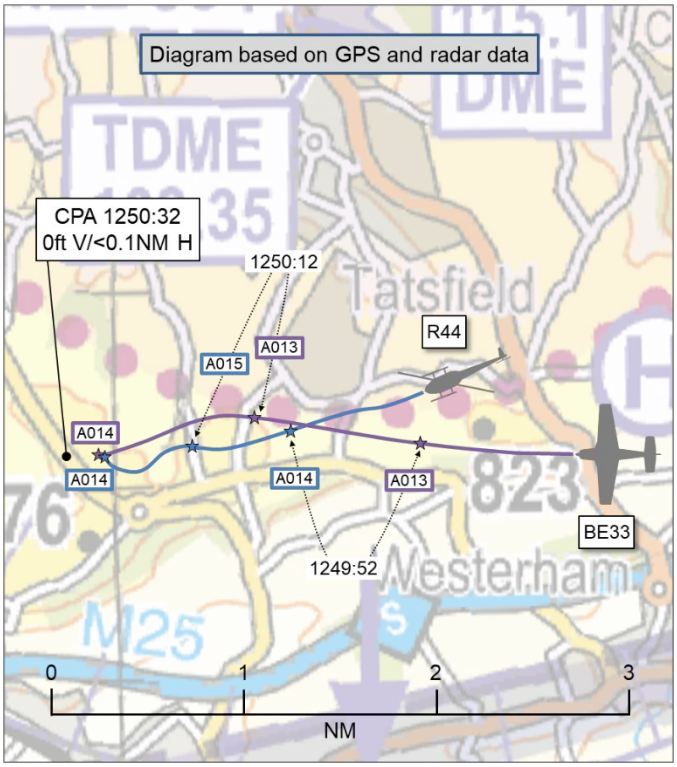
AIRPROX REPORT No 2024281

Date: 18 Nov 2024 Time: 1251Z Position: 5117N 00000W Location: 3NM SSW Biggin Hill

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	R44	BE33
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Biggin Approach	F'borough LARS E
Altitude/FL	1400ft	1400ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Red	Red, white
Lighting	Strobe, nav, landing, strobes	Nav, strobes, beacon
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	500ft AGL	500ft
Altimeter	QNH (1012hPa)	QNH (1027hPa)
Heading	"*NW*"	265°
Speed	90kt	150kt
ACAS/TAS	PowerFLARM	Not fitted
Alert	Alert	N/A
Separation at CPA		
Reported	0ft V/150m H	0ft V/150m H
Recorded	0ft V/<0.1NM H	



THE R44 PILOT reports that they were conducting a pipeline inspection flight in, and to the south of, the Biggin Hill ATZ and were in receipt of a Basic Service from Biggin Approach. In the vicinity of Hurley Lodge, they received Traffic Information about an Air Ambulance departing Redhill and a PA28 [they believe] on a Farnborough squawk heading west towards their direction. [The R44 pilot's] task took them to Westerham, approximately 3NM SSE of Biggin Hill, where they were to orbit overhead a site which they needed to photograph. They took that opportunity to have a panoramic lookout for the previously mentioned traffic. The Air Ambulance [was seen on their EC device] and they quickly became visual with it, determining that its track meant that there was no conflict. They had no [information from their EC device] for [what they believed to have been] the PA28 and no visual sighting so they continued to look for the traffic as they continued on their task.

Their task was to take them along the south-western ATZ boundary at Biggin Hill and then towards Kenley gliding site, so they gained a clearance to transit the ATZ. Still with no contact with the 'PA28', they continued on task at 500ft AGL towards Kenley which took them up and along the ridge to the south of Biggin Hill. There was some lower cloud ahead of them at around 700ft AGL which they were conscious of as they turned, on task, towards Woldingham at Botley Hill. At that point, they received an [EC device] alert for another aircraft within a mile on their rear-right side. Their first thought was that, due to their proximity to Biggin Hill, it must have been circuit traffic, but no circuit traffic had been mentioned and they had been on frequency for a good 5min. Their Observer said "*There it is!*" and pointed to their right where the [BE33] was overtaking them on a converging track at the same level in *very* close proximity. They instinctively flared their aircraft, which reduced the airspeed slightly, and would have climbed a small amount, but the other aircraft went by so quickly that this was token. They, and their colleague, were quite shaken by this and reported it to the controller at Biggin Hill who collected the details [of the BE33] from Farnborough and relayed them.

