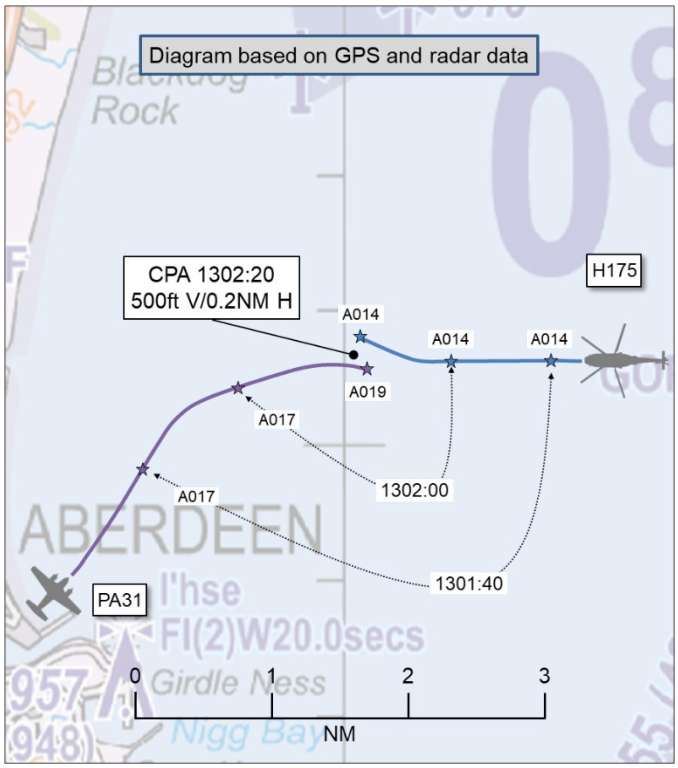
AIRPROX REPORT No 2024282

Date: 06 Nov 2024 Time: 1302Z Position: 5711N 00200W Location: 3NM E Bridge of Don

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	H175	PA31
Operator	Civ Comm	Civ Comm
Airspace	Aberdeen CTR	Aberdeen CTR
Class	D	D
Rules	VFR	VFR
Service	ACS	Radar Control
Provider	Aberdeen Tower	Aberdeen Radar
Altitude/FL	1400ft	1900ft
Transponder	A, C, S+	A, C, S
Reported		
Colours	Red, white, blue	White, orange
Lighting	Anti-col, position, landing	Strobes, beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1500ft	1500ft
Altimeter	QNH	QFE
Heading	270°	NK
Speed	130kt	160kt
ACAS/TAS	TCAS II	TAS
Alert	RA	None
Separation at CPA		
Reported	0ft V/<1NM H	0ft V/0.5NM H
Recorded	500ft V/0.2NM H	



THE H175 PILOT reports that they were cleared into the zone, VFR not above 1500ft, GORSE to Bridge of Don. They entered the zone at 1500ft. Just south of the windfarm, they were told to turn north to avoid another aircraft. The crew complied and, while turning north, they had a brief discussion about the windfarm MSA of 1700ft. They were then instructed by ATC to take an "*immediate right turn*" for "*avoiding action*". The crew complied but, while turning right, the TCAS RA gave avoiding action and a rate of descent of approximately 1700-1900ft/min [was initiated]. The H175 pilot (in the left-hand seat) saw the belly of the fixed-wing while it was turning right at an estimated distance of less than 1NM. As soon as it was clear that the aircraft were not going to collide, they called the TCAS RA to ATC. After that, they received a 'Clear of conflict'. The rest of the flight was completed without further incident. The Chief Pilot was informed and a conversation with ATC was held.

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

THE PA31 PILOT reports that an Airprox was reported after ILS calibration of Aberdeen RW16. The pilot of the PA31 was positioning for a profile operating under VFR when Traffic Information relating to two helicopters (also operating under VFR) was passed by ATC. The crew reported visual contact. Visual contact with the [PA31] was also reported by the pilots of the two helicopters. The [pilot of the PA31] gave way to one of the helicopters and passed behind it. A short while afterwards, one of the helicopter pilots reported they had been subject to a TCAS event, presumably an RA. It is unknown what avoiding action, if any, was taken by the helicopter crew. The [PA31] crew were confident that no conflict had existed given that there had been good visual contact of both aircraft by each crew, therefore, an Airprox was not reported by [the PA31] crew.

The pilot assessed the risk of collision as 'None'.

THE ABERDEEN TOWER CONTROLLER reports that they were in position as the AIR controller with RW34 in use. The ILS calibration aircraft, [the PA31], was operating in the zone conducting a check of the RW34 ILS on the radar frequency as their operations were taking them in-and-out of controlled airspace. There was also a stream of helicopters inbound, VFR, through GORSE which were checked-in electronically by the HELS controller and accepted. The [pilot of the PA31] was conducting an 'arc' procedure approximately 6NM south of the airfield, flying west-to-east. The [Aberdeen Tower controller] was monitoring this on the ATM as ILS protection was required for part of the procedure and they had departures waiting to get onto the runway. They were also planning their traffic as it was due to get quite busy and had advised HELS that they may need to slow, or hold, helicopters outside the CTR. They were also assessing the wind as this had been light and variable, but a tailwind of 7 to 8kt was starting to show for RW34, however, RW34 worked better operationally due to the flight calibration operations.

