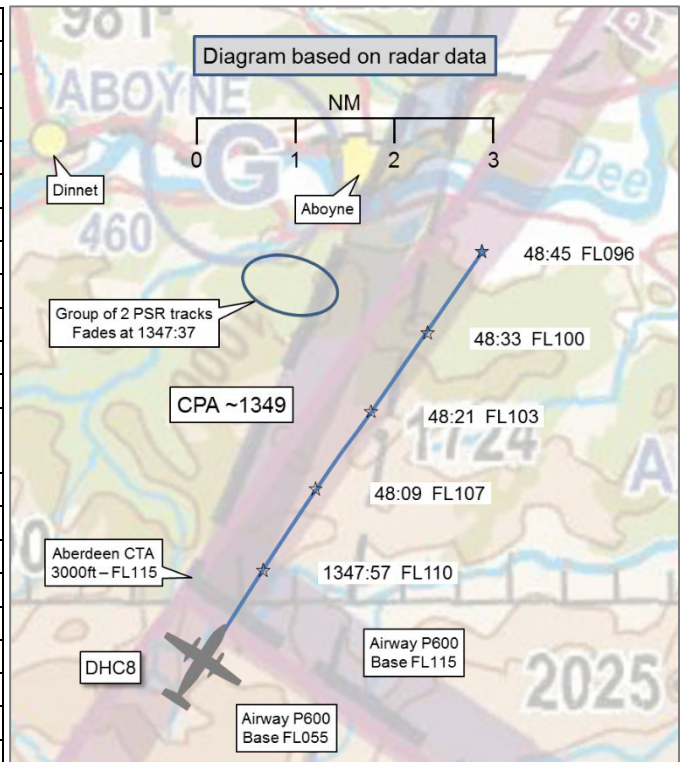


**AIRPROX REPORT No 2017253**

Date: 24 Oct 2017 Time: 1349Z Position: 5703N 00248W Location: ivo Aboyne

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	DHC8	ASK13
Operator	CAT	Civ Club
Airspace	Aberdeen CTA	NK
Class	D	NK
Rules	IFR	VFR
Service	Radar Control	None
Provider	Aberdeen	N/A
Altitude/FL	~FL100	NK
Transponder	A, C, S	Not fitted
<b>Reported</b>		
Colours	Company	Red/white
Lighting	Nav, strobes, landing	Not fitted
Conditions	VMC	VMC
Visibility	>10km	'unlimited'
Altitude/FL	FL090	Max ~8000ft
Altimeter	SPS	NK
Heading	035°	Generally west
Speed	280kt	NK
ACAS/TAS	TCAS II	Not fitted
Alert	None	N/A
<b>Separation</b>		
Reported	0ft V/0.5nm H	Not seen
Recorded	NK	



**THE DHC8 PILOT** reports descending on a radar heading of 020°, passing FL90 overhead the Aboyne area, when the Captain (PF) saw two gliders at the same altitude, heading in the opposite direction and approximately 0.5nm off the port wing. There was no time to take avoiding action. The Captain reported the near-miss to Aberdeen radar, who confirmed that the DHC8 was in controlled airspace and that he had 'nothing shown on his radar'. Once landed, the Captain called the duty manager at Aberdeen to discuss the near miss. The manager confirmed that nothing was seen on the radar and after the event he spoke to Aboyne gliding club to make sure that everyone checked their position and remained outside controlled airspace. The pilot commented that when a major gliding competition is NOTAM'd (of which he was already aware), aircraft inbound to Aberdeen on the P600 airway should be routed to the south of the airway (not north as in their case) to avoid flying near the Aboyne gliding club or the high ground, where gliders would primarily be soaring to get thermals.

He assessed the risk of collision as 'Low'.