[The pilot of the R44 commented that] this was a Class G incident and responsibility for separation sat squarely with the aircraft crews. Their reason for reporting this is to highlight two safety awareness factors. Firstly, professional crews conducting survey and inspection flights at low level [may] operate on an exemption to the low flying rules. [Therefore, they are] not sure why another pilot would have chosen to fly along the top of a ridge at that level with less cloud clearance. Secondly, this is not the first time that they have been aware of traffic transiting along the southern edge of the Biggin Hill ATZ but not in communication with Biggin Hill.

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

THE BE33 PILOT reports that they were transferred to the [Farnborough LARS East] frequency, and were warned about helicopter traffic. They were visual with the helicopter at all times except for a short period when it was in the clouds.

They were on a track to avoid [the R44] but, at the last moment, it turned towards them. They had the impression that [the R44 pilot] had not seen them coming, and they had not heard them on the frequency. The [pilot of the BE33] turned [away] from it and passed it quickly, having a much higher speed. In fact, the [BE33] came from the right and had right of way, but the pilot believes that [the R44 pilot] had not seen them in time.

The R44 was manoeuvring left and right and up, momentarily in the low clouds and, at the last moment, turned towards them. It was on their left when they passed by quickly, turning away from it. The [R44] was totally unpredictable. There was not much room to move with the Biggin Hill area on their right and very low clouds. After passing [the R44] they decided to 'weather-abort' and turned left, back towards Dover.

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

THE BIGGIN HILL APPROACH CONTROLLER reports that [the pilot of the R44] transited south abeam the ATZ and was on a Basic Service. Traffic Information was passed on a Helimed and an aircraft to the east of [the R44] routeing westwards and wearing a Farnborough LARS squawk.

[The pilot of the R44] later called a close-pass by [what the pilot believed to be] a PA28 and that they would file an Airprox report. They stated that they had the aircraft on "*TCAS*", but did not report either a TA or RA.

The Farnborough LARS East controller said that they were working the [BE33] and that Traffic Information had been passed. The [BE33] pilot had also reported visual contact with [the R44].

THE FARNBOROUGH LARS EAST CONTROLLER reports that they were working LARS N and E in light traffic. [The pilot of the BE33] was on a Basic Service routeing to [their destination]. An aircraft with a 'Line' squawk (0036) was operating south of the Biggin Hill ATZ, not working Farnborough. They called the [0036] traffic a few times as the aircraft were going to get quite close. [The pilot of the BE33] got visual with the traffic about 2.5NM from it. The helicopter was turning so they kept the [pilot of the BE33] updated. They passed quite close but [the pilot of the BE33] was visual at all times. Shortly afterwards, the Biggin Hill controller rang to say that the pilot of the helicopter thought it was a bit too close and would be filing an Airprox.

Factual Background

The weather at Biggin Hill was recorded as follows:

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METAR EGKB 181250Z VRB02KT 9999 FEW030 07/05 Q1012
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Analysis and Investigation

NATS Safety Investigations

Timeline:
The pilot of [the R44] was operating south of the Biggin Hill ATZ, displaying Mode A 0036 for pipeline tasking and in receipt of a Basic Service from Biggin Hill ATC. The pilot of [the BE33] had previously been receiving a Basic Service from London Flight Information Service (LFIS), and subsequently contacted the Farnborough LARS East controller (LF-LARS) frequency at 1232:55 and reported maintaining 1400ft and squawking 1177 (LFIS conspicuity). The pilot reported on course to an unknown position. A squawk of 1731 was assigned with a Basic Service detailed which was acknowledged by the pilot.

At 1241:08, the LF-LARS controller asked the pilot of [the BE33] "*will you be routeing through the Biggin ATZ or remaining outside?*". The pilot responded, "*staying outside Biggin Sir.*"

The pilot of [the R44] informed Biggin Hill Tower (KB-TWR) at 1247:11 they were "*clear at Hurley Lodge*" with their next turning points established and going via Westerham [to their destination]. The pilot then requested approval to "*run through the south-western edge of the zone?*". This was approved, followed by Traffic Information at 1247:36: "*we have got a Helimed […] indicating one thousand three hundred feet routeing opposite direction to yourself, and coming up behind we have got traffic working Farnborough Radar indicating one thousand three hundred feet routeing westbound*". The pilot responded: "*That's all copied, thank you, [R44 C/S]*". (see Figure 1).

