 1700ft, so he made a blind transmission to say that there appeared to be an aircraft lifting in the pilot's 9 o'clock, range of 2.5NM, indicating 1300ft, climbing. The S92(A) pilot then called going-around and requested 3000ft. The pilot of the S92(B) called the controller, tracking westbound, level at 1500ft.

The controller did not make an assessment of the risk of collision.

Factual Background

The weather at the ANDREW platform (25NM NE) was recorded as follows:

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METAR EGRO 261650Z AUTO 09029KT 9999 OVC005/// 09/08 Q0996
METAR EGRO 261720Z AUTO 09029KT 7000 BKN004/// 09/08 Q0996
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Analysis and Investigation

NATS Unit Investigation

The HELS and REBROS sectors were band-boxed and the traffic level was light.

S92(A) was outbound to the Nelson oil platform at 3000ft, operating under IFR and in receipt of a service from the Aberdeen HELS controller. S92(B) was on deck on the Forties D platform (and within surveillance coverage on deck) and a non-Airprox helicopter was airborne within the Forties field, shuttling between two platforms.

1644:41 - The pilot of the non-Airprox helicopter contacted the controller and confirmed he was not requesting a service, but advised the controller that, due to poor weather in the Forties field, they would be conducting an Airborne Radar Approach (ARA) on each inter-rig flight and wanted to check if there would be any aircraft in the area to affect them at 1500ft. The controller informed the pilot about S92(B) on Forties Delta and also of S92(A), who he stated was estimating the Nelson platform at 1700hrs. The pilot of the non-Airprox helicopter then reported transferring back to the offshore frequency, saying that they would next call lifting from the Forties Alpha and would be transiting again at 1500ft to the Forties Echo.

1646:01 – The controller instructed the pilot of S92(A) to change frequency to the REBROS frequency. The aircraft was passing 82NM range from Aberdeen at this time.

1646:16 - When the pilot of S92(A) established communication on the REBROS frequency, the controller informed him he was now under Offshore Traffic Service, reduced SSR only, and instructed him to set the Brae QNH of 997hPa. This was all correctly read back.

Figure 1

1646:40 - HELS transmitted to the S92(A) pilot "*just for your planning in field in the Forties, I believe the weather isn't very good. There's [S92(B) C/S] believed on the Forties Delta and [the non-Airprox helicopter C/S] just positioning in field to do an ARA 1500ft.*" The pilot of S92(A) acknowledged this (Figure1).

1648:09 - The pilot of S92(A) informed the controller that they were planning to conduct an ARA into the Nelson platform with an inbound course of 110° and missed approach track of 150°. The pilot also sought confirmation of the traffic in the Forties field. The controller reiterated that S92(B) C/S was "in field" and the non-Airprox helicopter was positioning for an ARA. The pilot acknowledged this and requested approval to set course for their initial point, which was approximately 7NM west of the Nelson platform. The controller advised the pilot that there was no known traffic to affect him positioning for the procedure. The pilot then requested to leave 3000ft and to transfer to the offshore frequency (87NM range from Aberdeen at this time).

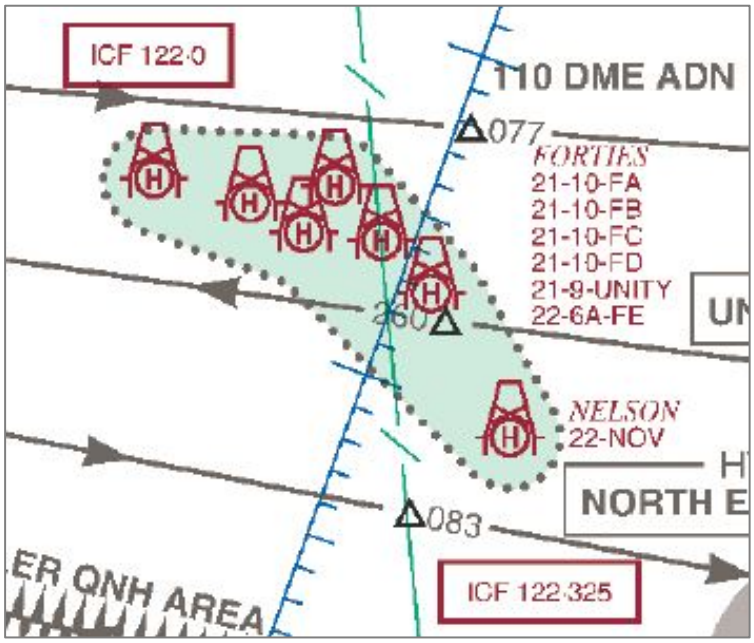


Figure 2

The chart (Figure 2) shows the position of the Nelson platform in relation to the Forties platforms. The Nelson platform is at the far south-eastern end of the Forties HTZ. It is operated by a different oil company to the Forties platforms and, although contracts change, the Nelson platform is normally serviced by a different helicopter operator.

