

Consolidated Drone/Balloon/Model/Unknown Object Summary Sheet for UKAB Meeting on 8th December 2021

Total	Risk A	Risk B	Risk C	Risk D	Risk E
6	1	3	1	0	1

Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location ¹ Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2021219	22 Oct 21 1458	A319 (CAT)	Drone	5435N 00545W Newtownards 4800ft	Belfast/City CTA (D)	<p>The A319 pilot reports descending through 4800ft when they saw a large, 4-engine 'commercial type' drone directly ahead, at a range of 200-300m, moving right to left and below their level and which they were descending directly towards. The drone was positioned slightly left of the aircraft centreline, almost directly ahead and the crew were going to respond when the drone manoeuvred out of the way. However, the incident happened very quickly and it was felt that any avoiding action taken by the crew was likely to have been unsuccessful due to the position of the drone and aircraft inertia. Risk was briefly very high, but because the drone seemed to be flown in such a way as to avoid collision, the risk reduced. The crew reported the Airprox both by radio, at the time of the event, and after landing.</p> <p>Reported Separation: 50ft V/30m H Reported Risk of Collision: Very high</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>Applicable Contributory Factors: 1, 2, 3, 4, 7</p> <p>Risk: 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

¹ 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 ¹ Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2021221	23 Oct 21 1058	Saab 340 (CAT)	Unk Obj	5555N 00420W Glasgow 1800ft	Glasgow CTR (D)	<p>The Saab 340 pilot reports conducting a standard radar-vectored ILS approach onto RW23 at Glasgow. Weather conditions were good, and they had broken-out below a high cloud base (4000ft). At 4.5 DME, whilst in the middle of actioning the landing checklist, both pilots perceived an object in their peripheral vision. Looking out, they saw what looked like a typical drone but with a smaller oval underslung load. It was about 25m directly ahead of them and 100ft above. Within 2sec, they had already passed below it without having time to react and without discerning any further details of the object. They continued the approach and reported the incident to Glasgow Tower.</p> <p>Reported Separation: 100ft V/0m H Reported Risk of Collision: High</p> <p>The NATS Unit Investigation report states that [the Saab 340 pilot] reported an unknown object above them on final approach. At the time they were unsure as to what the object was. However, on an inbound flight later in the day they were informed that the aircraft ahead had observed a drone with some kind of underslung load. Upon hearing the description of the drone, the pilot of [the Saab 340] confirmed that was the object they had observed on final approach earlier in the day.</p>	<p>In the Board's opinion the reported altitude and/or description of the object, coupled with the fact that the pilot was informed of another occurrence later that day, were such that there was doubt over the nature of the unknown object.</p> <p>Applicable Contributory Factors: 4, 6</p> <p>Risk: 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
2021222	23 Oct 21 1415	B738 (CAT)	Drone	5555N 00420W 3NM RW23 Glasgow 1200ft	Glasgow CTR (D)	<p>The B738 pilot reports that the PM saw the drone during the approach, the whiteness and apparent stillness made it easy to see. It was a large white drone, with no lights seen and an underslung load. Due to the large horizontal clearance from the drone and obvious lack of collision risk, the PM only reported the drone to the PF and ATC after touchdown.</p> <p>Reported Separation: 0ft V/ 1NM H Reported Risk of Collision: None</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>Applicable Contributory Factors: 1, 2, 3, 4, 5</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C