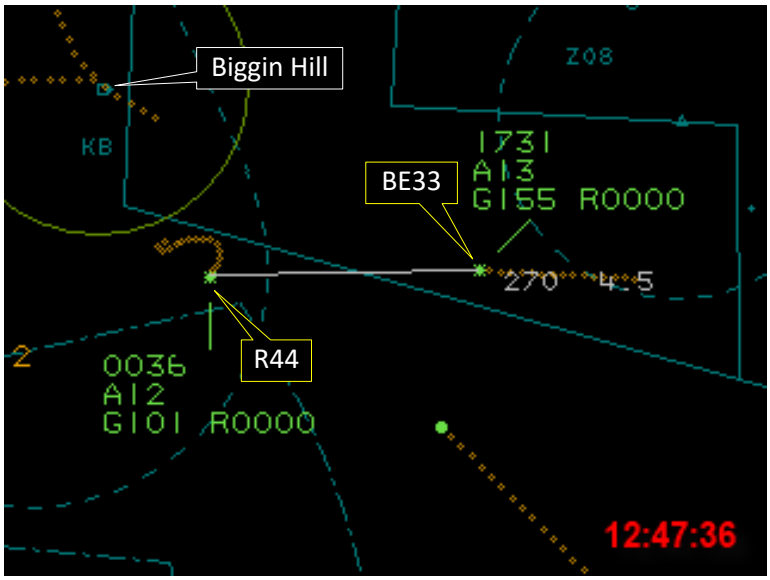


Figure 1

At 1248:31, the LF-LARS controller provided Traffic Information to the pilot of [the BE33]: "*traffic ahead of you by about a mile and a half manoeuvring, believed to be rotary, just left of your eleven o'clock slightly below, keep a very good lookout.*" The pilot initially didn't respond. When prompted, the information was passed again at 1248:53: "*traffic ahead of you, one mile, left-to-right, similar level, believed to be rotary, keep a very good lookout.*" The pilot responded, "*we have him in sight sir, thank you very much*". (see Figures 2 and 3).

Figure 2 – Farnborough Radar

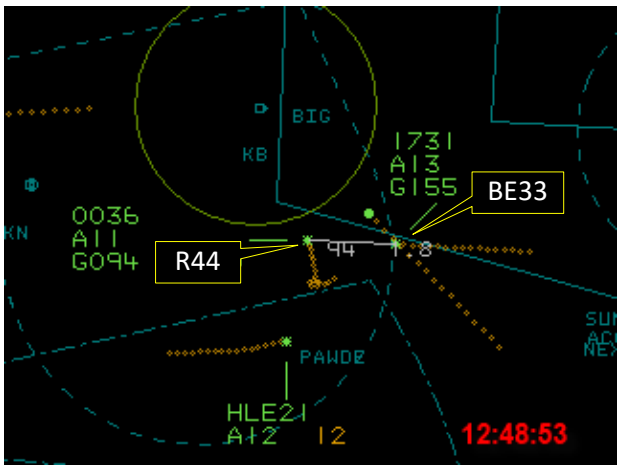


Figure 3 – NODE radar

Immediately afterwards, the LF-LARS controller repositioned the labels on their radar display indicating that they were monitoring the traffic. [The pilot of the R44] then turned left on to a westerly track, with the controller again repositioning the labels of the two aircraft.

[The R44] appeared to have been manoeuvring at 1400ft. [The pilot of the BE33] maintained their track and altitude of 1400ft although displayed a slight right turn deviation at 1250:02, as if they had turned to go behind with descent to 1300ft.

[The pilot of the R44] then turned right onto a northerly track before turning immediately south on the next radar update (1250:20) (Figure 4).

