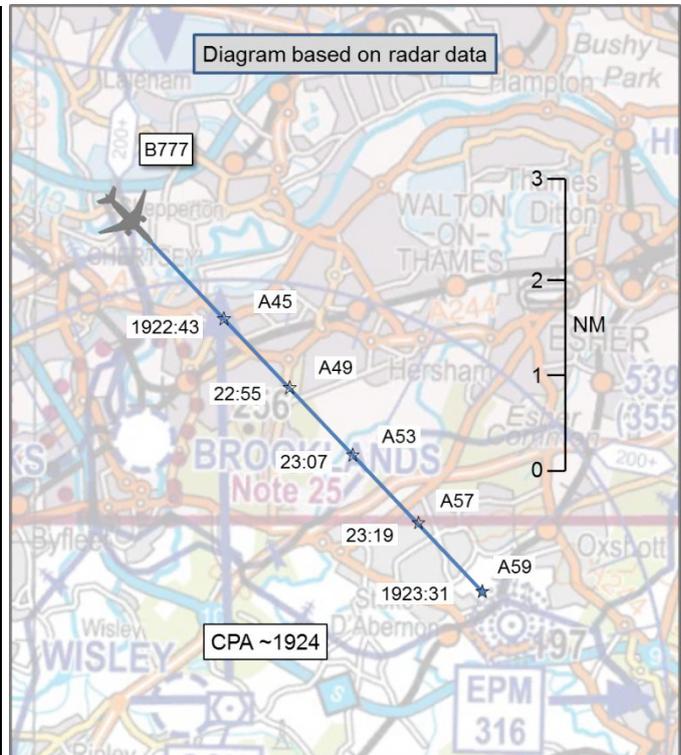


AIRPROX REPORT No 2015202

Date: 8 Nov 2015 Time: 1924Z Position: 5119N 00023W Location: ½nm to EPM NDB

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	B777	Unidentified
Operator	CAT	Unknown
Airspace	London TMA	London TMA
Class	A	A
Rules	IFR	
Service	Radar Control	
Provider	Swanwick ACC	
Altitude/FL	6000ft	
Transponder	A, C, S	
Reported		Not reported
Colours	Red, white, blue	
Lighting	'all on'	
Conditions	VMC	
Visibility	5km	
Altitude/FL	6000ft	
Altimeter	QNH (NK hPa)	
Heading	150°	
Speed	250kt	
ACAS/TAS	TCAS II	
Alert	None	
Separation		
Reported	'just below' V 10-20ft H	
Recorded		NK



THE B777 PILOT reports conducting a night departure from Heathrow, on autopilot and flying level at 6000ft on a DET SID from Heathrow, half a mile from the EPM NDB. The FO and Captain both saw a bright light pass quickly, and very close to the aircraft, down the left side. The Captain had a better and slightly longer view of the object from his side. It was very hard to estimate its size. His initial thought was that the object was internally lit; after consideration he now suspected it was illuminated by the B777 landing lights. The size of body behind the lit area suggested an outside dimension of the order of 6ft. The incident was reported to ATC. The pilot noted that if the object was illuminated by the B777 landing lights then this would confirm that the object was very close to his aircraft, and of significant size.

THE SWANWICK (BIGGIN SECTOR) CONTROLLER reports the B777 was on a DET departure. Just after EPM the pilot reported that he thought a drone had come very close to the aircraft. Nothing was seen on radar and the pilot was informed of this.

Factual Background

The weather at Heathrow was recorded as follows:

METAR EGLL 081850Z AUTO 22013KT 9999 -RA OVC010 16/14 Q1015 TEMPO BKN009=
 METAR COR EGLL 081920Z AUTO 23014G27KT 9999 -RA OVC010 16/14 Q1015 TEMPO RADZ
 BKN008=

Analysis and Investigation

UKAB Secretariat

Sunset at Heathrow occurred at 1623 and Evening Civil Twilight ended just before 1659.

The Air Navigation Order 2009 (as amended), Article 138¹ states:

‘A person must not recklessly or negligently cause or permit an aircraft to endanger any person or property.’

Article 166, paragraphs 2, 3 and 4 state:

‘(2) The person in charge of a small unmanned aircraft may only fly the aircraft if reasonably satisfied that the flight can safely be made.

(3) The person in charge of a small unmanned aircraft must maintain direct, unaided visual contact with the aircraft sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions.’

(4) The person in charge of a small unmanned aircraft which has a mass of more than 7kg excluding its fuel but including any articles or equipment installed in or attached to the aircraft at the commencement of its flight, must not fly the aircraft

(a) in Class A, C, D or E airspace unless the permission of the appropriate air traffic control unit has been obtained;

(b) within an aerodrome traffic zone ...; or

(c) at a height of more than 400 feet above the surface unless it is flying in airspace described in sub-paragraph (a) or (b) and in accordance with the requirements for that airspace.’

A CAA web site² provides information and guidance associated with the operation of Unmanned Aircraft Systems (UASs) and Unmanned Aerial Vehicles (UAVs).

Additionally, the CAA has published a UAV Safety Notice³ which states the responsibilities for flying unmanned aircraft. This includes:

‘You are responsible for avoiding collisions with other people or objects - including aircraft.

Do not fly your unmanned aircraft in any way that could endanger people or property.

It is illegal to fly your unmanned aircraft over a congested area (streets, towns and cities).

..., stay well clear of airports and airfields’.

Summary

An Airprox was reported when a B777 and an unidentified object flew into proximity at about 1924 on Sunday 8th November 2015. The B777 pilot was operating under IFR in VMC, in receipt of a Radar Control Service from Swanwick (Biggin Sector).

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the B777 pilot, radar photographs/video recordings and a report from the air traffic controller involved.

The Board first debated the likely identity of the object. The reported size would indicate that it was quite large to have been a drone, and that it may instead have been a balloon of some kind. That being said, an accurate assessment of size was at best fraught with error, compounded by the fact that the incident occurred at night. Given that the report did not indicate that the object had rotors or was powered, the Board could not come to a conclusion about its composition. Notwithstanding the

¹ Article 253 of the ANO details which Articles apply to small unmanned aircraft. Article 255 defines ‘small unmanned aircraft’. The ANO is available to view at <http://www.legislation.gov.uk>.

² www.caa.co.uk/uas

³ CAP 1202

inability to definitively define the identity of the object, it was clear that it had passed sufficiently close to be illuminated by the B777 lighting, indicating a very small separation at CPA. There was no prior indication or warning of the object, not would any seem to have been possible, and therefore no opportunity for the pilot to increase separation prior to CPA. Members therefore agreed unanimously that a collision had been avoided purely by providence.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class A.

Degree of Risk: A.