1649:12 – The controller advised the pilot that there was no known traffic to affect descent, adding that the non-Airprox helicopter was in his 11 o'clock at a range of 17NM descending through 1100ft; the pilot acknowledged this information. The controller then terminated his service and advised the pilot he could continue with the offshore frequency. (Figure 3 is at the end of this exchange.)

1649:40 – The controller had just terminated the service to S92(A) and they changed to the offshore frequency. S92(B) can be seen still on deck and the non-Airprox helicopter is now outbound in the ARA procedure to the Forties Alpha. The blue arc just ahead of S92(A) is 90NM from Aberdeen. For scale, it is 10NM to the next, dashed, arc which is 100NM from Aberdeen.

Figure 3

1652:01 - When at a range of 93NM from Aberdeen, the Mode S selected level of S92(A) changed from 3000ft to 1500ft. The aircraft was 12NM SSW of Forties Delta with S92(B) still on deck on the platform.

1652:47 – The Mode C of S92(A) indicated descent had commenced.

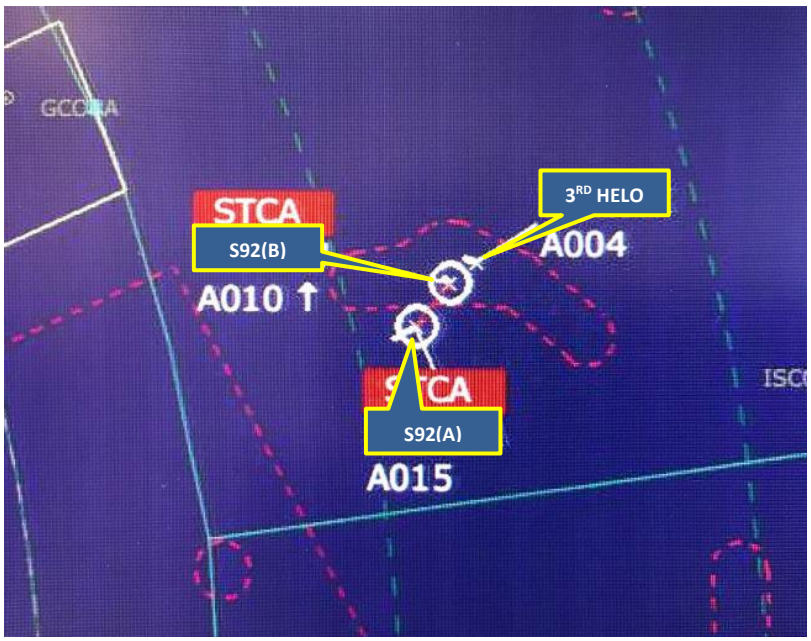
1655:47 - The Mode C of S92(A) indicated level flight at 1500ft and tracking 070° when 6NM SW of Forties Delta with S92(B) still on deck.

1657:05 - The surveillance contact of S92(B) indicated a climb from the platform had commenced, with Mode C indicating 400ft and climbing. At this time, S92(A) was 4NM SSW of S92(B), indicating level at 1600ft, tracking ENE. S92(B) departed the platform in a south-easterly direction.

1657:14 - The STCA activated between S92(B) and the non-Airprox helicopter, (S92(A) was 4NM SW of S92(B)).

1657:35 – The controller manipulated the SSR labels of all three aircraft to remove any overlap. S92(B) was now passing 900ft in the climb, S92(A) was 3NM SW of S92(B) at 1600ft and the non-Airprox helicopter was 2NM NE of S92(B) at 400ft on final approach to their destination platform.

Figure 4



1657:42 - With the earlier STCA between S92(B) and the non-Airprox helicopter no longer active, a further STCA was generated between S92(B) and S92(A).