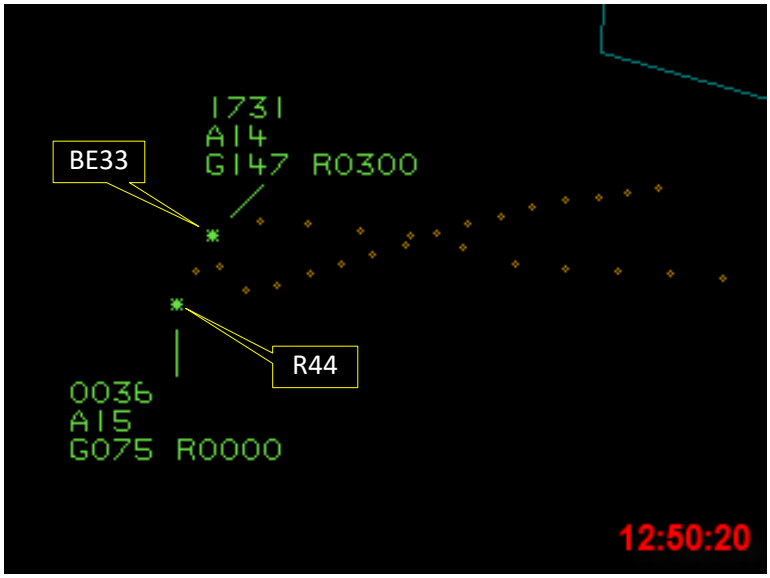


Figure 4

The pilot of [the BE33] then turned left again as [the pilot of the R44] turned right once again onto a conflicting track.

The Closest Point of Approach occurred at 1250:32 and was recorded on multi-track radar as 0.0NM and 0ft (Figure 5) as [the R44] passed behind [the BE33].

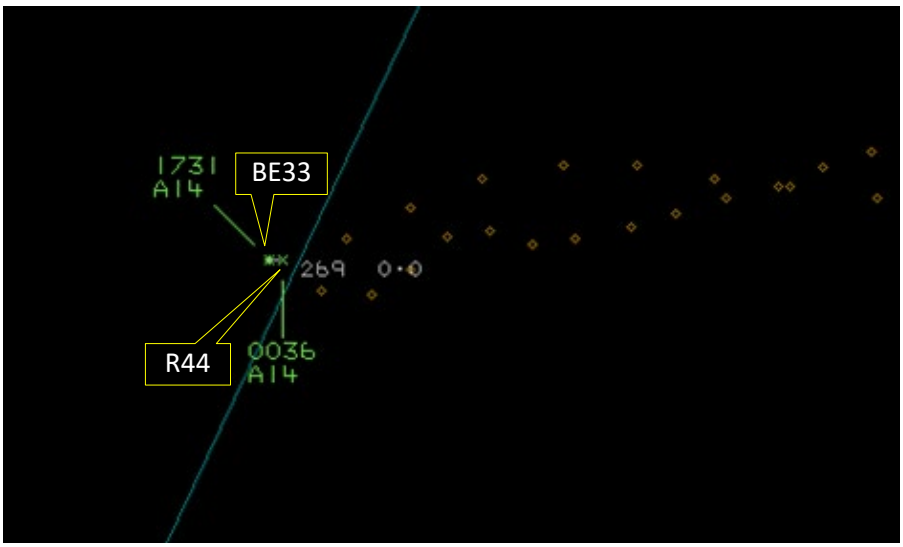


Figure 5 – CPA at 1250:32

The pilot of [the R44] reported to Biggin Hill Tower at 1250:40:

> "[*R44 C/S*]*, I'm up close and very personal with a PA28, routeing westbound, laterally across the southern ATZ boundary, same level as us*". Biggin Hill Tower responded "[*R44 C/S*]*, yeah I just saw him out the window but I couldn't get visual with yourself. That was the previously mentioned Farnborough traffic that was coming up behind*".

The following conversation between the pilot of [the R44] and Biggin Hill Tower occurred:

> R44 pilot: "*Thanks,* [*R44 C/S*]*, we had him on TCAS but, yeah, didn't think he would be that close*".
>
> Biggin Hill Tower: "*He's wearing a Farnborough squawk at the moment, erm, would you like to file an Airprox?*"
>
> R44 pilot: "*Err, he was right on the ATZ boundary so, yeah, probably should do really, all I got was a [partial aircraft registration] and a retractable undercarriage*".
>
> Biggin Hill Tower: "*Roger, if you give us a call, when you get on the ground, we can pass more details to you, I'll have a look around*".