They would assess that their workload had been 'medium' due to traffic on frequency and forward planning for the complex traffic situation due imminently. [The pilot of the H175] called them at GORSE and they believe they advised them to route to the Bridge of Don. They then telephoned the INT controller and asked what the [pilot of the PA31] would be doing and was advised they would be turning south shortly. They did not anticipate or expect their track to cross with that of [the H175] but passed Traffic Information to [the pilot of the H175] on [the PA31] and advised they could make a turn to the north if they wished. [The pilot of the H175] reported visual with [the PA31] and that they were turning north. They did not observe a turn to the north from [the H175] after a few sweeps on the ATM and [the PA31] did not turn south as expected, so they then gave avoiding action to [the pilot of the H175] when [the PA31] was approximately in their 12 o'clock at under 1NM and 200ft above. [The pilot of the H175] took the avoiding action turn, then reported a TCAS RA about 2sec later. They acknowledged this, then waited for them to report 'Clear of conflict' before routeing them to the radar head. [The pilot of the PA31] turned south just as [the pilot of the H175] reported the TCAS RA and was turning north. Thereafter, they continued controlling until they were able to be released from the AIR position.

[The Aberdeen Tower controller opined that] neither pilot had been on their frequency until approximately 3-4NM apart so they had limited time to react to the fast developing situation.

THE ABERDEEN APPROACH RADAR CONTROLLER did not submit a report.

Factual Background

The weather at Aberdeen was recorded as follows:

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METAR COR EGPD 061250Z VRB02KT CAVOK 13/10 Q1026
METAR COR EGPD 061320Z AUTO 16005KT 9999 NCD 15/11 Q1026 NOSIG
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Analysis and Investigation

NATS Unit Investigation

Summary:

The H175 was inbound to Aberdeen airport from the east under VFR at 1500ft. The PA31 pilot was conducting a flight check of the Aberdeen Airport ILS, also operating under VFR and maintaining 1700ft. Having completed an arc manoeuvre from west-to-east, the pilot of the PA31 was in the process of repositioning for a further approach but the track of their aircraft brought it towards the H175. Traffic Information was passed to the pilots of both aircraft and an avoidance manoeuvre given by the Tower controller to the pilot of the H175, with the crew receiving a TCAS RA during the turn.

Description of the event:

RW34 was in use with a flight calibration task being undertaken on the RW34 ILS by the pilot of the PA31. The pilot was in receipt of a Radar Control Service from the Aberdeen Approach Radar controller (INT) with the crew operating on a VFR clearance. The PA31 had been held at a point

approximately 5NM south-west of Aberdeen Airport in preparation for a 'Profile 4' part orbit run. This element of the flight check was to be conducted at 1500ft QFE (approximately 1700ft QNH) and required the aircraft to fly an arc, maintaining 6NM range from the localiser antenna. The requirement for full localiser protection to be in place (i.e. no other traffic between the antenna and the calibration aircraft when it is 10° either side of the runway centreline) necessitated the short delay due to the presence of other traffic. Tower, INT and Aberdeen Offshore (HELS) sectors were all experiencing medium levels of traffic, in addition to the presence of non-standard flights such as the PA31 and a pipeline-patrol helicopter that had been soon to depart from Aberdeen on a task to the north. Several instructions were issued to a number of aircraft pilots (in addition to those involved in this incident) by these controllers and coordination was conducted with other internal and external sectors. For ease of reading and interpretation, details of some of these transmissions and telephone calls that were not directly relevant to the event are not included in the transcript. Specifically, INT was vectoring [3 callsigns] for ILS approaches in anticipation of the PA31 having completed the 6NM arc procedure. In addition to the outbound pipeline-patrol helicopter and some vehicle movements, ADC was expecting three inbound helicopters following VFR routeings via GORSE-Bridge of Don in quick succession, all operating not above 1500ft. [Uninvolved C/S] was the first such helicopter, followed by the H175 approximately 5NM in trail and [another uninvolved C/S] a further 6NM behind the H175.

Timeline:

1258:00 Tower controller (ADC) to INT: "*Good to go with the* [ILS calibration]."

1258.15 INT: "[PA31 C/S] *That's the ILS protected, cleared for your next run.*"

PA31: "*Roger. Commencing profile number four [PA31 C/S].*"

The crew completed the left hand orbit that they were conducting and rolled-out on an easterly track. The PA31 established profile number four, routeing west-to-east along the 6NM arc from the localiser antenna with Mode C indicating 1700ft.

1259:55 INT commenced a handover to an incoming controller.

1301:05 The PA31 had passed through the extended centreline and was overhead Aberdeen harbour, tracking approximately 050°. At that time, the H175 was on a bearing of approximately 070° from the PA31 at a range of 5.8NM and 200ft below.

