

## Consolidated Drone/Balloon/Model/Unknown Object Summary Sheet for UKAB Meeting on 23<sup>rd</sup> March 2022

Total	Risk A	Risk B	Risk C	Risk D	Risk E
4	2	2	0	0	0

Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location <sup>1</sup> Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2021254	23 Jul 21 0705	A320 (CAT)	Unk Obj	5131N 00020W 5NM NE of Heathrow 4500ft	London TMA (A)	<p><b>The A320 pilot</b> reports that, at approximately 4500ft in the climb-out, a large black object was seen outside the First Officer's window. The object appeared too large to be a bird, so a drone was suspected. It was roughly the size of a suitcase, but they were travelling too fast to get a clear view. The object passed closer than 50ft to their aircraft, slightly above and to the south.</p> <p><b>Reported Separation:</b> NK V/&lt;50ft H <b>Reported Risk of Collision:</b> NR</p> <p><b>NATS Safety Investigations</b> reports that the pilot of [the A320] submitted an Airprox report in response to the sighting of a drone whilst 5.3NM north-east of Heathrow Airport.</p> <p>It has been estimated that the UAS was at 4500ft. Safety Investigations reviewed the radar at the time the pilot of [the A320] reported the sighting, however, no radar contacts were visible.</p>	<p>In the Board's opinion the reported altitude and/or description of the object were such that they were unable to determine the nature of the unknown object.</p> <p><b>Applicable Contributory Factors:</b> 4, 6</p> <p><b>Risk:</b> The Board considered that the pilot's overall account of the incident portrayed a situation where providence had played a major part in the incident and/or a definite risk of collision had existed.</p>	A

<sup>1</sup> Latitude and Longitude are usually only estimates that are based on the reported time of occurrence mapped against any available radar data for the aircraft's position at that time. Because such reported times may be inaccurate, the associated latitudes and longitudes should therefore not be relied upon as precise locations of the event.

Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location <sup>1</sup> Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2022016	26 Feb 22 1412	P68 (Civ Comm)	Unk Obj	5332N 00054W 5.5NM NE Doncaster Sheffield airport 4600ft	Doncaster CTR (D)	<p><b>The P68 pilot</b> reports that they spotted something reddish in colour flying very quickly towards them, before they could react, they saw a drone fly straight past them 20m from the left wing. The incident was reported on the Doncaster Radar frequency just after it happened. After checking, they did not find any NOTAMs detailing drone operations in the area in their briefing package.</p> <p><b>Reported Separation:</b> 0ft V/ 20m H <b>Reported Risk of Collision:</b> Medium</p> <p><b>The Doncaster safety report</b> states that at <b>1412</b> the P68 pilot reported a SUA sighting approximately 3NM NE of EGCN. The SUA was described as being at the same altitude as the aircraft, box shaped and “reddish” in colour. The pilot questioned the controller’s awareness of the SUA, neither the Radar controller or the Tower controller were aware of an SUA being granted permission to operate within the CTR. Uncontrolled SUA actions were immediately carried out and the Tower controller was asked to inform the Police of the sighting.</p> <p>Another pilot was asked to keep a good look out for any SUAs and report any sightings, of which there were none. At <b>1442</b>, with no further sightings of uncontrolled SUA within the CTR, normal operations resumed.</p>	<p>In the Board’s opinion the reported altitude and/or description of the object were such that they were unable to determine the nature of the unknown object.</p> <p><b>Applicable Contributory Factors:</b> 4, 6</p> <p><b>Risk:</b> The Board considered that the pilot’s overall account of the incident portrayed a situation where safety had been much reduced below the norm to the extent that safety had not been assured.</p>	B