Radar displayed that [the pilot of the BE33] then performed a left-hand turn onto a reciprocal track and reported to the LF-LARS controller at 1251:15 that they; "*decided to divert [to airfield], due to weather and low cloud, we tried but it didn't work out*".

Biggin Hill Tower telephoned the LF-LARS controller at 1251:55 and informed them of the [R44 pilot's] confliction report.

Investigation:

Information available to the investigation included: CA4114 from the Farnborough LARS controller, NATS4118 Initial Watch Management Investigation Report, Radar and R/T recordings, R/T transcript from Biggin Hill Tower, [de-identified] Airprox report from the pilot of [the BE33].

The LF-LARS controller was operating in a LARS North and East combined configuration in a 'light traffic' scenario. The pilot of [the BE33] contacted the LF-LARS frequency, didn't request a service type, but a Basic Service was stated and acknowledged by the pilot.

CAP774 UK Flight Information Services 2.1 stated:

> '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. Basic Service relies on the pilot avoiding other traffic, unaided by controllers/ FISOs. It is essential that a pilot receiving this ATS remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight.'

The Biggin Hill METAR for 1250 stated VRB02KT 9999 FEW030 07/05 Q1012, with the Airprox report from the pilot of [the BE33] stating that, although they were visual with [the R44], the aircraft was 'manoeuvring left and right and up, momentarily in the low clouds ...There was not much room to move with the Biggin Hill area on our right and very low clouds .. remained visual on [the R44], except for a short while he was in the clouds.' The pilot of [the BE33] subsequently diverted 'due to weather and low cloud'.

CAP774 2.3 stated:

> 'Pilots should be aware that Basic Service might not be appropriate for flight in IMC or where lookout is constrained by other factors, when other ATS are available.'

The LF-LARS controller was notified by Biggin Hill ATC shortly after the event that the pilot of [the R44] would be filing an Airprox. The pilot of [the BE33] did not report the confliction on the LF-LARS frequency.

Conclusion:

The pilot of [the BE33] was receiving a Basic Service from the LF-LARS controller, outside controlled airspace. The LF-LARS controller ensured the pilot had intended to remain outside the Biggin Hill ATZ and issued Traffic Information on rotary traffic, [the R44], that they were aware of operating to the south of the Biggin Hill ATZ. The pilot of [the BE33] reported visual with that traffic.

Coincident with that, the Biggin Hill controller provided Traffic Information to the pilot of [the R44] of two aircraft in their vicinity, inclusive of [the BE33].

The Airprox report from the pilot of [the BE33] stated they briefly lost visibility of [the R44] whilst in cloud, with the helicopter 'manoeuvring left and right and up, momentarily in the low clouds', they initiated a track to 'to avoid [the R44] but at the last moment he turned towards us'. This resulted in the subsequent confliction where the Closest Point of Approach was recorded on multi-track radar as 0.0NM and 0ft.

The potential confliction was recognised by both the Farnborough and Biggin Hill controllers, with Traffic Information passed to both pilots. In response, the pilot of [the BE33] positioned their aircraft on a track to avoid the [R44], however, the intense manoeuvring of [the R44], in intermittent low visibility, resulted in a subsequent confliction occurring.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. The pilot of the R44 kindly supplied GPS track data for their flight. The diagram was constructed and the separation at CPA determined by combining the data sources.

The R44 and BE33 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] If the incident geometry is considered as overtaking then the R44 pilot had the right-of-way and the BE33 pilot, whether climbing, descending or in horizontal flight, shall keep out of the way of the R44 by altering heading to the right, and no subsequent change in the relative positions of the two aircraft shall absolve the BE33 pilot from this obligation until they are entirely past and clear.[2]

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(3) Overtaking.

