## Consolidated Drone/Balloon/Model/Unknown Object Report Sheet for UKAB Meeting on 13<sup>th</sup> March 2019

| Total | Risk A | Risk B | Risk C | Risk D | Risk E |
|-------|--------|--------|--------|--------|--------|
| 8     | 3      | 3      | 2      | 0      | 0      |

| Airprox<br>Number | Date<br>Time<br>(UTC) | Aircraft<br>(Operator)  | Object  | Location<br>Description<br>Altitude | Airspace<br>(Class) | Pilot/Controller Report<br>Reported Separation<br>Reported Risk   | Cause/Risk Statement  | ICAO<br>Risk |
|-------------------|-----------------------|-------------------------|---------|-------------------------------------|---------------------|---|---|--------------|
| 2019007           | 15 Jan 19<br>1140     | Typhoon<br>(HQ Air Ops) | Unk Obj | 5329N 00010W<br>SW Grimsby<br>FL150 | London FIR<br>(G)   | The Typhoon pilot reports leading a pair from Coningsby to D323A/B. After receiving a clearance to climb to FL300, from FL150, he noticed an object in the left 11 o'clock at about 1nm, slightly high and maintaining a constant altitude. The radar and data link showed no traffic conflictions, nor were any passed by ASACS. The object reflected sunlight and appeared to have a linear form. The object passed down the left-hand-side. The wingman independently saw the same object as it passed over the leader's aircraft. He maintained the formation at FL150 until they were clear of the object.  Reported Separation: 1000ftV/1000ft H Reported Risk of Collision: High  The Weapons Controller reports that the Typhoons were transiting from Coningsby to the D323 complex. At 1140 the lead Typhoon pilot reported that a small, metal object had flown overhead approximately 2000ft above them. The Typhoons were at FL150 and reported that the object appeared to be at FL170. There were no plots, hits or any other indication on the radar picture. | Cause: The Board were unable to determine the nature of the object reported and, given the reported separation, agreed that the incident was therefore best described as a sighting report.  Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where there had been no risk of collision. | С            |

| Airprox<br>Number | Date<br>Time<br>(UTC) | Aircraft<br>(Operator) | Object | Location<br>Description<br>Altitude      | Airspace<br>(Class)      | Pilot/Controller Report<br>Reported Separation<br>Reported Risk  | Cause/Risk Statement  | ICAO<br>Risk |
|-------------------|-----------------------|------------------------|--------|--|--------------------------|--|---|--------------|
| 2019023           | 3 Feb 19<br>1240      | B787<br>(CAT)          | Drone  | 5128N 00018W<br>10nm ILS RW27L<br>3300ft | London TMA<br>(A)        | The B787 pilot reports conducting an 'automatic' approach to Heathrow RW27L. The co-pilot (PF) pointed ahead of the aircraft and announced 'drone'. The captain attempted to gain visual contact but did not see the object until it passed down the left side of the aircraft. The crew discussed the sighting and passed the information to Heathrow Tower. A general broadcast was made by Tower to aircraft on frequency warning of the drone sighting. After parking on stand, the flight was met by two police officers who took all relevant details. They informed him that the following aircraft had also reported seeing a drone. The PF stated that he first saw the drone directly ahead, distance unknown. As the aircraft closed, the drone tilted left, from his point of view, to move out of the path of the B787. There was insufficient time to take avoiding action. The drone was large, had multiple rotors and was of a dark grey or Kevlar finish.  Reported Separation: Oft V/~150m H Reported Risk of Collision: High | Cause: The drone was being flown above the maximum permitted height of 400ft such that it was endangering other aircraft at that location. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the B787.  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.         | В            |
| 2019025           | 11 Feb 19<br>1320     | A319<br>(CAT)          | Drone  | 5326N 00205W<br>9nm ILS RW23R<br>3000ft  | Manchester<br>CTR<br>(D) | The A319 pilot reports that he was about to establish on the Manchester ILS at 9nm, at 3000ft. He was in clear VMC, in daylight, in a gap between scattered cloud, when he noticed a dark object slightly left of the nose, slightly above and approaching almost head-on. It became apparent that it was a rectangular quadcopter with 4 long legs hanging down. It was a dark colour, between 0.5-1m long and 0.3-0.5m wide and appeared to be hovering. The encounter only lasted about 5 seconds before they passed the drone. He opined that if they were being filmed it would have looked spectacular, but whilst the drone's position was stable, it was a close encounter.  Reported Separation: 30ft V/10m H Reported Risk of Collision: High  | Cause: The drone was being flown above the maximum permitted height of 400ft such that it was endangering other aircraft at that location. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the A319.  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. | А            |