2022018	26 Feb 22 1640	A321 (CAT)	Drone	5108N 00015W Gatwick 430ft	London TMA (A)	<p><b>The A321 pilot</b> reports that the NOTAMs for LGW included an advisory about drones. This was discussed as a threat in the arrival briefing before descent. At 1000ft they reminded the flight deck occupants to lookout for drones. As PF they were the first to spot the drone at about 1.5NM from the RW08 threshold. It was black with yellow stripes and no lighting was seen on it. The engineer occupying the observer's seat saw it soon after the PF pointed it out. PM had been looking inside the cockpit and caught a passing glimpse. They were able to assess that the drone would miss the aircraft so continued to a normal landing. They reported it to ATC as they flew past it.</p> <p><b>Reported Separation:</b> 40ft V/ 'less than a semi wingspan' H <b>Reported Risk of Collision:</b> High</p> <p><b>The A321 PM</b> reports that at less than 500ft on a fully configured and stabilised ILS approach into RW08R the PF spotted and announced a drone at a very short distance away. They were monitoring the flight profile on the instruments at that moment but looked up immediately on the call of a drone. As they looked up they saw the drone passing their 2 o'clock to the right-hand side. In the very short space of time they had to see the drone, they noted that it was large, black and looked like it had a yellow/orange stripe on it. The drone was around 50m from the cockpit and approximately 30-40ft below them. There were no noticeable lights on it. Due to the late sighting of the drone, the speed it passed, their fully stable and configured short final into Gatwick and proximity to the ground, no avoiding action was taken. The drone was positioned in a way that gave them no doubt that it was intentionally flown there. They advised Gatwick Tower of the drone and made a normal and safe landing into Gatwick. They then gave further details to Gatwick Ground and later, the captain gave a statement to the police.</p> <p><b>The Gatwick Controller</b> reports that the A321 was at approximately 1.5DME from touchdown on 08R and reported that a drone had just passed close to them on their right-hand side. They reported that that drone was black and yellow in colour. The aircraft subsequently landed without incident a minute later at 1641. Upon vacating the RW the crew reported that they felt the drone was a "deliberate obstruction".</p>	<p>In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone.</p> <p><b>Applicable Contributory Factors:</b> 1, 3, 4, 7</p> <p><b>Risk:</b> The Board considered that the pilot's overall account of the incident portrayed a situation where safety had been much reduced below the norm to the extent that safety had not been assured.</p>	B
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						<p>Due to the specific nature of the report from the crew and the potential proximity of the drone sighting to both the final approach track and the aerodrome itself, the controller decided to suspend movements until a drone assessment could be completed by the Airport Authorities.</p> <p>The GMC controller subsequently advised them that the crew had reported to them the drone was observed at approximately 600ft from touchdown on the ILS approach 08R, black with yellow markings and had passed 40 yards (sic) to the right and approximately 40ft below them. The crew repeated their view that the drone was a "deliberate obstruction" towards their flight.</p> <p>Gatwick Radar were advised of the information and they continued to suspend movements until a drone state could be provided in accordance with local procedures.</p> <p>Movements were suspended from 1641 until 1700 when Gatwick drone state AMBER was provided as the assessment in relation to the initial report.</p> <p><b>The Gatwick ATC Safety Officer</b> confirmed that the drone was not known to ATC.</p>		
2022019	26 Feb 22 1330	B737 (CAT)	Drone	5158N 00114E Erwarton FL110	Clacton CTA (A)	<p><b>The B737 pilot</b> reports in the descent when the First Officer saw a black object in about the 10 o'clock position. The object was close enough to identify it positively as a black flying object with 4 rotors. It passed extremely close on Captain's side roughly at the same level. Size in the windscreen about 3 inches by 3 inches. The First Officer informed the Captain of their observation and the Captain reported the drone sighting to Stansted ATC. The Captain was not visual with the object.</p> <p><b>Reported Separation:</b> NR <b>Reported Risk of Collision:</b> NR</p>	<p>In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone.</p> <p><b>Applicable Contributory Factors:</b> 1, 2, 3, 4, 7</p> <p><b>Risk:</b> The Board considered that the pilot's overall account of the incident portrayed a situation where providence had played a major part in the incident and/or a definite risk of collision had existed.</p>	A

## Relevant Contributory Factor (CF) Table

CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Flight Elements</b>				
<b>• Regulations, Processes, Procedures and Compliance</b>				
1	Human Factors	• Flight Crew ATM Procedure Deviation	An event involving the drone operator deviating from applicable Air Traffic Management procedures	The drone operator did not comply with regulations by flying above 400ft and/or in controlled airspace/FRZ without clearance
<b>• Tactical Planning and Execution</b>				
2	Human Factors	• Action Performed Incorrectly	Events involving the drone operator performing the selected action incorrectly	The drone operator was flying above 400ft without clearance.
3	Human Factors	• Airspace Infringement	An event involving an infringement / unauthorized penetration of a controlled or restricted airspace	The drone pilot was flying in controlled airspace/FRZ without clearance.
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
4	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, generic, or late Situational Awareness
<b>• See and Avoid</b>				
5	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
<b>• Outcome Events</b>				
6	Contextual	• Near Airborne Collision with Other Airborne Object	An event involving a near collision by an aircraft with an unpiloted airborne object (unknown object or balloon)	
7	Contextual	• Near Airborne Collision with RPAS	An event involving a near collision with a remotely piloted air vehicle (drone or model aircraft)	