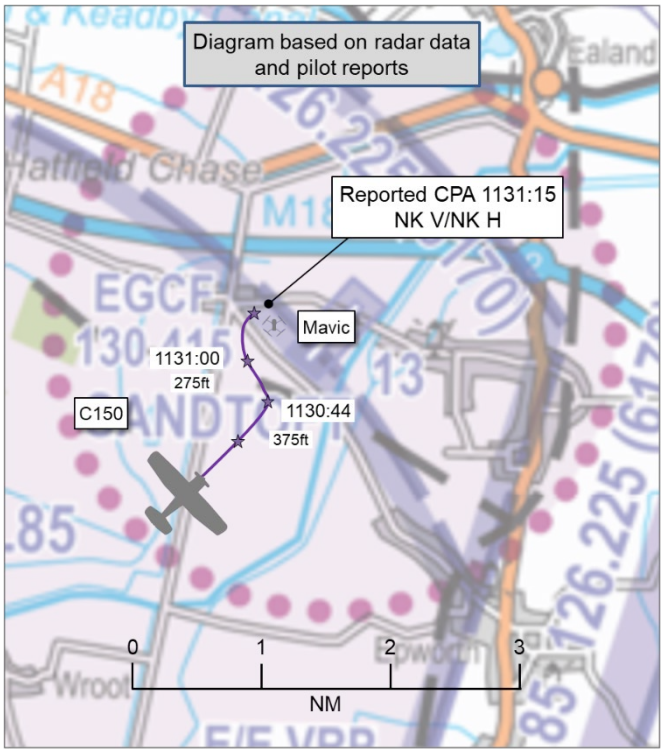
AIRPROX REPORT No 2024273

Date: 05 Nov 2024 Time: 1131Z Position: 5333N 00052W Location: Sandtoft

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DJI Mavic	C150
Pilot	Civ UAS	Civ FW
Airspace	Sandtoft ATZ	Sandtoft ATZ
Class[1]	G	G
Rules	VLOS	VFR
Service	None	Listening Out[2]
Provider	N/A	Sandtoft Radio
Altitude/FL	NK	275ft
Transponder	Not fitted	A, C, S
Reported		
Colours	Grey	White
Lighting	Nil	Beacon, strobes, landing
Conditions	VMC	VMC
Visibility	<5km	NR
Altitude/FL	~165ft	500ft
Altimeter	N/A	QFE
Heading	"S*outh*"	045°
Speed	NR	65kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	NK V/NK H	NK V/NK H
Recorded	NK V/NK H	



THE MAVIC PILOT reports that [on the day of the reported Airprox] they had visited the Yorkshire Aero Club offices and explained that they had wished to undertake a drone flight and that they had contacted the airfield about this [beforehand]. They then spoke with a representative of the airfield in another office. The Mavic pilot explained that they had previously notified the representative […] by phone on the 10th of October that they had intended to undertake a flight and wished to confirm the arrangements they needed to follow. They were told to attend the airfield portakabin on the day of the flight and, prior to flying, run through where they would be operating.

On the day of the Airprox, those at the airfield portakabin were unaware [of the] previous contact with the airfield owner and licence operator. There were some pilots present in the airfield office who were about to set out and the pilot of the Mavic briefed them on where they were planning to fly and showed them Appendix D (pre-flight) paperwork with take-off points marked up on a map. The employee of the airfield owner took them back to speak with the Yorkshire Aero Club to inform them of the intention to fly [the Mavic], the area where flight would occur and altitude, and to get permission for that. The Mavic pilot showed them the Appendix D paperwork with take-off points marked up on a map and again explained that they had previously notified [the airfield operator] by phone that they had intended to undertake a flight. Those they had spoken to on this occasion had not been previously informed by the airfield operator but said that it would be okay. The Mavic pilot briefed that they had expected to be taking off and operating from 1045. The Yorkshire Aero Club asked for a text message when [the Mavic] was going to fly and said that they would notify pilots at the club that the Drone would be operating. After setting up at the take-off location, the Mavic pilot sent a text message at 1115 confirming that the Mavic was about to launch, the altitude they expected to be mainly operating at and their maximum flying altitude. As there appeared to be confusion at the airfield about the units being used for the Mavic altitude (the pilot had [originally] quoted their max flying altitude in metres, then feet when this had been

[1] AIP Supplement 017/2024 published 8th Feb 2024 clarifies the airspace status for Doncaster/Sheffield CTR/CTA.
[2] Although Sandtoft is an A/G unit, that service was not available on the date of the event.

questioned) they elected to include both operating and maximum altitudes in metres and feet to avoid any doubt or confusion. The Mavic took off at 1120.