ADC to INT: "*Is the [PA31] turning right from there?*"

INT: "*Hopefully, yeah.*"

INT: "*[PA31 C/S] once you are complete, turn right remaining offshore, there are various helicopters inbound to Aberdeen at 1500ft just to the north and east of you.*"

PA31 – "*Roger, traffic copied, and er…right turn on completion [PA31 C/S].*"

Figure 1 - 1301:25

1301:20 ADC: "*[Uninvolved C/S] route to right base 32*, *[flight calibration aircraft] south of you by 3 miles 1700ft VFR, should be turning south shortly*."

[Uninvolved C/S]: "*Route right base 32 [Uninvolved C/S].*"

1301:25 The PA31 crossed the line that was 35° from the runway centreline at which point the arc manoeuvre was complete.

1301:30 H175: "*Aberdeen Tower good afternoon, [H175 C/S] with you 1500ft for [company parking spot].*"

ADC: "*[H175 C/S] Aberdeen Tower, good afternoon. Traffic Information, there's a PA31 in your 11, just becoming 12 o' clock at 1700ft VFR. They should have been turning southbound, I'll just advise, if you want to make a right turn † to the north.*"

† At that point in ADC's previous transmission, INT initiated a phone call to ADC.

H175: "*Roger, we are visual with that traffic, making a turn to the right, [H175 C/S].*"

1301:43 The PA31 was tracking 035° with the H175 bearing 080° at range 3NM from the PA31, Mode C still indicated 200ft vertical distance was present.

INT: "*[PA31 C/S] Traffic Information, the first helicopter is now one and a half miles east of you, same level.*"

PA31: "*Roger. Not sighted, [PA31 C/S].*"

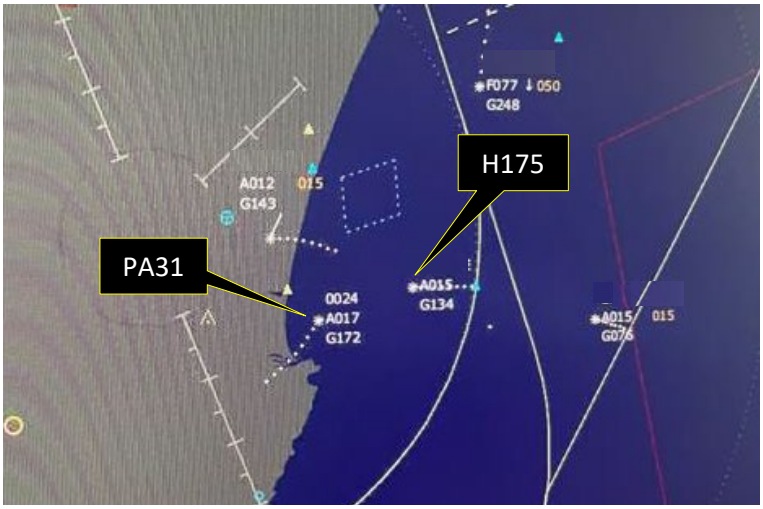


Figure 2 - 1301:43

1301:50 ADC answered the call from INT.

INT: "*[PA31 C/S] roger, continue present heading to the NE.*"

PA31: "*Continue present heading [PA31 C/S].*"

1301:53 The track of the PA31 indicated a right turn had commenced.

INT: "*Ah, disregard, [PA31 C/S] resume own navigation. It's now east of you by half a mile, 1500ft.*"

PA31: "*Yeah, we're visual with that traffic. We'll manoeuvre above to avoid, [PA31 C/S].*"

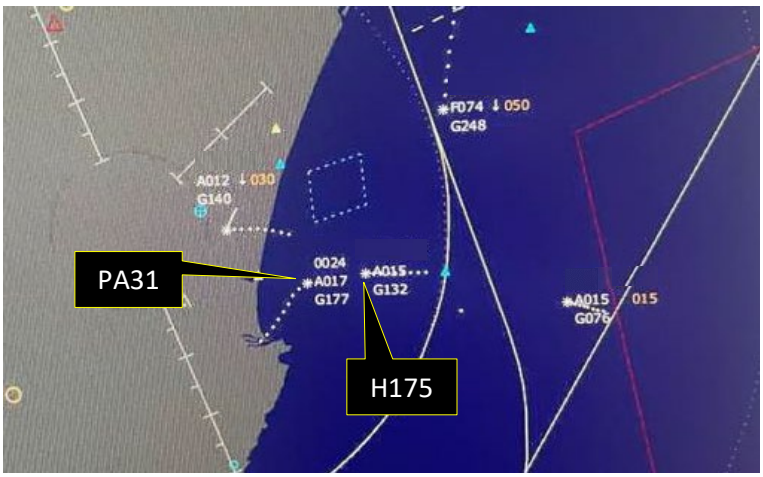


Figure 3 - 1301:53

1302:00 The PA31 was in a right turn at 1700ft, turning through approximately 090° with the H175 1.3NM east of the PA31 at 1500ft.