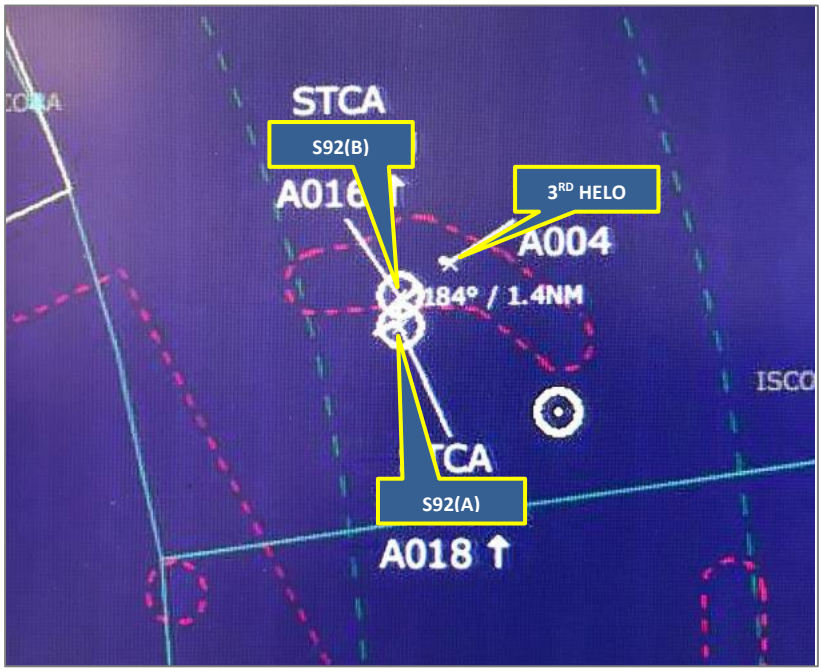
Figure 5

1657:42 – The controller selected the BRM function, which indicated the bearing of S92(A) from S92(B) (now tracking south, in a right turn and passing 1200ft) was 225° at a range of 2.6NM.

1657:58 – The controller transmitted to the pilot of S92(A) "*if you're still on this frequency, you've got [S92(B) C/S] just pulling up in your left 11 o'clock, range of 2 miles, just passing 1400ft*". There was no reply. At this time, S92(A) was still indicating level at 1600ft, 2.2NM SW of S92(B), which had just commenced a right turn towards S92(A).

1658:08 - The Mode C of S92(A) indicated a climb had commenced.

1658:20 – The pilot of S92(A) reported going-around on the HELS frequency. S92(B) was now indicating 1600ft and was tracking WSW, passing abeam S92(A), which was turning left onto an easterly track, climbing through 1800ft, as shown in Figure 6.



1658:25 – Shortly after the S92(A) pilot reported going-around, the lateral distance between the two aircraft reached its lowest value, at 1.4NM with S92(A) climbing through 1800ft and S92(B) indicating 1600ft. The pilot of S92(B) had still not made a call on the HELS frequency.

Figure 6

1658:26 – The controller passed further Traffic Information to the pilot of S92(A) on S92(B); the lateral and vertical distance between the two aircraft was now increasing.

1659:16 – The pilot of S92(A) requested climb to 3000ft – the controller advised there was no known traffic to affect.

Figure 7

1659:42 – The pilot of S92(B) made their first call to HELS, reporting at 1500ft and requesting climb to 2000ft. They made no mention of the situation with S92(A).

1701:12 – S92(A) was now level at 3000ft and requested to re-position to a point 7NM W of the Nelson platform to re-commence their ARA. No mention was made on the RT by either crew of an intention to file an Airprox.

S92(A) was inbound from Aberdeen to the Nelson platform and, in setting up for their ARA (Airborne Radar Approach), the pilot had requested a routing to a point 7NM W of the Nelson platform from which to commence the procedure. This took them north of the direct track from Aberdeen to the Nelson platform, and closer to the Forties platforms.

The "Traffic" frequency referred to in both crew reports is used throughout the Forties Field by helicopters operating to and from both the Nelson platform and all the Forties platforms. No service is provided on the frequency.

The UK AIP, ENR 1.6, paragraph 4.5.5 – RTF and NDB Frequencies Used on Offshore Installations, states:

> ***Inbound - From the off-shore installation.***
> *Lifting calls should be made on the Traffic frequency. Once airborne establish communication with the appropriate ATSU whilst below 1000 feet or as soon practical. Published Air Traffic Service procedures should be followed where available.*

It is not known why the pilot of S92(B) did not call HELS until they reached 1500ft. RT coverage in the Forties Field often allows contact to be made with REBROS while still on deck, because one of the transmitter/receiver sites for the REBROS South frequency is on the Forties Alpha platform. There were no reported problems with that RT equipment on the day of the incident.

The surveillance picture available to the HELS/REBROS controller uses Multi-Sensor Tracking to bring together data from all available sources. In this area, at the altitudes in question, the available sources were Wide Area Multilateration and ADS-B.

This Airprox was filed by the crew of S92(A) after coming into confliction with S92(B) in the Forties field. Neither aircraft was receiving a service from Aberdeen at the time of the event. The Aberdeen HELS controller was operating the HELS and REBROS positions band-boxed.