**THE ASK13 PILOT** reports that he had launched from Aboyne by aerotow. The tow was fairly turbulent and most of his attention was directed towards staying behind the tug. He was aware they had flown past the village of Dinnet and had gently veered south. He released the tow at a little over 3000ft and noted that he was further south than he had been before. He established a climb in wave lift and started to pinpoint his position. It rapidly became apparent that the 1/2 million scale VFR chart did not provide enough detail for an accurate fix. There were no landing options available so he continued to climb and then saw what he believed was Dinnet to the north. He decided that if he kept Dinnet to the north he would remain clear of controlled airspace. He worked his way northwest but as he got closer to 'Dinnet' it became apparent that the village was in fact Aboyne. The pilot commented that he had therefore been much further southeast than he had believed. When he landed he was told it was believed he had entered controlled airspace. The pilot stated that he had not seen the

other aircraft and noted that he had made 3 errors: not appreciating how quickly the tow was drifting east; assuming the VFR chart would be 'good enough' over broken country; and mis-identifying Aboyne as Dinnet.

**THE ABERDEEN CONTROLLER** reports that he was acting as OJTI on position. He and the trainee had already discussed the gliding activity observed at Aboyne and the need to keep traffic well within the confines of CAS. The DHC8 was being vectored from the southwest to RW16 when, about 4nm east of Aboyne (2nm from the edge of CAS) at FL90, the pilot reported 'a couple of gliders, half a mile on our left, same altitude'. Primary contacts were observed outside CAS, but none was observed in the position indicated by the crew. The pilot's report was acknowledged, stating no contacts were seen, and vectoring for the approach continued.

## Factual Background

The weather at Aberdeen was recorded as follows:

METAR COR EGPD 241350Z 22007KT 190V250 9999 FEW013 SCT018 15/10 Q1004 NOSIG=

The ASK13 pilot described the weather as '3/8 cloud, clear and bright'.

## Analysis and Investigation

### CAA ATSI

All the salient points were contained within the unit investigation report and the correct actions were taken by ATC.

### UKAB Secretariat

The DHC8 and ASK13 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>1</sup>.

A NOTAM concerning activity in the vicinity of Aboyne was issued, as follows:

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(H5516/17 NOTAMN
Q) EGPX/QWGLW/IV/M /AW/000/195/5705N00251W010
A) EGPD B) 1709090530 C) 1710311629
D) SR-SS
E) GLIDING. MAJOR GLIDING COMPETITION. INTENSE ACT WI 10NM RADIUS
570500N 0025100W (ABOYNE, ABERDEENSHIRE). UP TO 30 GLIDERS AND 3 TUG
ACFT MAY PARTICIPATE. ACFT MAY OPR UP TO FL195 OUTSIDE CONTROLLED
AIRSPACE. FOR INFO 01339 885339 AND 130.1MHZ. 17-09-0242/AS4
F) SFC G) FL195)
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The DHC8 track was approximately 0.6nm inside the western lateral limit of airway P600, and approximately 1.5nm inside the western lateral limit of the Aberdeen CTA when abeam Aboyne. The PSR tracks to the west of the DHC8 indicated approximately 0.2nm inside the western lateral limit of the Aberdeen CTA at their furthest point east, but, given that there were probably numerous gliders in the air which may have been in this location below the CTA's base height, it should not necessarily be concluded that these PSR tracks were the ASK13.

The ASK13 pilot was not entitled to operate within the Aberdeen CTA (3000ft to FL115) without prior approval from Aberdeen ATC.

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<sup>1</sup> SERA.3205 Proximity.

## Aberdeen Occurrence Investigation

Aboyne airfield is a popular gliding site located 23nm southwest of ADN VOR and 1.5nm west of the lateral edge of the Aberdeen CTA, although at this point the base of the airspace is 3000ft AMSL with the elevation of the airfield being 460ft, placing it more than 2500ft below the controlled airspace that lies a short distance to the east of the airfield. In September/October each year the atmospheric conditions are such that the wave conditions generated attract a significant number of visiting pilots to Aboyne.

