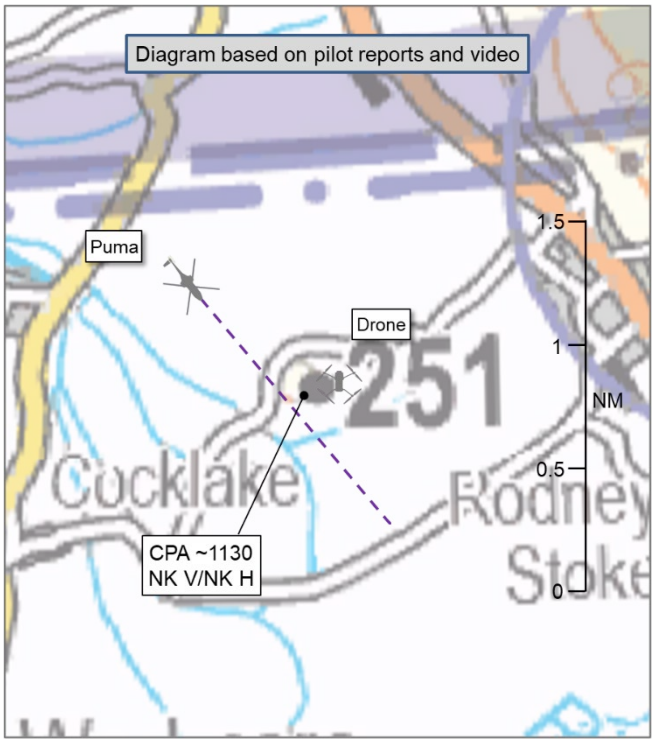
AIRPROX REPORT No 2024288

Date: 26 Nov 2024 Time: ~1130Z Position: 5115N 00246W Location: Nyland Hill, Somerset

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Drone	Puma
Operator	Civ UAS	HQ JAC
Airspace	London FIR	London FIR
Class	G	G
Rules	VLOS	VFR
Service	None	None
Altitude/FL	NK	NK
Transponder	Not fitted	None
Reported		
Colours	Grey	Green
Lighting	Yes	Navigation, anti-coll, landing
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	100m (328ft)	NR
Altimeter	RPS	NR
Heading	NK	NR
Speed	NK	NR
ACAS/TAS	Not fitted	TAS
Alert	N/A	None
Separation at CPA		
Reported	50ft V/200m	Not seen
Recorded	NK	



THE DRONE PILOT reports that they had been using a Drone [within the Open Category] for filming Nyland Hill. They heard the helicopter coming and held position. A military helicopter passed at around 80kt [they estimate]. The airspace was not subject to restrictions as they understood it through the Drone Assist App.

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

THE PUMA PILOT reports that the crew was conducting a low-level navex as part of the OCU syllabus. The sortie was planned and briefed by the student and the area in question was free of avoids or NOTAMs. The sortie was conducted with no incidents noted by the crew. Subsequently, the crew was informed of an Airprox with a drone in the vicinity of Nyland Hill. The crew did not see this drone during the sortie and so no action was taken.

Factual Background

The weather at Bristol Airport was recorded as follows:

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METAR EGGD 261050Z AUTO 22005KT 9999 FEW023 08/05 Q1015=
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Analysis and Investigation

UKAB Secretariat

Neither the Drone nor the Puma showed on radar or other tracking tools available to the UKAB Secretariat. The diagram at page 1 was constructed using video and pilot reports. As no radar or GPS files were available, a measurement or estimation of CPA could not be made.

The Drone and Puma 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] 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 if the operation poses a risk to other aircraft, people, animals, environment or property.[2]

Comments

JAC

A welcome report from the Drone pilot but, unsurprisingly, an occurrence where the Puma crews were not aware of, nor did they see, the drone. Rotary wing low-level activity is routine, particularly within LFA 1 and 2 and, therefore, the risk of encountering a drone is prevalent. See-and-avoid remains the most effective barrier but there is a heavy reliance on the Drone pilot to ensure they move from the path of a crewed aircraft. Drone pilots are encouraged to contact local units and/or inform the Military Airspace Management Cell (MAMC) of their planned flight (swk-mamclfcoord@mod.gov.uk or 0800 515544) to aid further situational awareness.

Summary

An Airprox was reported when a Drone and a Puma flew into proximity at Nyland Hill at approximately 1130Z on Tuesday 26th November 2024. The Drone pilot was operating under VLOS in the Open Category, the Puma pilot was operating under VFR in VMC; neither pilot was in receipt of a Flight Information Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings 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 firstly discussed the actions of the Drone pilot, noting that they had been operating in the Open Category, requiring no pre-notification to other users and that the pilot had positioned themselves to afford the best all-round view of other potential activity. The pilot described having heard the Puma and, at that point, had held position with their aircraft as the Puma had passed at that time, and the Board agreed that this effectively constituted a non-sighting (**CF3**). Members recalled that the Drone Code[3] states that, should the situation in the air or on the ground change, in relation to low-flying aircraft, the pilot should '*Reduce your flying height or land as soon as you hear or see a low-flying aircraft that may be affected by your drone or model aircraft. Land your drone or model aircraft, or hover at a low-level well out of the way, and wait until it's safe to continue with your flight. If it appears the aircraft is attempting to land, you should land your drone or model aircraft immediately'*. The Board noted that the Drone had carried no electronic conspicuity equipment and had therefore not been capable of registering any emissions from the Puma (**CF2**). Members recognised that, in this case, the Drone pilot had effectively had no situational awareness of the presence of the other aircraft (**CF1**) and had acted as appropriately as the situation had allowed.