INT to ADC: "*Not sighted.*"

ADC: "*[H175 C/S] avoiding action turn right immediately heading 360°.*"

H175: "*Turn right immediately [H175 C/S].*"

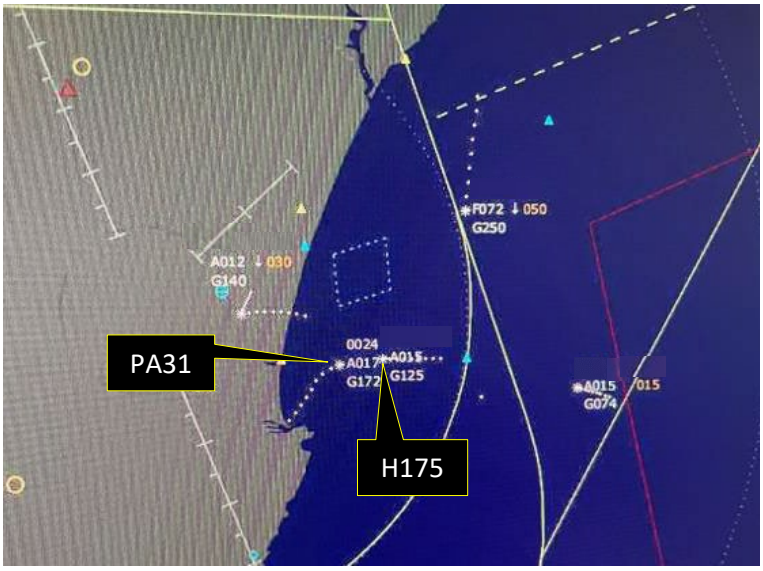


Figure 4 - 1302:00

H175: "*TCAS RA.*"

ADC: "*[H175 C/S], Roger.*"

The two aircraft were 0.6NM apart with the PA31 still in a right turn with Mode C indicating 1800ft.

The H175 had commenced a right turn with Mode C indicating 1400ft.

Figure 5 - 1302:04

1302:15 PA31: "*[PA31 C/S] request climb to 3200ft for this run.*"

INT: "*[PA31 C/S], roger, climb initially to 3000ft.*"

1302:21 Closest Point of Approach (CPA) occurred (0.2NM H/400ft V).

Figure 6 - 1302:21

1302:25 H175: "*[H175 C/S] clear of conflict.*"

ADC: "*[H175 C/S] roger. Sorry, that is not what that aircraft was planned to be doing, I don't think. Continue to the radar head, orbit at the radar head.*"

H175: "*Cleared to the radar head, and orbit at the radar head, [H175 C/S], thank you.*"

The two aircraft continued on diverging tracks.

At the time of the event, the report was filed as a TCAS RA as no mention had been made of an Airprox by the pilots or controllers involved. Approximately three weeks later, the unit was notified by UKAB that an Airprox had been filed.[1]

Flight calibration task: The ILS flight calibration task is conducted on a 180-day cycle basis. At Aberdeen, NATS normally insists on this work being carried out on a weekend day as traffic levels are around 30-40% of normal weekday traffic. This is to manage ATCO workload and reduce the

[1] The pilot of the H175 had initially submitted an MOR on the incident and, 12 days later, submitted an Airprox report.

potential for conflictions between the flight calibration aircraft and helicopters operating in support of North Sea oil and gas industry, many of which return to Aberdeen under VFR.

Requests had been made in a reasonable timescale for weekend availability with the calibration aircraft operator, however, on this occasion, it had not been possible for the flight calibration aircraft's availability to be secured at a weekend prior to the ILS system's currency expiring (20th November with a seven day tolerance available). As a result, an agreement was reached that the task could be conducted on a weekday on this occasion to reduce the potential for the ILS having to be removed from service.

Separation requirements: The H175 and PA31 pilots were operating under VFR clearances within the Aberdeen Class D CTR. CAP493 Section1, Chapter 2, Paragraph 2.1, Table 1 states the minimum service that will be provided by ATC as being to:

> Pass traffic information to VFR flights on all other flights and provide traffic avoidance advice when requested.

Paragraph 2.2 of this Chapter states:

> Notwithstanding the minimum service requirements associated with each airspace classification, the primary objective of air traffic services is to prevent collisions between aircraft (SERA.7001(a)). In support of this objective, on any occasion a controller considers it necessary in the interests of safety, traffic information and, where appropriate traffic avoidance advice, shall be provided.

The minimum service, i.e. requirement for Traffic Information to be provided, was discharged by ADC and INT. ADC subsequently provided an avoiding action turn to the pilot of the H175, whilst INT provided instructions aimed at preventing a collision, however this was amended as the situation developed.

Controller feedback:

In a discussion with the Tower controller (ADC), the following points were noted:

- Immediately prior to the event the controller considered their workload to be 'Medium'. They explained that they didn't have a significant number of aircraft on their frequency at the time, but quite a lot of planning was required to integrate the PA31 with other traffic. This became their primary focus and accounted for the workload level assessment.

- The Approach Radar controller was providing the service to the pilot of the PA31. All the previous runs that had been conducted had been further away from the airfield, so this hadn't presented ADC with any issues.