| Airprox<br>Number | Date<br>Time<br>(UTC) | Aircraft<br>(Operator) | Object       | Location<br>Description<br>Altitude     | Airspace<br>(Class) | Pilot/Controller Report<br>Reported Separation<br>Reported Risk   | Cause/Risk Statement   | ICAO<br>Risk |
|-------------------|-----------------------|------------------------|--------------|---|---------------------|---|--|--------------|
| 2019027           | 14 Feb 19<br>1655     | B787<br>(CAT)          | 2 x<br>Drone | 5139N 00011E<br>Brentwood<br>FL140      | London TMA<br>(A)   | The B787 pilot reports approaching LAM from the east when the Cabin Crew Manager saw 2 multirotor drones on the right-hand side of the aircraft. The first drone was slightly low and a bit further out, whereas the second was close in at the same level and seemed to take avoiding action.  Reported Separation:  1. 30ft V/60m H  2. 0ft V/30m H  Reported Risk of Collision: High   | Cause: The drones were being flown above the maximum permitted height of 400ft such that they were endangering other aircraft at that location. The Board agreed that the incident was therefore best described as the drones were flown into conflict with the B787.  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. | А            |
| 2019029           | 19 Feb 19<br>1211     | Tutor<br>(HQ Air Trg)  | Drone        | 5237N 00040W<br>3nm SE Oakham<br>5000ft | London FIR<br>(G)   | The Tutor pilot reports that after completing a barrel roll, an aircraft was sighted ahead and slightly below, at an estimated range of 1km. Upon commencing a left-turn, he realised it was a very small triangular drone which was very close. The left-turn meant that they circled the drone for 180°, before returning enroute. The drone was brightly lit on its upper surface and operating at about 5000ft, it appeared to be hovering. Wittering ATC were informed, who provided the exact location.  Reported Separation: 100ft V/ 50-100m H Reported Risk of Collision: Medium  The Wittering controller reports that the Tutor pilot reported a drone at his position in the vicinity of Rutland water at 5000ft. | Cause: The drone was being flown above the maximum permitted height of 400ft such that it was endangering other aircraft at that location. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the Tutor.  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.                                    | С            |
| 2019030           | 17 Feb 19<br>1133     | B787<br>(CAT)          | Drone        | 5132N 00034W<br>Slough<br>3800ft        | London TMA<br>(A)   | The B787 pilot reports that during departure a drone passed down the right-hand side. He commented that it did not appear to be an 'off-the-shelf' design. It was 2-2½ft across with 5 or 6 rotors.  Reported Separation: Oft V/150m H Reported Risk of Collision: NK   | Cause: The drone was being flown above the maximum permitted height of 400ft such that it was endangering other aircraft at that location. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the B787.  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.                | В            |

| Airprox<br>Number | Date<br>Time<br>(UTC)                 | Aircraft<br>(Operator) | Object | Location<br>Description<br>Altitude             | Airspace<br>(Class) | Pilot/Controller Report<br>Reported Separation<br>Reported Risk  | Cause/Risk Statement  | ICAO<br>Risk |
|-------------------|---------------------------------------|------------------------|--------|---|---------------------|--|---|--------------|
| 2019031           | 22 Feb 19<br>1730<br>(sunset<br>1727) | G550<br>(Civ Comm)     | Drone  | 5118N 00042W<br>3nm NE<br>Farnborough<br>1600ft | London FIR<br>(G)   | The G550 pilot reports on the ILS Approach to RW24 in VMC then they saw a small black object first identified as a bird but noted that it was 'too late' for them to fly. As the aircraft got closer they recognised that it was a drone. They saw the lights of the drone and the lens of a camera as it passed on the left side.  Reported Separation: 3-6ft V/10-15m H Reported Risk of Collision: High | Cause: The drone was being flown above the maximum permitted height of 400ft such that it was endangering other aircraft at that location. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the G550.  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. | А            |
| 2019033           | 23 Feb 19<br>1200                     | A319<br>(CAT)          | Drone  | 5554N 00421W<br>Glasgow<br>1200ft               | Glasgow CTR<br>(D)  | The A319 pilot reports that whilst established on the ILS to Glasgow RW23, the FO saw a white drone with red stripes pass beneath and slightly to the right. The drone was straight and level and tracking eastbound.  Reported Separation: 150ft V/20m H Reported Risk of Collision: High   | Cause: The drone was being flown above the maximum permitted height of 400ft such that it was endangering other aircraft at that location. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the A319.  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.         | В            |