During the flight the pilot had heard a plane nearby but had not expected a plane to be operating close to their area. It had sounded close and as if it was approaching, so they reduced the altitude of the Mavic. At approximately 1131 a small Cessna plane flew through their flight area and had been flying very low. It appeared that it could have been around the max operating height of their drone 120m/400ft, though the Mavic had been operating at a lower altitude of between 40 and 60m (200ft). [The pilot of the Mavic opined that], had it been at 120m/400ft, they were concerned that it may have been in or close to the flightpath of the small plane and could have collided with it, or stalled and crashed due to wind turbulence from the plane. Whilst the intention had been to get some higher altitude pictures of the site they were photographing, the pilot was not comfortable doing so in case other planes flew through this route. They therefore completed the remaining couple of minutes of the flight at around 50m altitude and curtailed any further flight of the site. Having decided not to continue with any further flying […] they had landed the drone at approximately 1134.

After landing, the Mavic pilot had tried to ring the Yorkshire Aero Club contact about the incident and was told the contact was out flying. The Mavic Pilot explained what had happened and was told that the plane was probably at 600ft [and that it might be better] in future to do a flight on Saturday when Air Traffic Control [sic] was in place, rather than during the week as there was no Air Traffic Control [sic] at the airfield during that time. The pilot of the Mavic asked for confirmation that [other pilots] had been told that the Mavic was operating near the airfield and it was confirmed that they had. The Mavic pilot asked if they could notify/remind other air traffic that the Drone would be in the area, and to confirm it would be safe to continue to fly there. The contact pilot had said that they could not give that permission and so the pilot of the Mavic decided not to continue with flights […]. They sent a text message to the Yorkshire Aero Club contact at 1201 to confirm they had landed and would not be undertaking any further flights that day.

They returned to the airfield with their colleague who had been present with them during the flight. They spoke with the Yorkshire Aero Club contact and explained the incident. [The Aero Club representative] said the Cessna had been flown probably at 1000ft, though the Mavic pilot thought it had been significantly lower than that. The Club contact [reportedly] said that that pilot who had been flying had known that the Mavic had been operating in the area. The Mavic pilot said that they had thought that they would have had clear airspace to operate in and, [reportedly], had been told that there was actually not an ATZ/FRZ around the airfield during the week as there was no air traffic control [sic], and that air traffic control [sic] was only in place at the weekend when the airspace and the runway was busier. The Club contact said they had told members of the club that the Mavic was operating there and advised the pilot of the Mavic to, in future, submit a NOTAM with any operation plans.

The Mavic pilot asked the Club contact if they thought that they should submit an Airprox report and was told that they did not think it was needed, that it was not a near-miss and that the pilot had known that the Mavic was there. However, the Mavic pilot pointed out it was a small grey drone which wouldn't have been very visible to a pilot in a plane.

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

THE C150 PILOT reports they did not see, nor were they aware of, any drone activity. As they were in the circuit pattern within the Sandtoft ATZ and using the Air/Ground frequency for Sandtoft, it is worrying that a drone could be operating within the circuit pattern and its presence not communicated to aircraft within the ATZ.

THE SANDTOFT AIR/GROUND OPERATOR did not respond to requests for a report.

Factual Background

The weather at Humberside Airfield was recorded as follows:

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METAR EGNJ 051120Z 20005KT 5000 HZ BKN007 11/09 Q1023=
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Analysis and Investigation