- Even without the presence of the PA31, ADC was conscious that they had needed to stream the inbound pack of helicopters.

- At the point at which the crew of the H175 made their initial call to ADC when at GORSE and were not aware of the presence of the PA31, ADC assessed their workload immediately became high.

- ADC passed Traffic Information to the pilot of the H175 on the PA31 at that point and gave the crew the option to turn to the north. The controller recalled that the pilot stated they were visual and would turn north.

- At the point the pilot of the H175 reported visually acquiring the PA31, and the pilot taking the option to turn north, ADC didn't detect a perceptible change in the aircraft's track and elected to issue an avoiding action turn when the aircraft were approximately 1NM/200ft apart. ADC was conscious that the confliction was VFR/VFR, but felt the avoiding action turn was the safest course of action.

- The pilot of the PA31 didn't turn to the south at the point at which ADC had expected.

- ADC recalled phoning INT and asking if the PA31 was turning, INT responded that they should be. ADC said they could tell INT was busy and, while on that telephone call, issued an avoiding action turn to the pilot of the H175 as they were unable to get information from INT quickly enough. The pilot took the avoiding action instruction and then reported a TCAS RA.

- Once the pilot reported 'clear of conflict', they were given a routeing back to the Perwinnes radar (2NM east of Aberdeen Airport).

- At that point, ADC became aware they needed to go into 'recovery mode' and carefully managed their traffic for 20-25min until their break.

- ADC explained that, when conducting flight calibration tasks, the calibration aircraft tended to stay with INT. Had it been on ADC's frequency the controller may have been more aware.

- ADC opined the tracks of the two aircraft would not have been expected to cross. Traffic Information was necessary but, based on the controller's expectation, no further action than that.

- ADC created two lines on the Aerodrome Traffic Monitor to indicate to them the period throughout which localiser sterilisation was required. They did not add the 35° lines, but were aware of them.

- Traffic levels, and the complexity of the traffic situation, reduced the time available to ADC to plan ahead for this confliction. The fact that the two aircraft were on different frequencies placed a degree of urgency when it came to resolving the confliction.

In a discussion with the Approach Radar controller (INT), the following points were noted:

- At the time of the event, INT assessed their workload as being 4-5 out of 10 although traffic was relatively busy.

- INT believed that the pilot of the PA31 would commence a right turn to the south shortly after crossing the coastline, but that it might come close to the inbound helicopters, so gave the pilot generic Traffic Information, which was the best they could do as the PA31 was turning in the arc.

- INT recalled speaking to ADC (or the HELS controller) about the point at which the pilot of the PA31 would turn south.

- Monitoring the situation, INT thought the initial plan for the PA31 to turn south would no longer be the safest course of action, so amended this to continue to track to the northeast (their current track).

- The pilot of the PA31 flew further north and east than INT had expected, with the controller continuing to monitor the aircraft positions and react as considered necessary.

- INT commented that although the traffic situation didn't become "ridiculously busy", they did feel that it was too busy to be conducting an ILS calibration flight.

Pilot feedback:

The pilot of the PA31 discussed the event with the Watch Manager and reported that they visually acquired the H175 and avoided the traffic. The crew of H175 reported their situational awareness was compromised as the PA31 was not on the same frequency as they were, but they did sight the PA31 once they had been given specific Traffic Information by ADC.

ILS flight calibration tasks are normally conducted at Aberdeen at weekends when traffic levels are quieter. However, on this occasion, efforts to secure the weekend availability of the calibrator aircraft

were unsuccessful, despite timely requests. As a result, it was agreed that the calibration could be conducted on a weekday but this introduced a higher level of complexity into the traffic situation than normal.

Normal practice at Aberdeen is for the calibration aircraft to receive a service from INT as this allows more effective integration with IFR arrivals. Few issues had been experienced in the past with this approach. On this occasion, the different frequencies used for the PA31 and H175 pilots did present additional complication into the situation through the reduced situational awareness experienced by both controllers of the intentions and plan for the PA31 and for the crew of the H175. This aspect also reduced the effectiveness of the resolution action offered by INT to the pilot of the PA31.

The perception of both controllers was that the pilot of the PA31 would turn to the south sufficiently early that the two aircraft would not become proximate to each other. As the situation developed, and the pilot of the PA31 did not commence the right turn as expected, ADC detected the potential for a confliction and first provided Traffic Information which allowed the crew of the H175 to visually acquire the PA31. This was followed by an avoiding action turn when the initial suggestion to turn north hadn't appeared to be effective. INT also passed Traffic Information to the pilot of the PA31 who also reported sighting the other traffic.

The pilots of both aircraft turned away from each other, with the crew of the H175 reporting the receipt of a TCAS RA. Separation between the two aircraft reduced to 0.2NM H/500ft V at CPA.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data (Figure 7).