The weather in the Forties area at the time was poor, necessitating Airborne Radar Approaches (ARAs). Leading up to the event, S92(A) was inbound from Aberdeen to the Nelson platform, which is in the Forties Field, receiving an Offshore Traffic Service, and had been advised by the HELS controller that weather in the Forties Field was not good, and that there were two [different company] aircraft in the field, S92(B) on deck and the non-Airprox helicopter carrying out an ARA.

The pilot of S92(A) acknowledged this Traffic Information and confirmed that they would also be carrying out an ARA to the Nelson platform. They requested descent and frequency change to the offshore frequency so, after updating the Traffic Information about the position of the non-Airprox helicopter, the HELS controller terminated the service to the pilot of S92(A) and approved their frequency change.

The HELS controller continued to monitor the traffic in the Forties Field on his surveillance display and, when he became aware that S92(B) was lifting from the Forties Delta, he made a blind call to the pilot of S92(A) in case they were still monitoring the HELS/REBROS frequency. They did not respond and the crew's report makes no mention of having heard this, but they did apparently hear the S92(B) pilot's lifting call on the field traffic frequency, and also had TCAS information.

The crew of S92(A) elected to initiate a go-around from 1500ft and reported this on the HELS/REBROS frequency, requesting a climb back to 3000ft. After this, the pilot of S92(B) made their first call to HELS, reporting level at 1500ft.

At the closest point of approach, the HELS/REBROS surveillance display indicated that there was 1.4NM and 200ft between S92(A) and S92(B).

UKAB Secretariat

The S92(A) and S92(B) pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[1] An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.[2] 'Aerodrome' means a defined area (including any buildings, installations and equipment) on land or water or on a fixed, fixed off-shore or floating structure intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.[3]

Summary

An Airprox was reported when two S92 helicopters flew into proximity in the Forties oilfield at 1658hrs on Tuesday 26th November 2019. Both pilots were operating at night under IFR in IMC; neither pilot was in receipt of an Air Traffic Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the HELS/REBROS RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of

[1] SERA.3205 Proximity.
[2] SERA.3225 Operation on and in the Vicinity of an Aerodrome.
[3] *Regulation (EU) 2016/1185* – Article 2 Definitions, paragraph 6.

written contributions and dial-in/VTC comments. Although not all Board members were present for the entirety of the meeting and, as a result, the usual wide-ranging discussions involving all Board members were more limited, sufficient engagement was achieved to enable a formal assessment to be agreed along with the following associated comments.

The Board first discussed the actions of the S92(A) pilot, and members agreed that it seemed that he had taken all reasonable steps to alert the S92(B) pilot to the presence of his aircraft. However, the Board was unable to determine why the S92(B) pilot had not responded to his calls on the Traffic frequency and wondered if perhaps the S92(A) pilot had mis-remembered making those calls. Notwithstanding, the Board's view was that the S92(A) pilot had had situational awareness of the presence of S92(B) from both his TCAS (**CF5**) and from the Traffic Information issued by the Aberdeen controller and, although he was unable to see S92(B) due to the flight conditions (**CF6, CF7**), had acted appropriately when he heard the S92(B) pilot's 'lifting' call.

Turning to the actions of the S92(B) pilot, members agreed that he had issued the required 'lifting' call on the Traffic frequency but could not establish why there had been a delay in contacting Aberdeen radar, particularly in light of the fact that the ATSU can usually be contacted while still on-deck in the Forties field due to the presence of a radio rebroadcast facility on one of the platforms. The Board felt that the requirement in the UK AIP to '….*establish communication with the appropriate ATSU whilst below 1000 feet or as soon practical'* did not take into account the capability to contact Aberdeen while still on-deck (**CF1**), and therefore resolved to recommend that '*The CAA considers reviewing the UK AIP, ENR 1.6, paragraph 4.5.5, to define the point at which the 'lifting' call is to be made*'. Nonetheless, members agreed that the S92(B) pilot had contacted the ATSU later than should have been the case (**CF2**, **CF3**), which denied the controller any opportunity to advise him of the presence of S92(A) which, in turn, denied the S92(B) pilot of any specific situational awareness as to the position of S92(A) (**CF4**). Furthermore, the flight conditions at the time had also denied the S92(B) pilot the opportunity to visually acquire S92(A) (**CF6, CF7**).

The Board then considered the actions of the Aberdeen controller and, although not formally required to monitor any of the aircraft on the Forties field, members were unanimous in their praise of his actions in trying to alert both pilots to the presence of the other aircraft. The Board noted that there was no requirement for recording of the Forties Traffic frequency and considered that an opportunity to enhance understanding (and thereby safety) had potentially been missed.