UKAB Secretariat

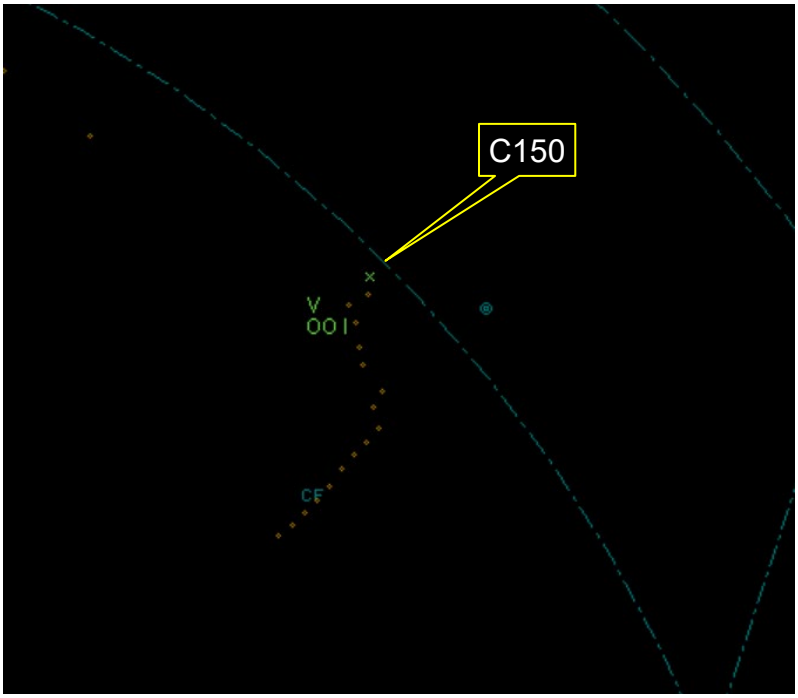


Figure 1: At reported CPA - 1131:15. Mavic not recorded on radar.

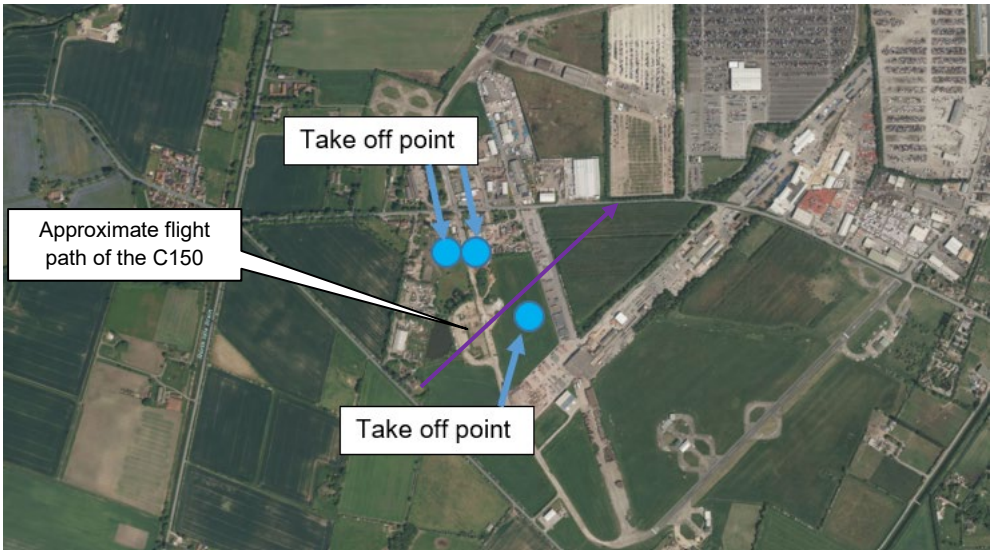


Figure 2: Mavic take-off areas

EGCF AD 2.3 OPERATIONAL HOURS

1	AD Administration	0900-1700 (0800-1700).
2	Customs and immigration	By arrangement.
3	Health and sanitation	
4	AIS Briefing Office	
5	ATS Reporting Office (ARO)	
6	MET Briefing Office	
7	ATS	As AD hours.
8	Fuelling	As AD hours.
9	Handling	
10	Security	
11	De-icing	
12	Remarks	Aerodrome PPR for non-radio aircraft, and for non-member movements outside ATS hours. Available for aircraft requiring a licenced aerodrome on Saturdays only until further notice. Contact Operator if a licenced aerodrome status is required on other days.

EGCF AD 2.17 AIR TRAFFIC SERVICES AIRSPACE

Designation and lateral limits	Vertical Limits	Airspace Class	ATS unit callsign/ language	Transition Altitude	Hours of applicability	Remarks
1	2	3	4	5	6	7
SANDTOFT ATZ A circle, 2 NM radius, centred at 533335N 0005130W on longest notified runway (05/23)	Upper limit: 2000 FT AGL Lower limit: SFC	D	SANDTOFT RADIO English	5000 FT		Airspace Classification: D and G. Part of the ATZ lies within the Doncaster Sheffield CTR (Class D). The upper limit of the remainder of the ATZ lies partly within Class D CTAs (bases 1500 FT amsl and 2000 FT amsl).