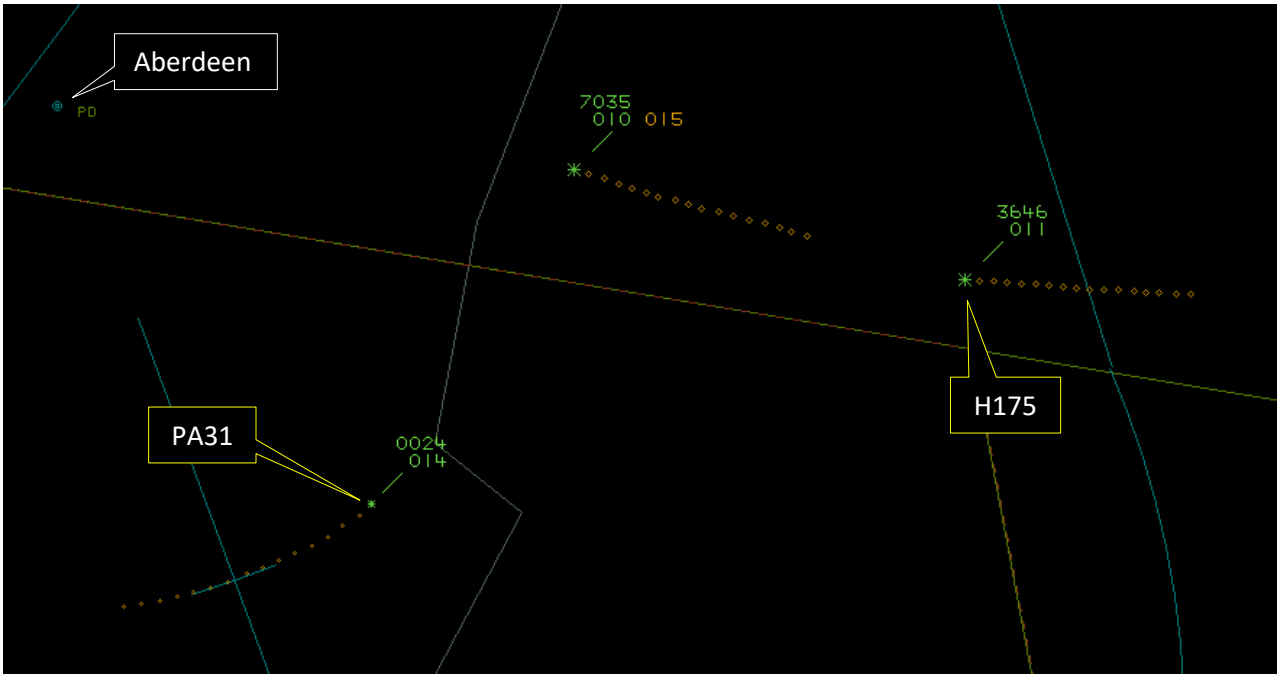


Figure 7

The aircraft were depicted on the radar replay as having been flown at Flight Levels. A suitable correction was applied to determine their altitudes. The pilot of the PA31 kindly supplied GPS track data for their flight. The diagram was constructed and the separation determined by combining the data sources.

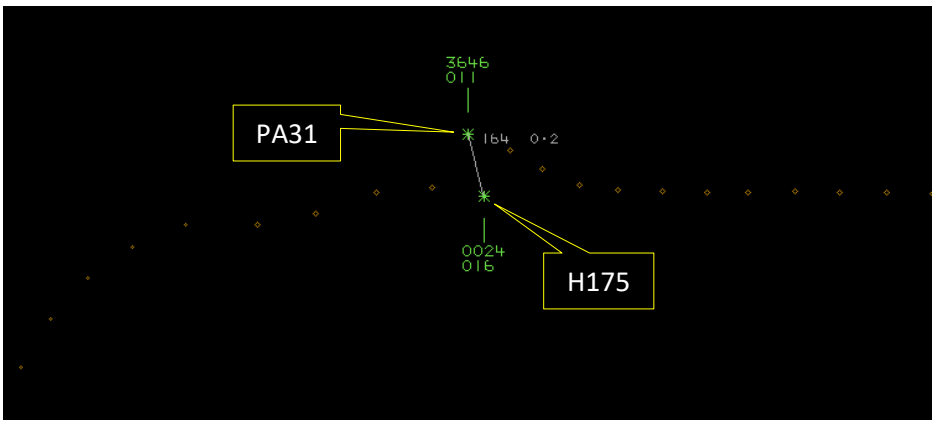


Figure 8 – CPA at 1302:20

The H175 and PA31 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]

Summary

An Airprox was reported when an H175 and a PA31 flew into proximity 3NM east of Bridge of Don at 1302Z on Wednesday 6th November 2024. The H175 pilot was operating under VFR in VMC in receipt of an ACS from Aberdeen Tower and the PA31 pilot was operating under VFR in VMC in receipt of a Radar Control Service from Aberdeen Approach Radar.