Summary

An Airprox was reported when an R44 and a BE33 flew into proximity 3NM south-southwest of Biggin Hill at 1251Z on Monday 18th November 2024. The R44 pilot was operating under VFR in VMC in receipt of a Basic Service from Biggin Hill Approach and the BE33 pilot was operating under VFR in VMC in receipt of a Basic Service from Farnborough LARS East.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS track data from the R44, reports from the air traffic controllers involved and a report from the appropriate operating authority. 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 first considered the actions of the pilot of the R44, and members noted that they had been engaged on a task that had required flight at low-level, changes in speed and occasional orbits of ground features. Members noted that the pilot of the R44 had been in receipt of a Basic Service from Biggin Hill and, as such, would not have expected to have received any Traffic Information. Nevertheless, the Biggin Hill controller had passed Traffic Information on a HeliMed helicopter and the BE33 described as "*traffic working Farnborough Radar indicating one thousand three hundred feet routeing westbound*" that was "*coming up behind*". Members noted that, after an opportunity had arisen to have performed a panoramic lookout, the BE33 had not been sighted but the EC device fitted to the R44 had subsequently provided an alert to its presence (**CF3**). Members noted that the BE33 was ultimately sighted moments before CPA, having overtaken the R44 on a converging track. Members noted the urgency of the avoiding action taken by the pilot of the R44 and agreed that the BE33 had been sighted late (**CF4**).

Members turned their attention to the actions of the Biggin Hill controller and noted that they had not been required to have monitored the flight of the R44 under the terms of a Basic Service. However, members commended the actions of the controller and the passage of Traffic Information that had assisted the R44 pilot. Members also considered the actions of the Farnborough LARS East controller and, similarly, commended the passage of Traffic Information which had been in excess of the requirements of a Basic Service and had assisted the BE33 pilot. Members indicated that there had been little else that the Biggin Hill and Farnborough LARS East controllers could have done to have assisted matters and turned their attention to the actions of the pilot of the BE33.

Members agreed that the pilot of the BE33 would not have expected to have received any Traffic Information under a Basic Service and were keen to emphasise that, for both pilots involved in this Airprox, the responsibility for the avoidance of other traffic had lain with the pilots, unaided by the respective controllers. Nevertheless, members noted that the pilot of the BE33 had been provided Traffic Information that had pertained to the R44 and that they had been cautioned to "*keep a very good lookout*". Members noted that the BE33 had not been fitted with additional EC equipment and suggested that such a device may have aided the pilot's overall awareness of the traffic situation. Notwithstanding, members noted that the pilot of the BE33 had visually acquired the R44 at distance and had commented that there had been "*a short period when it was in the clouds*". Noting the nature of the task performed by the pilot of the R44, and the permitted conditions for VFR flight, members surmised that the R44 had, in all likelihood, not been within the cloud but rather that some cloud had been present between the aircraft. Members noted that the pilot of the BE33 had commented that "*There was not much room to move with the Biggin Hill area on their right and very low clouds*" and pondered their subsequent course of action. Members noted that the pilot of the BE33 had elected to overtake the R44 at, essentially, the narrowest point between the Biggin Hill ATZ and the Gatwick CTR and had passed in close proximity to the R44. Whilst it was appreciated that the pilot of the R44 had inadvertently turned towards the overtaking BE33 in the moments leading up to CPA, members wished to emphasise that this had not been a case of 'on the right, in the right'. It was agreed that the overtaking manoeuvre had not been conducted correctly (**CF1**) and members recalled the requirements of (UK) SERA.3210, whereby the pilot of the BE33 had not kept out of the way of the R44 and that the

subsequent change in the relative positions of the two aircraft had not absolved the BE33 pilot of that responsibility until they had been entirely past and clear. Consequently, members agreed that the pilot of the BE33 had flown into conflict with the R44 (**CF5**).

Members noted that the pilot of the BE33 had flown very close to the edge of the Biggin Hill ATZ and agreed that, if they had been concerned that they had been 'funnelled' through a narrow gap between the Biggin Hill ATZ and the Gatwick CTR, it may have been far safer to have contacted the Biggin Hill controller and to have requested entry into the Biggin Hill ATZ in order to have provided greater horizontal separation from the R44. Some members suggested that an alternative plan may have been to have reduced their airspeed (which may have required the selection of the first stage of flaps) and to have waited for a more suitable moment to have conducted the overtaking manoeuvre. In consideration of the course of action taken by the pilot of the BE33 and the conditions that they had encountered, members agreed that they had not made a sufficiently detailed plan to have met the needs of the situation (**CF2**).