Members then considered the report submitted by the Puma pilot, noting that they had been instructing a student on a low-level exercise as part of their operational conversion. They had completed all relevant pre-flight preparation and found no indications of Drone activity to affect their planned route. The Board noted that the aircraft had carried electronic conspicuity equipment but had not registered any emissions from the Drone (**CF2**) and, therefore, had offered them no situational awareness of its presence (**CF1**). The Puma pilot reported as not having seen the Drone (**CF3**). Members recognised

[1] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] Assimilated Regulation (EU) 2019/947- UAS.OPEN.060 Responsibilities of the remote pilot (2)(b).
[3] CAP2320

the difficulty in visually acquiring drones from crewed aircraft and felt that the pilot could have done no more to avoid the event.

Concluding their discussion, members noted that the Puma pilot had not seen the Drone and the Drone pilot had become aware of the Puma's presence only as it had passed their position. Notwithstanding, and taking account of the Drone video footage made available to the Board, members felt that, although safety had been degraded, there had been no risk of collision and assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024288			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	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
	• Electronic Warning System Operation and Compliance			
2	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
	• See and Avoid			
3	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

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:

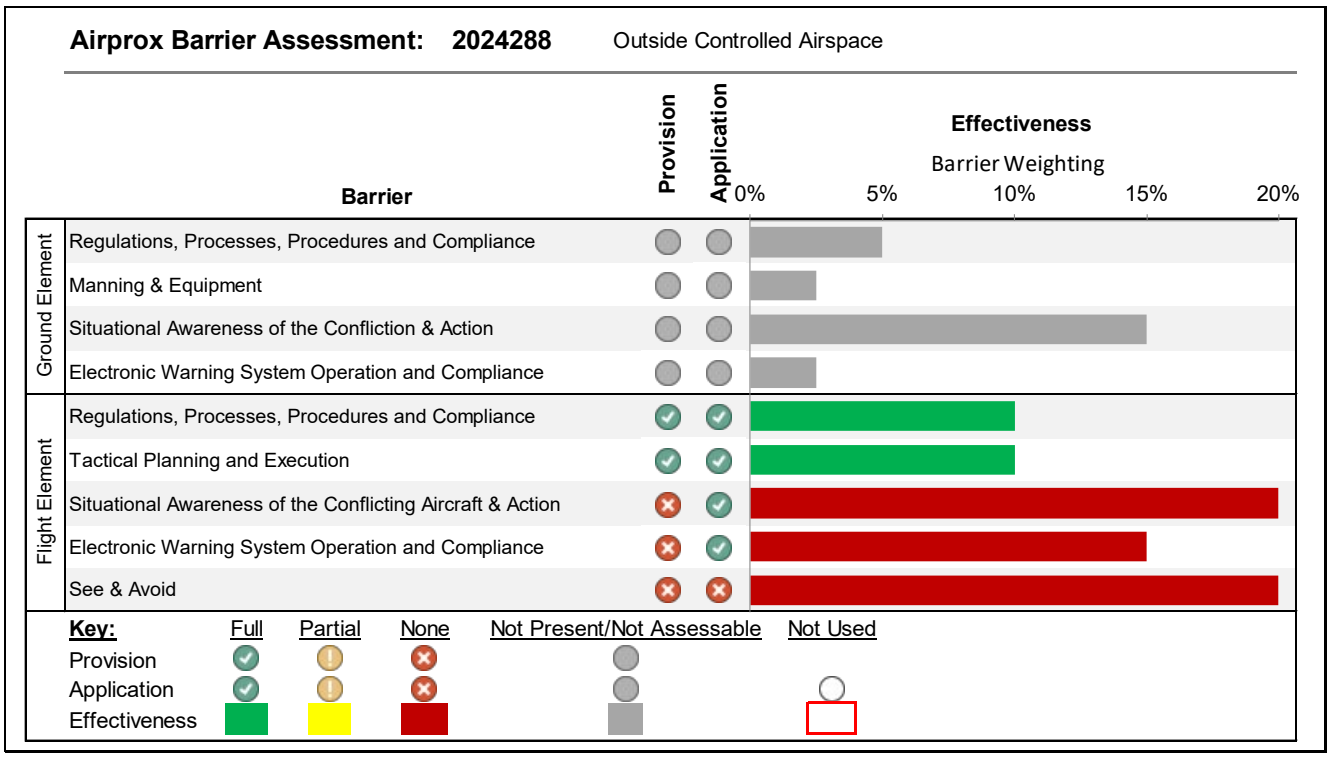
Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any situational awareness of the presence of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by the Puma had been unable to detect any electronic emissions from the Drone.

See and Avoid were assessed as **ineffective** because the Puma pilot had not seen the Drone and the Drone pilot had only sighted the passing Puma after CPA.

[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: 2024288
Outside 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