When considering the risk, members were quick to agree that, although the vertical separation between the 2 aircraft had been eroded by the climbing S92(B), there had been adequate lateral separation throughout the encounter. The actions of the S92(A) pilot had not only maintained the lateral separation, but also re-introduced a degree of vertical separation after CPA. Therefore, although safety had been degraded, the Board considered that there had been no actual risk of collision; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2019323		
CF	**Factor**	**Description**	**Amplification**
	Flight Elements		
	• Regulations, Processes, Procedures and Compliance		
1	Organisational	• Flight Operations Documentation and Publications	Inadequate regulations or procedures
	• Tactical Planning and Execution		
2	Human Factors	• Action Performed Incorrectly	Incorrect or ineffective execution
3	Human Factors	• Accuracy of Communication	Ineffective communication of intentions
	• Situational Awareness of the Conflicting Aircraft and Action		

4	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	• Electronic Warning System Operation and Compliance		
5	Contextual	• ACAS/TCAS TA	TCAS TA / CWS indication
	• See and Avoid		
6	Contextual	• Poor Visibility Encounter	One or both aircraft were obscured from the other
7	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: C

Recommendation:

The CAA considers reviewing the UK AIP, ENR 1.6, paragraph 4.5.5, to define the point at which the 'lifting' call is to be made.

Safety Barrier Assessment[4]

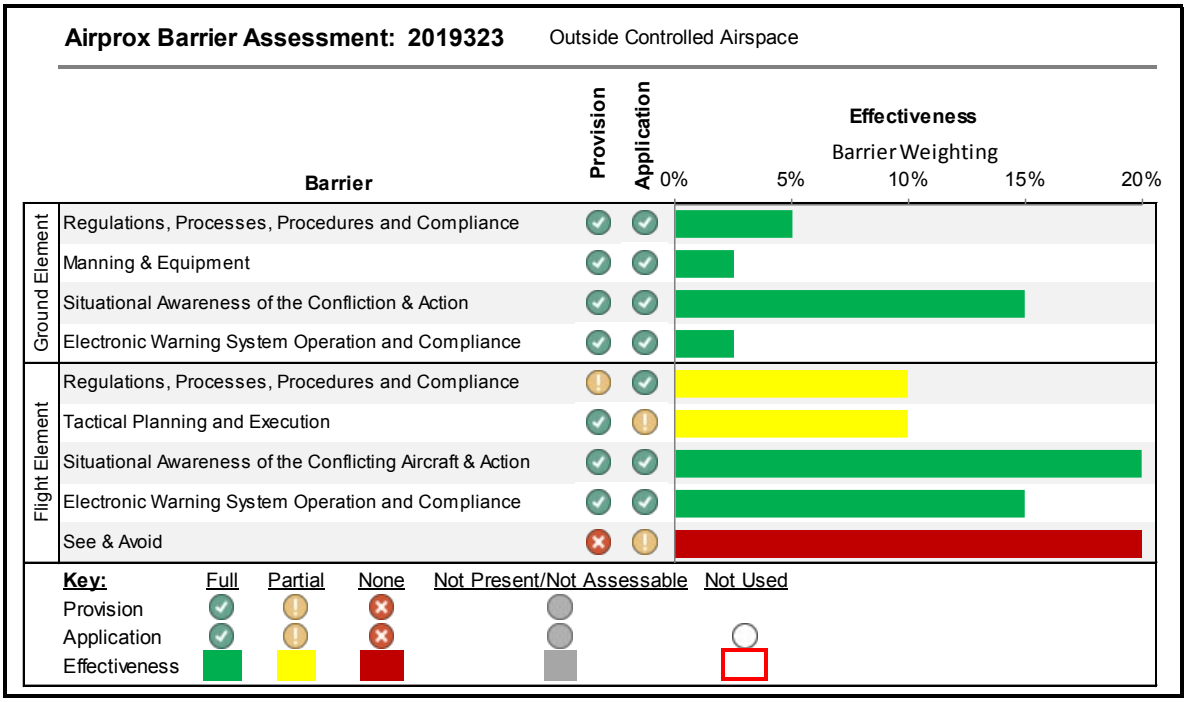
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the pilot of S92(B) did not call Aberdeen radar until above 1000ft, thus denying the Aberdeen controller the opportunity to pass Traffic Information on S92(A).

Tactical Planning and Execution was assessed as **partially effective** because the pilot of S92(B) did not contact Aberdeen radar until passing 1500ft on the climb-out from the Forties D platform.

See and Avoid were assessed as **ineffective** because both pilots were operating in IMC at night.



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