2021224	26 Oct 21 1925	A320 (CAT)	Drone	5439N 00549W 3NM NE Belfast City 1000ft	Belfast/City CTR (D)	<p>The A320 pilot reports that the aircraft was fully established on the RW22 ILS. Weather conditions were good VMC below cloud, with a gusty SW wind. ATC informed the crew of a police helicopter operating to the south of the approach at low level. This was identified visually and on TCAS. The Captain was PF and was manually flying the aircraft. At approximately 1000ft amsl (3NM), both crew members saw an object approach the aircraft on what appeared to be a reciprocal track. The PM was able to identify the object as a drone of reasonable size. Guesstimating, the crew believed the drone to pass slightly below, but almost level with the aircraft, down the RHS by approximately 30ft. No impact was felt or heard and a scan of the engine instruments and other aircraft systems was briefly completed. The Captain was satisfied that no contact with the drone had occurred and approach and landing was completed normally. ATC was briefly notified whilst still on the approach, and a more detailed description of events was passed on to the Tower controller after landing.</p> <p>Reported Separation: 10ft V/ 10m H Reported Risk of Collision: Medium</p> <p>The Belfast City Controller reports the following timeline: 1925: [A320 C/S] reports drone 50ft below at 1000ft 3 mile final RW22. A320 lands safely. 1926: Police helicopter was operating on radar frequency and was requested to investigate the area. 1927: Airfield Ops reports visual with the drone from the ground RW22 perimeter road. Reports that the drone was half mile towards final approach. 1932: 999 call made to request police presence on the ground to see if they could find the drone operator.</p> <p>A Belfast Investigation reports that after the A320 pilot reported the drone to ATC, the Airfield operative in a vehicle was asked to go to the RW22 threshold to look for the drone. The operative reported that (using binoculars) they were visual with both the Police helicopter in the area and two small green lights that were hovering about 0.5NM from the perimeter fence and about 1000ft high. They couldn't see a size and colour because it was dark.</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>Applicable Contributory Factors: 1, 2, 3, 4, 7</p> <p>Risk: 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
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Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location ¹ Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2021226	4 Nov 21 1145	H145 (HEMS)	Drone	5341N 00115W Knottingley 1600ft	London FIR (G)	<p>The H145 pilot reports that, after completing an air ambulance task near Walden Stubbs with [another] Helimed, they lifted and climbed to 900ft whilst heading NW towards Leeds. Whilst in the vicinity of Knottingley, they noticed an aircraft in their 1 o'clock; they veered slightly left whilst trying to work out what it was. As it passed the aircraft, they realised that it was a black drone with white corners. They estimate that it passed 25-30m down their right-hand side at the same level in the direction that they had come from. They transmitted on the TAC radio to inform [the other] Helimed that it was heading in their direction. The remainder of the flight was uneventful.</p> <p>Reported Separation: 0ft V/25-30m H Reported Risk of Collision: High</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>Applicable Contributory Factors: 1, 2, 4, 7</p> <p>Risk: 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

2021229	5 Nov 21 2050	Type EC135 (NPAS)	Unk Obj	5348N 00146W Bradford 2200ft	London FIR (G)	<p>The EC135 pilot reports that while conducting police tasking over Bradford, the aircraft was being operated just inside the western edge of Leeds CTA (Class D) at 1900ft amsl with a clearance to operate not above 2000ft amsl. As the aircraft approached the tasking, a stationary red light was observed in the aircraft's two o'clock, estimated to be approximately 1-2NM away and around 200ft above their altitude. The tasking was abandoned, and the aircraft turned to tentatively investigate the source of the light which was presumed to be some form of UAV. A wide right-hand turn was commenced around the object and the aircraft climbed with ATC permission to try and ascertain the exact altitude of the object. As this investigation took place, the lights on the object were extinguished and visual contact was lost. Clearly now the risk of collision was greatly increased so the aircraft was turned away and departed the area. Leeds ATC [was] informed, they confirmed that no aircraft had been operating near the location and having watched the wide right turn the pilot had conducted they opined that the potential UAV had been being operated just outside the edge of their Class D airspace. It is believed that it was at approximately 2200ft amsl, which would be around 1900ft agl in that location. No UAV activity was NOTAM'd. It was a very busy bonfire night in Bradford, so it is assumed that [the operator] was filming the fireworks using a UAV. They do not believe that a risk of collision existed here as they had sighted the object in good time and took care to avoid possible confliction, however, they had been asked by their organisation to submit this occurrence as an Airprox.</p> <p>Reported Separation: 200ft V / 1NM H Reported Risk of Collision: None</p> <p>The Leeds Bradford Approach controller reports that the EC135 pilot reported a sighting of a drone at approximately 2200ft over Bradford. They then stated they were going looking for the drone but thought that it had since turned out its lights. They reported that they could no longer see the drone and that they would file a report. The Approach controller acknowledged this on the radio; nothing was showing on the radar screen.</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. The Board discussed whether this may have been a drone, but the lack of detailed description, coupled with the date of occurrence (Bonfire night) cast sufficient doubt as to the nature of the object.</p> <p>Applicable Contributory Factors: 4</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where normal procedures and/or safety standards had applied.</p>	E
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Relevant Contributory Factor (CF) Table

CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Regulations, Processes, Procedures and Compliance				
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
• Tactical Planning and Execution				
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.
• Situational Awareness of the Conflicting Aircraft and Action				
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
• See and Avoid				
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
• Outcome Events				
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)	