EGCF AD 2.18 AIR TRAFFIC SERVICES COMMUNICATION FACILITIES

Service Designation	Callsign	Channel(s)	SATVOICE number(s)	Logon Address	Hours of Operation	Remarks
1	2	3	4	5	6	7
OTHER	SANDTOFT RADIO	130.415 MHz A/G frequency.			0900-1700 (0800-1700).	ATZ hours coincident with A/G hours.

Figure 3: UK AIP extract showing AD Hours and ATS availability at Sandtoft.

Figure 3 (above) shows the link between the operating hours of the Aerodrome, A/G services and the establishment of the ATZ. The operating hours of the ATZ are coincident with those of the A/G service. The Mavic had been operated in the Specific category, below 400ft, and NOTAM warning would not have been appropriate in this case.

The Mavic Pilot and C150 pilot shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[3] During the flight, the remote pilot shall keep the unmanned aircraft in VLOS and maintain a thorough visual scan of the airspace surrounding the unmanned aircraft in order to avoid any risk of collision with any manned aircraft. The remote pilot shall discontinue the flight when continuing it may pose a risk to other aircraft, people, animals, environment or property.[4]

Summary

An Airprox was reported when a Mavic Drone and a C150 flew into proximity at Sandtoft at 1131Z on Tuesday 5th November 2024. The Mavic Pilot was operating under VLOS rules in VMC and not in receipt of a Flight Information Service and the C150 pilot was operating under VFR in VMC and making circuit calls on the Sandtoft A/G frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots. 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 firstly discussed the actions of the Drone pilot. They noted that the pilot had obtained the correct pre-flight operational authorisation from the CAA and had made significant effort in advance of the day to ensure the airfield operator had been aware of their intended flight. On arrival at the airfield on the day of the event, and recognising that the pre-agreed operation had not been shared amongst those pilots present on the day, the Mavic pilot had made further significant efforts to ensure all were aware of the operation timing, altitude and area they would be using. It had become apparent that, after the flight had been initiated, not all airfield users had been made aware as the Mavic pilot had gained some situational awareness of an approaching aircraft (**CF5**) and, becoming concerned by its proximity (**CF7**), had descended the Drone to avoid any potential for conflict. The Drone operator had at that point recognised that further operations would potentially have been subject to further unwanted interaction with airfield operations and had elected to cease their flights for the day.

Members then considered the actions of the C150 pilot. They recognised that, as the pilot had been unaware of the Drone operation (**CF4**), neither the Drone nor the C150 had carried electronic

[3] (UK) SERA.3205 Proximity.
[4] Assimilated Regulation (EU) 2019/947- UAS.SPEC.060 Responsibilities of the remote pilot (3)(b).

conspicuity equipment, and that there had been no AGCS operational on the day, they had not had any situational awareness of the Drone operation (**CF5**). The pilot reports, and the Board agreed, that they had not, at any stage, gained visual acquisition of the Drone (**CF6**).

The Board also discussed the role played by Sandtoft and Yorkshire Aero Club members involved on the day. Members expressed surprise that there had been no AGO in place on the day, and that the airfield operators had recommended that the Drone pilot return at the weekend when that service would have been in place. A review of the UK AIP entry for Sandtoft highlighted some anomalies between the operating hours and provision of the AGCS. This had, in part, led to the lack of information dissemination regarding the Drone operation (**CF1**) and an absence of other airfield staff to enable information sharing (**CF2**) had denied the opportunity for sharing of traffic-related safety information (**CF3**). Board members discussed this situation and elected to make 2 recommendations to address the issue, namely that *Sandtoft aerodrome operator ensures that the notified hours of operation of the ATZ and provision of AGCS are established in accordance with CAP 452 Supplementary Amendment 2022/01*, and that *Sandtoft aerodrome operator ensures that a robust method of promulgation of unusual air activity within the ATZ/FRZ is established*.

Concluding their discussion, members noted that the Mavic pilot had gained generic situational awareness of the presence of the C150, had descended their aircraft to ensure separation and had then witnessed the C150 fly through their flight area. The C150 pilot had been unaware of the Drone operation and had not gained visual acquisition at any stage. Members felt that, although safety had been degraded, the actions of the Drone pilot had ensured that there had been no risk of collision. Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024273			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Regulations, Processes, Procedures and Compliance			
1	Organisational	• Aeronautical Information Services	An event involving the provision of Aeronautical Information	The Ground entity's regulations or procedures were inadequate
	• Manning and Equipment			
2	Organisational	• ATM Staffing and Scheduling	An event related to the planning and scheduling of ATM personnel	
	• Situational Awareness and Action			
3	Contextual	• ATM Service Effects	An event affecting Air Traffic Management operations.	
	Flight Elements			
	• Tactical Planning and Execution			
4	Organisational	• Flight Planning Information Sources	An event involving incorrect flight planning sources during the preparation for a flight.	
	• Situational Awareness of the Conflicting Aircraft and Action			
5	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• See and Avoid			
6	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
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.