In a conversation with the Watch Manager, the pilot of [DHC8 C/S] stated the glider was red and the pilot was wearing a blue jumper/shirt. When relaying this information to the Deeside Flying Club at Aboyne, their instructor advised the only red glider airborne at the time was K13, piloted by a visiting pilot.

The glider pilot provided the following feedback:

- The wind aloft was strong, approximately 40kts from the southwest. He had been towed to the south to launch but the aircraft had drifted north in the wind.
- The tug had taken him further south than he had been before and he was using a 1:500,000 chart for navigation; however, the detail on the chart proved inadequate for him to be able to accurately determine his position.
- He had few ground features visible to him to assist in identifying where he was, so he headed west where he observed some buildings. Initially he believed this was the village of Dinnet, approximately 5nm west of Aboyne and clear of controlled airspace. However, he had misidentified the location, which was actually Aboyne and his position relative to Aboyne placed him a short distance inside controlled airspace.

Although no PSR contacts were displayed by the Perwinnes Radar that was in use by INT-S, the Allanshill Radar recording does show a PSR contact turning no more than 0.5nm inside the lateral boundary of the CTA. Even if Allanshill data was being used by INT-S at the time, being a PSR only contact, controllers may legitimately consider this aircraft to be operating outside controlled airspace.

With no consistent radar data or positive identification of the glider, it is not possible to determine the minimum separation achieved between the two aircraft; however, the information received from the pilot plus Allanshill Radar data strongly suggest [in their opinion] the glider was within the lateral and vertical confines of the CTA.

It is understood that the pilot of [DHC8 C/S] has reported this event through the Airprox scheme; however, no mention of this reporting route was made to the controller or Watch Manager.

## Comments

### Deeside Gliding Club

DGC commented that the following provisions had been introduced as a consequence of this incident:

1. An enhanced airspace briefing for all visitors irrespective of experience or time spent at Aboyne.
2. Visiting gliders now required to carry a moving-map device.
3. Club gliders have now been fitted with 'modern instrumentation' including GPS based navigation devices.

## Summary

An Airprox was reported when a DHC8 and an ASK13 flew into proximity near Aboyne at about 1349 on Tuesday 24<sup>th</sup> October 2017. Both pilots were operating in VMC, the DHC8 pilot under IFR in receipt of a Radar Control Service from Aberdeen, and the ASK13 pilot under VFR, not in receipt of a Service.

### **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved and reports from the appropriate ATC and operating authorities.

Members first discussed the pilots' actions and commented that it had been unfortunate that the ASK13 pilot was operating with only a VFR 500,000 chart and did not have a GPS-based map display. Commending him for his frank and honest report, members noted that the ASK13 pilot had been operating under a high work-load during the aerotow and had subsequently misidentified his position; a simple mistake to make, but which members agreed with the Deeside Gliding Club was one that could have been avoided with the use of GPS-based equipment. The ASK13 pilot's uncertainty of position was considered a contributory factor to the Airprox.

For his part, the Board noted that the DHC8 pilot was within the Aberdeen CTA at the time of the incident and had been given a radar vector for his approach to RW16. Members observed that his track took him close to the edge of CAS; about ½nm from the edge of airway P600 and about 1½nm from the edge of the Aberdeen CTA at the Airprox location. The Board noted the advice in CAP493 (Manual of Air Traffic Services - Part 1) as follows:

'Although IFR flights within class A-D airspace, and VFR flights within B/C airspace, are deemed to be separated from unknown aircraft flying in adjoining uncontrolled airspace, controllers should aim to keep the aircraft under their control at least two miles within the boundary. Controllers should monitor the operation of aircraft in adjacent uncontrolled airspace, particularly if circumstances have made it necessary to vector an aircraft to be less than two miles from the boundary.'<sup>2</sup>

In this respect, and recognising that the Aberdeen controller's radar did not indicate the PSR tracks, controller members felt that he would have been better placed anyway in issuing a vector which took the DHC8 further from the edge of CAS, as recommended in CAP493, particularly in light of the NOTAM'd gliding competition at Aboyne.