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 PA31, a report from the Aberdeen Tower controller 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 H175 and members noted that, upon initial contact with the Aberdeen Tower controller (Tower controller), they had been passed Traffic Information on the PA31. The Tower controller had also suggested that they could "*make a right turn to the north*". Members noted that the pilot of the H175 had visually acquired the PA31 and had started to turn to the north, however, the Tower controller had not perceived the turn from their radar display (and believed that the pilot of the PA31 had not sighted the H175) and subsequently issued an instruction for an immediate turn. Members appreciated that to have received an instruction for avoiding action may have been startling and that the proximity of the PA31 had caused them concern (**CF7**). Members agreed that the TCAS fitted to the H175 had subsequently provided a Resolution Advisory (**CF4**) and the pilot of the H175 had reacted accordingly.

Members next turned their attention to the actions of the Aberdeen Approach Radar controller (Approach controller) and noted that they were aware that the 'arc profile' would have been completed when the PA31 had flown to 35° from the runway centreline. Members noted that it had therefore been assumed by the Approach controller that the pilot of the PA31 would have repositioned immediately from that point in preparation for the next profile. Members noted that the Approach controller (perhaps prompted by the Tower controller having asked "*Is the [PA31] turning right from there?*") had instructed the pilot of the PA31 that "*once you are complete, turn right remaining offshore*". Approximately 30sec later, the Radar controller had passed Traffic Information on the H175 to the pilot of the PA31 to which they had replied "*Not sighted*". Members noted that the next instruction passed to the pilot of the PA31 had been to "*continue your present heading to the north-east*". However, members noted that the track

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

of the PA31, as depicted on the radar display, had indicated that the PA31 pilot had already started to turn right. Consequently, the Approach controller had instructed them to disregard the last instruction and to "*resume own navigation*". Updated Traffic Information on the H175 had also been passed.

Members were in agreement that the Radar controller had expected the PA31 pilot to have turned sooner and that that assumption had delayed the coordination with, and the subsequent actions taken by, the Tower controller. Members acknowledged that the Radar controller had passed Traffic Information but agreed that, overall, the Radar controller had provided inadequate conflict resolution (**CF2**) borne from an assumption of the PA31 pilot's intentions (**CF3**). Members suggested that a positive clearance, such as "*no further north than..*" may have ensured that the PA31 would not have become a factor for the inbound helicopter traffic.

Members next focussed on the actions of the Tower controller and noted that they had asked the Approach controller about the intentions of the PA31 pilot and whether their turn to the south had been expected imminently. Members noted that the Radar controller had responded with the word "*Hopefully*". The Aberdeen Tower controller had passed Traffic Information on the PA31 to the pilot of the H175 and explained that "*They should have been turning southbound, I'll just advise, if you want to make a right turn to the north*". Members felt that the transmission had been somewhat ambiguous in that it had not been a positive instruction to the H175 pilot nor a clear request for their intentions. Members surmised that that had been indicative of the uncertainty with which the Aberdeen Tower controller had been aware of the intentions of the PA31 pilot. Nevertheless, members noted that the pilot of the H175 had commenced a turn to the right and had reported that they had sighted the PA31. It had been approximately 30sec later that the Tower controller had passed an instruction to the pilot of the H175 for an immediate right turn as avoiding action. Members noted that the pilot of the H175 had declared a TCAS RA almost immediately thereafter. In consideration of the timing of the resolution of the conflict (the instruction to take avoiding action), members were in agreement that the transmission had been late (**CF1**) and that a positive instruction earlier in the evolution of the Airprox may have ensured greater separation between the aircraft.

Members next considered the actions of the pilot of the PA31 and appreciated that the task in which they had been engaged had consisted of flying a particular profile followed by a period of repositioning in preparation for the next profile. The 'arc profile' had been completed when the PA31 had been at 35° to the runway centreline, however, it was not clear to members whether the pilot of the PA31 had pre-briefed the controllers on the point at which they would reposition for the next profile after the 'arc profile' had been completed.

Members agreed that the EC equipment fitted to the PA31 would have been expected to have detected the presence of the H175 but no alert had been reported (**CF5**). Nevertheless, members noted that the pilot of the PA31 had been passed Traffic Information on the H175 that had been to the east of their position and, having completed the 'arc profile', had elected to turn right towards it. Members pondered the timing of the instructions provided by the Approach controller. Given that the pilot of the PA31 had been instructed to have resumed their own navigation at that point, and the pilot of the PA31 had declared that they had been in visual contact with the H175 and would "*manoeuvre above to avoid*", members were in agreement that they had flown close enough to the H175 to have caused its pilot concern (**CF6**).