Recommendation:

1: Sandtoft aerodrome operator ensures that the notified hours of operation of the ATZ and provision of AGCS are established in accordance with CAP 452 Supplementary Amendment 2022/01.

2: Sandtoft aerodrome operator ensures that a robust method of promulgation of unusual air activity within the ATZ/FRZ is established.

Safety Barrier Assessment[5]

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

Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the planned Mavic activity had not been promulgated to other airfield operators.

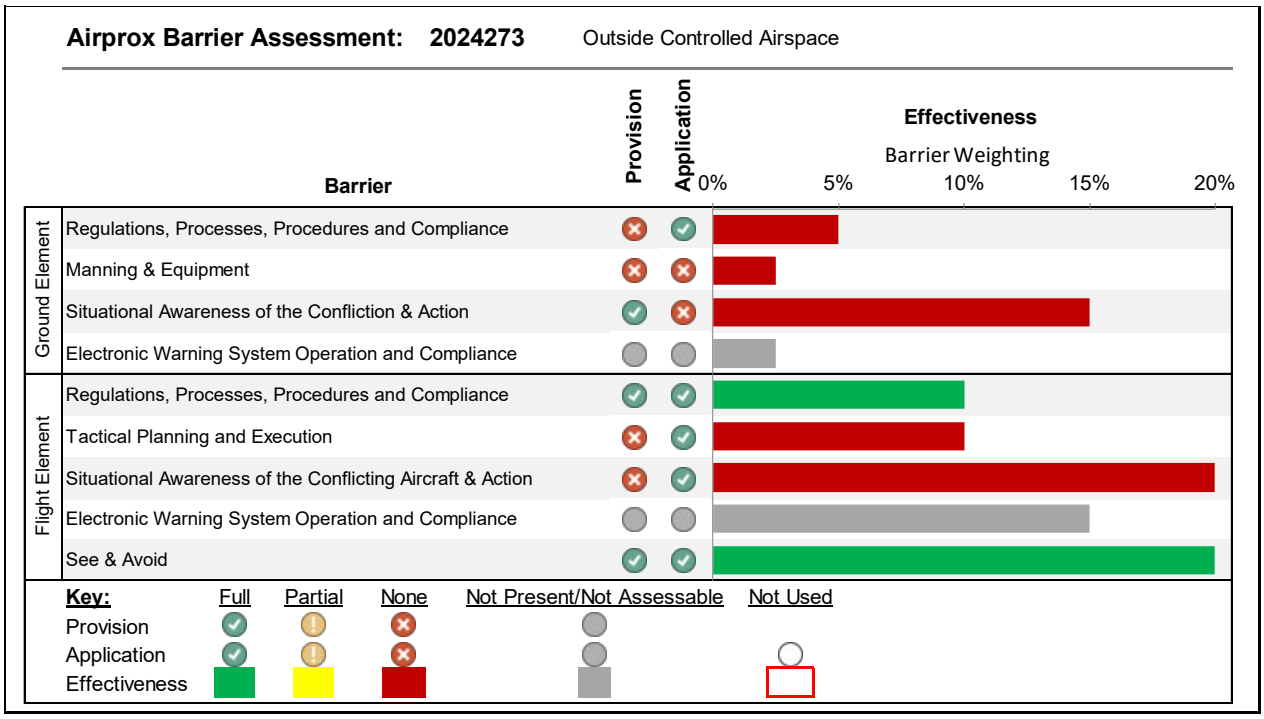
Manning and Equipment were assessed as **ineffective** because there had been no personnel available to ensure dissemination of information regarding unusual activities during the published operating hours of the Airfield.

Situational Awareness of the Confliction and Action were assessed as **ineffective** because information on the Mavic activity had not been shared with other airfield operators.

Flight Elements:

Tactical Planning and Execution was assessed as **ineffective** because no information regarding the Mavic activity had been available to the C150 pilot.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the C150 pilot had been unaware of the presence of the Mavic and the Mavic pilot had gained only generic situational awareness of the presence of the C150.



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