Although the NATS Ltd area radar replay had displayed 2 primary tracks in the vicinity of the Aberdeen CTA, of which one passed inside the lateral limit of the CTA, the Board were careful to state that the height of these returns could not be established, and that they could easily have been from aircraft or gliders operating below the CTA's 3000ft base altitude. Nevertheless, members surmised from the ASK13 pilot's report that he probably had inadvertently flown into the CTA and thereby into conflict with the DHC8, and that this was the cause of the Airprox. Turning to the risk, members felt that although the ASK13 pilot had not seen the DHC8 and the DHC8 pilot had only seen the ASK13 at or about CPA, separation as reported by the DHC8 pilot was such that, on this occasion, although safety had been reduced, there had been no risk of collision.

Finally, members commended the Deeside Gliding Club on their proportionate and considered response to the Airprox event, and felt that the measures introduced could wisely be followed by other gliding clubs operating in proximity to CAS.

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<sup>2</sup> Section 1, Chapter 6 ATS Surveillance Systems, paragraph 13A.4.

**PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The ASK13 pilot probably entered CAS and flew into conflict with the DHC8.

Contributory Factor: The ASK13 pilot was unsure of his location.

Degree of Risk: C.

**Safety Barrier Assessment<sup>3</sup>**

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

**ANSP:**

**Regulations, Processes, Procedures and Compliance** were assessed as **partially effective** because the DHC8 was routed closer to the western edge of the Aberdeen CTA than recommended in CAP493.

**Situational Awareness and Action** were assessed as **ineffective** because the Aberdeen surveillance system did not detect the glider within the Aberdeen CTA and hence the controllers were unaware of its presence.

**Flight Crew:**

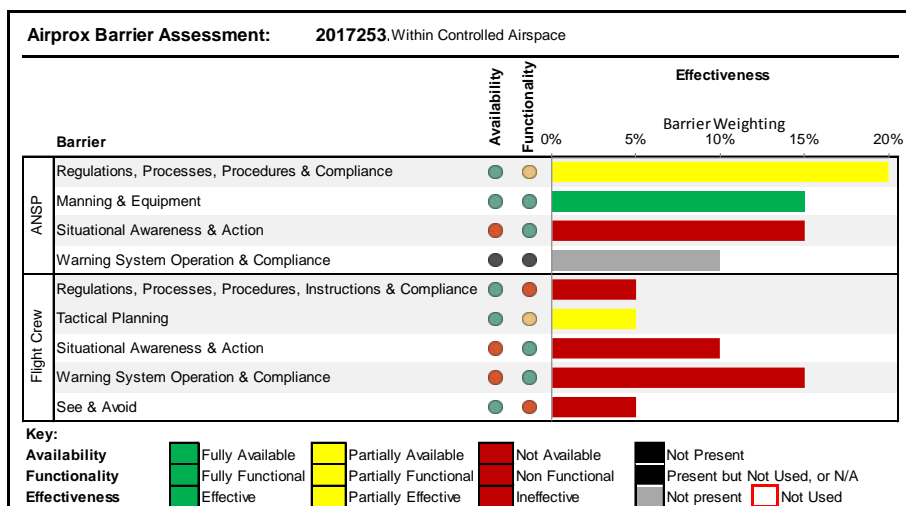
**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the available information suggests the ASK13 pilot inadvertently flew into CAS.

**Tactical Planning** was assessed as **partially effective** because the ASK13 pilot’s navigation plan did not ensure that he remained outside of controlled airspace.

**Situational Awareness and Action** were assessed as **ineffective** because neither pilot was aware of the other aircraft prior to CPA.

**Warning System Operation and Compliance** were assessed as **ineffective** because the ASK13 was not fitted with any systems compatible with the DHC8’s TCAS II.

**See and Avoid** were assessed as **ineffective** because the DHC8 crew did not see the ASK13 until CPA, and the ASK13 pilot did not see the DHC8 at all.



<sup>3</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](http://www.ukab.co.uk).