Concluding their discussion, members agreed that both pilots had had situational awareness of the presence of the other aircraft. Members also agreed that the pilot of the BE33 had visually acquired the R44 at distance. However, members concluded that the overtaking manoeuvre conducted by the pilot of the BE33 had not been executed correctly and that safety margins had been reduced much below the norm. Members noted that the pilot of the R44 had sighted the BE33 at the last minute, and had taken avoiding action, but agreed that the separation between the aircraft had been such that a risk of collision had existed (**CF6**). The Board assigned Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024281			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
2	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
	• Electronic Warning System Operation and Compliance			
3	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
4	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
5	Contextual	• Loss of Separation	An event involving a loss of separation between aircraft	Pilot flew into conflict
	• Outcome Events			
6	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B.

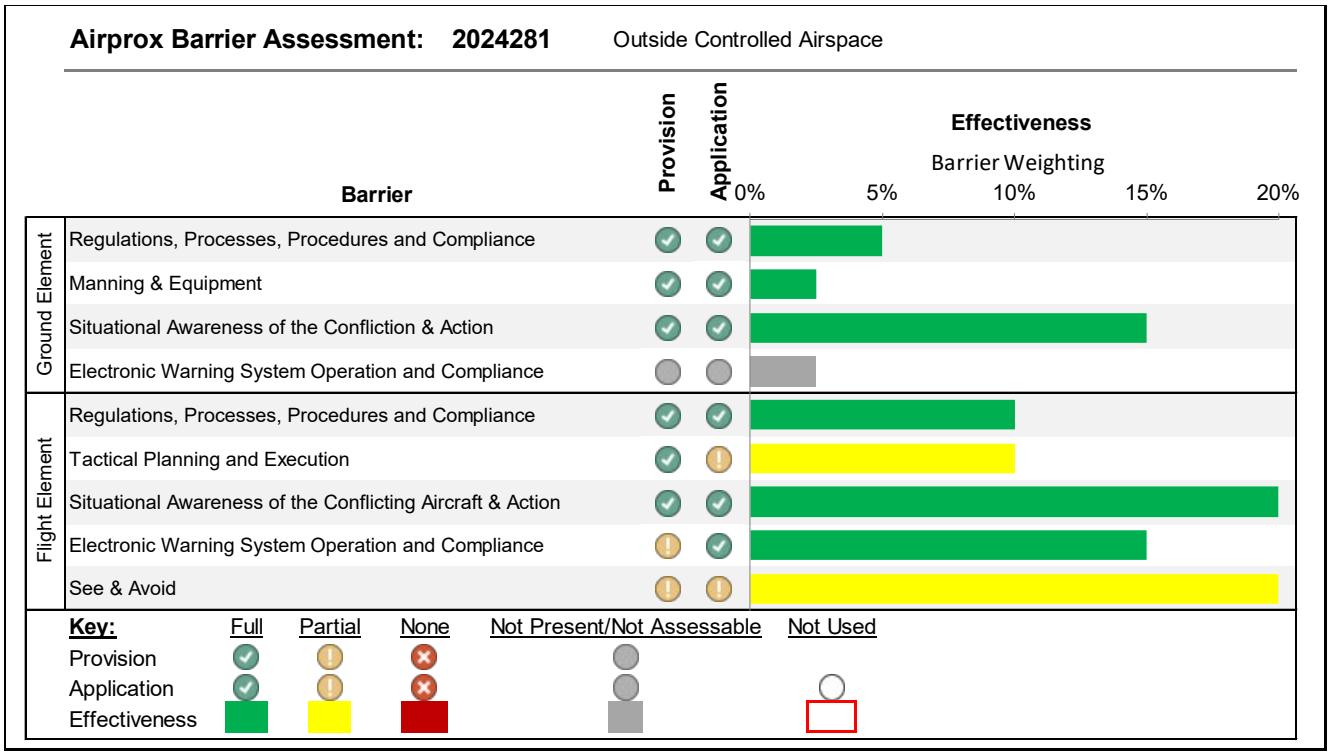
Safety Barrier Assessment[3]

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

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the pilot of the BE33 had sighted the R44 at distance but had not adapted their dynamic plan sufficiently to have executed the overtake manoeuvre correctly.

See and Avoid were assessed as **partially effective** because the pilot of the BE33 had not allowed sufficient distance from the R44 during the overtaking manoeuvre to assure safe separation.



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