The discussion concluded and members acknowledged that, whilst the calibration of the ILS had been necessary, it may have seemed somewhat inconvenient and had certainly increased the workload for the controllers during a busy part of the weekly flying schedule. It was appreciated that the controllers may have been reluctant to have interrupted the profiles flown by the pilot of the PA31 which would likely have meant that the profiles would have to have been repeated. However, members were in agreement that the passage of positive instructions during the unfolding of the encounter may have removed the element of doubt that both controllers had held regarding the point at which the PA31 pilot would turn to the south after the 'arc profile' had been completed. In consideration of risk, members noted that both pilots had reported that they had sighted the other aircraft in time to have taken avoiding action. Members agreed that, although safety margins had been reduced, sufficient safety barriers had remained in place and concluded that the risk of collision which had been present had been averted. The Board assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024282			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Human Factors	• Conflict Resolution - Provided Late	An event involving the late provision of conflict resolution	
2	Human Factors	• Conflict Resolution- Inadequate	An event involving the inadequate provision of conflict resolution	
3	Human Factors	• Expectation/ Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	
	Flight Elements			
	• Electronic Warning System Operation and Compliance			
4	Contextual	• ACAS/TCAS RA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system resolution advisory warning triggered	
5	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
	• See and Avoid			
6	Human Factors	• Incorrect Action Selection	Events involving flight crew performing or choosing the wrong course of action	Pilot flew close enough to cause concern
7	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: C.

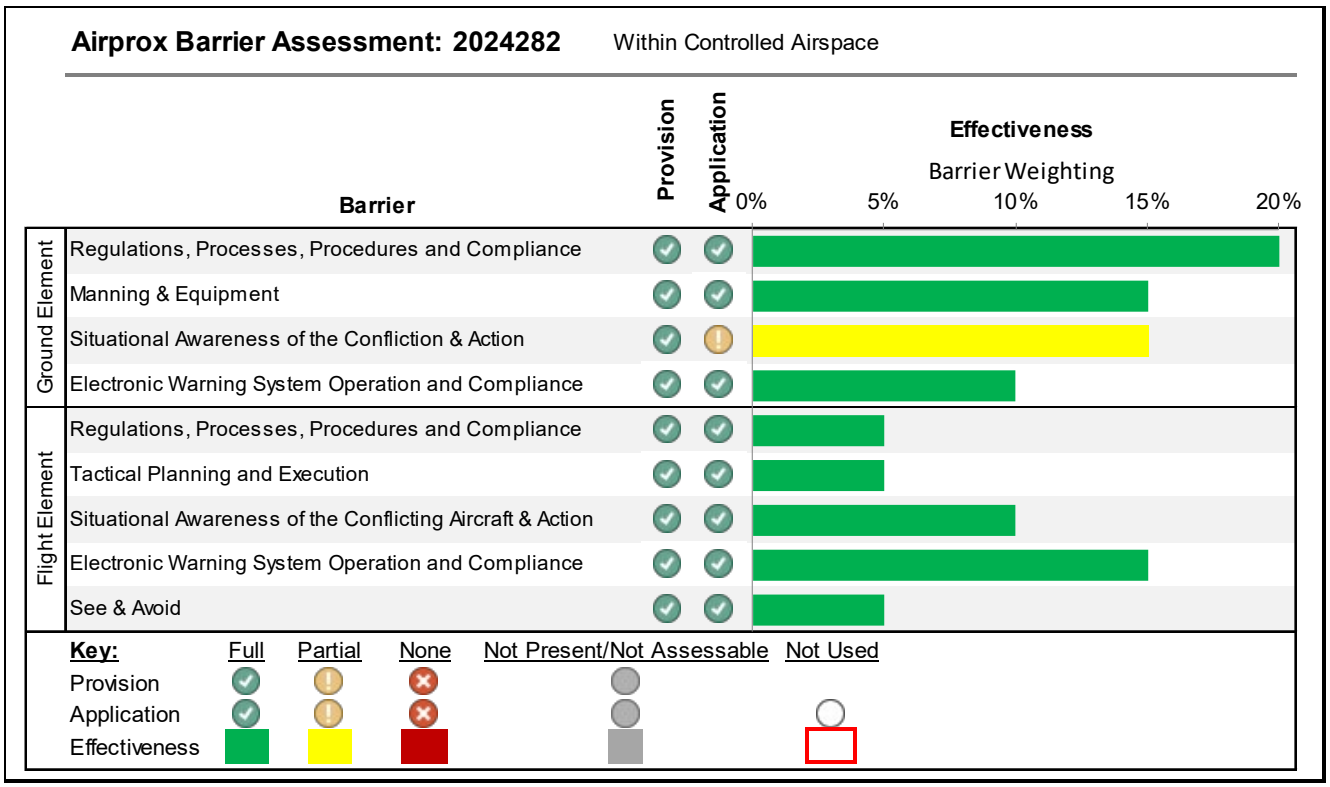
Safety Barrier Assessment[4]

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **partially effective** because the provision of conflict resolution had been impacted by the assumption made by the Aberdeen Tower and Aberdeen Approach Radar controllers about the point at which the pilot of the PA31 would turn southwards.

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


Airprox Barrier Assessment: 2024282
Within Controlled Airspace
Barrier
Provision
Application
Effectiveness
Barrier Weighting
0%
5%
10%
15%
20%
Ground Element
Regulations, Processes, Procedures and Compliance
Manning & Equipment
Situational Awareness of the Confliction & Action
Electronic Warning System Operation and Compliance
Flight Element
Regulations, Processes, Procedures and Compliance
Tactical Planning and Execution
Situational Awareness of the Conflicting Aircraft & Action
Electronic Warning System Operation and Compliance
See & Avoid
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness